

# **Professor Roger T. Dean, FAHA**

(Fellow of the Australian Academy of the Humanities)

**Research Professor of Sonic Communication, MARCS Institute for Brain, Behaviour, and Development, Western Sydney University, Australia.  
Founder and Artistic Director, LYSIS/austraLYSIS, an international creative and performing ensemble focused on sound and intermedia.**

## ***Research Work, Creative Work and Pro Bono Work Curriculum Vitae***

### **Executive Summary**

Synopsis, personal information, and outline of roles and activities

### **Curriculum Vitae**

A) Synopsis of achievements; Substantive positions held (Executive Summary: naturally, there is later some duplication and amplification of specifics also found here)

Detailed CV information:

B) Humanities, music cognition/computation and creative arts experience:

Synopsis of humanities and music cognition/computation research and creative work

Substantive positions held in creative arts and humanities

Professional distinctions and memberships

Technical experience in music and the humanities

Research expertise

Selected contributions in editing, reviewing, supervising, teaching, and conference organisation

Music compositional, computer and multimedia expertise

Expertise in improvisation in music

Instrumental performance (brief synopsis)

Arts/Humanities and music cognition/computation research outputs:

Research books

Research and education Articles (peer-reviewed and/or edited)

A selection of my articles in newspapers as public intellectual

Research work and other articles submitted or in advanced stages of preparation

Other publications containing significant original material

Creative Works:

Completely notated compositions

Acousmatic works (pre-recorded tape/CD works for sound projection in concert or event)

Selected compositions for improvisers

Multimedia work, including performance work involving text and/or image, and sound; and work for the web and CD-ROM

Commercial recordings of completely improvised works:

Selective list of commercial recordings/releases involving my creative work

LP recordings on vinyl

CD and other recordings, CD-ROM, museum installations

Commercial recordings as interpreter

Competitive creative grants and fellowships received: selective listing

On selected media comment

C) Earlier experience in biochemistry and molecular cell biology

D) Pro bono activities

E) Referees

## **Executive Summary:**

### **Synopsis, personal information, and outline of roles and activities - Prof Roger Thornton Dean, FAHA (Fellow of the Australian Academy of the Humanities)**

Roger Dean has always pursued two parallel careers: in music as creator, performer and researcher; and as scientific researcher, first in cellular biochemistry, then in music cognition and computation. Along the way, he has also been for 18 years an academic leader, as foundation CEO of an autonomous research institute and then CEO (Vice-Chancellor and President) of a University, gaining considerable business, legal and financial experience. As musician, he has performed internationally as bassist (until 2002), pianist, and computer musician (since 1994). He has worked with ensembles ranging from the Academy of Ancient Music, to the Nash Ensemble, the Australian Chamber Orchestra and the London Sinfonietta (world-leading ensemble specializing in contemporary art music). He has a comparably diverse performing and creative experience within jazz and improvised music, performing and recording with musicians ranging amongst and beyond Marian Montgomery, Norma Winstone and Maggie Nichols; Ted Curson, Kenny Wheeler, Mark Charig and Tomas Stanko; Kathy Stobart, Sandy Evans, Mark Lockheart and Evan Parker; and Graham Collier, Barry Guy, and Tony Buck. In 1970, he formed his ensemble LYSIS, which focused on both improvised and composed music, and after its arrival in London in 1973, commissioned and premiered numerous works. In 1989, after moving to Australia, he converted it into australYSIS, which has continued the international path, while gradually becoming more concerned with creation of digital sound and intermedia, and text performance, alongside music. australYSIS has performed in more than 30 countries, and made around 25 CDs and one digital download album. Dean appears on more than 50 CDs, including almost 20 with Graham Collier (leading European jazz composer, died 2011) and he has made numerous radio, web, video and dance works, many in collaboration with Hazel Smith (writer). He is just the second Australian to be a subject in both canonical dictionaries of music, The Grove Dictionary, and the Grove Dictionary of Jazz: the first being Don Banks. In the field of electronic literature (text, image, video, sound), he won the major international prize for a new work in 2018, the Robert Coover Award (with Will Luers (video, programming), and Hazel Smith (text)). Until about 2004, his artistic research concerned improvisation, particularly in music, with jazz as a primary example (improvisation forms the substance of 5 of his authored or edited books on music).

In his scientific career, Dean obtained his Bachelors, Masters and PhD at Cambridge (UK) in natural science, eventually specializing in biochemistry, and later molecular cell biology. He worked for the Medical Research Council and in academia in the UK, becoming a Reader (= Associate Professor) at the age of 31 and being appointed full professor at 35. He obtained higher doctorates in both science and music. In late 1988 he moved to Australia to become the foundation executive director of the autonomous not-for-profit Heart Research Institute Ltd, in Sydney, from which in 2002 he moved to be the Vice-Chancellor and President of the University of Canberra. After a full term in Canberra, in 2007 Roger chose to move back to full time research, but now focusing on the cognitive and computational science of music at MARCS Institute for Brain, Behaviour and Development of Western Sydney University, where he currently works. Dean's scientific output includes >300 primary journal articles, and 9 authored or edited books. He has an h index >=82 according to Google Scholar (meaning that at least h of his publications have been cited at least h times in the published research literature). Dean received an Australian Centenary medal (for services to medical research and to music), and became a Fellow of the Australian Academy of Humanities in 2004.

Dean has undertaken extensive pro bono work in music and science (putting aside those semi-voluntary activities such as reviewing and editing that are expected of academics). He acts as CEO and Artistic Director of australYSIS Productions Inc, supporting australYSIS (and functioned similarly for its antecedent LYSIS). He has been on the voluntary boards of the Jazz Centre Society (UK), the now defunct New Music Network (Australia: australYSIS was a founder organization), and the Australian Music Centre (including taking the role of chairperson), as well as several scientific and IT boards. In 1994 he formed Sydney Free Radical Group, Inc (SFRG; with Dr Roland Stocker) in order to chair and present the biennial meeting of the International Society for Free Radical Research in Australia for the first time. This meeting was successful in every sense, such that via SFRG the profits supported Australian free radical research for several years. He has been board member/chair of numerous scientific organisations, such as the Australian Atherosclerosis Society, the Australasian Society for Free Radical Research and the Australasian Jazz and Improvisation Research Network. Particularly since 1989, he has engaged internationally with voluntary educational activities concerned with adventurous music making, and also with arguments to elicit a rational creative arts policy for Australia (for example, in a Sydney Opera House/ABC talk for Currency

Press).

### **Executive Summary:**

**Citizenship, Personal Information:** British and Australian – Born in the UK. Married, 1973 to Prof. Hazel Anne Smith; no children.

**Current address:** MARCS Institute for Brain, Behaviour, and Development, Western Sydney University, NSW 1797 Australia

**Email:** [roger.dean@westernsydney.edu.au](mailto:roger.dean@westernsydney.edu.au); [rogerdeanalysis@gmail.com](mailto:rogerdeanalysis@gmail.com).

**Web:** [www.australalysis.com](http://www.australalysis.com) ; [www.westernsydney.edu.au/marcs](http://www.westernsydney.edu.au/marcs)

**Mailing address:** MARCS Institute, Western Sydney University, Locked Bag 1797, Penrith South DC, NSW 2751, Australia

**School Education:** Crypt School, Gloucester, UK. 'O' levels in 12 subjects; 'A' levels in 7 subjects; 'S' level in 2 subjects. Head of School (to 1967).

**Languages Spoken:** English; French.

### **Degrees and Earned Qualifications:**

Corpus Christi College, Cambridge, UK (1967-1973):

B.A. (Hons.), in Natural Sciences, finally specialising in Biochemistry. Scholar of the College.

PhD 1974 (Cambridge University, UK, for research at Strangeways' Research Laboratory)

MA 1974 (Cambridge University, UK)

DSc 1984 (examined higher doctorate in science, on cellular compartmentation: Brunel University, UK)

DLitt 2001 (examined higher doctorate in humanities, on musical improvisation: Brunel University, UK)

FAICD 2003: Fellow of the Australian Institute of Company Directors, by experience and examination.

Certified completion of the Advanced Course 2006. Resigned 2013.

### **Honours:**

Fellow of the Institute of Biology (FIBiol) Elected 1988, resigned 2006.

Distinguished Service Medal of the Australasian Society for Free Radical Research.

Kempson Maddox Medal of the Cardiac Society of Australia and New Zealand (1997)

Commonwealth of Australia Centenary Medal for contributions to science, medical research, and improvised music, 2003.

Honorary Ambassador for the Australian Capital Territory, 2004-.

Honorary Fellow of the Australian Academy of the Humanities (FAHA) 2004-.

The international Robert Coover award of the Electronic Literature Organisation, for a new work 2018 (with Hazel Smith and Will Luers).

### **Main Professional Positions held:**

2011 – present      Research Professor II in Sonic Communication, MARCS Auditory Laboratories, University of Western Sydney. (Occasionally Acting Director, MARCS). From 2012, group name changed to Music, Cognition and Action Group, MARCS Institute. From 2016, the University business name changed to Western Sydney University, and the institute was renamed MARCS Institute for Brain, Behaviour and Development. Currently our group name is Brain Sciences, and I work within the theme Music Science.

2016 - 2021      Visiting Professor, Centre for Digital Music (C4DM), Queen Mary University of London. I collaborate with the Cognition and formerly the Computational Creativity groups (Dr Marcus Pearce; Prof Geraint Wiggins, respectively: Prof Wiggins is now in VUB, Brussels)

2007(May)-2011      Research Professor in Sonic Communication, MARCS Auditory Laboratories, University of Western Sydney. (Regularly Acting Director, MARCS)

2002-2007      Vice-Chancellor and President, University of Canberra, Australia; Professor, University of Canberra; Founder of the Sonic Communications Research Group (2004).

1988-2002      Foundation Executive Director (CEO) of the Heart Research Institute Ltd, Sydney (HRI), Australia; Leader (and later Co- Leader) of the Cell Biology Group, HRI. Honorary Professor in the Faculty of Medicine, Sydney University.

1984-88      Head of Cell Biology Research Group, and Professor of Cell Biology, Brunel University.

- 1979-84 Head of Cell Biology Research Group, and Reader (= Associate Professor) in Applied Biology, Brunel University, West London.
- 1976-79 MRC Scientist in Division of Cell Pathology, Clinical Research Centre, London.
- 1973-76 Post-Doctoral Fellow, Dept of Experimental Pathology, University College Hospital Medical School, London.
- 1970-present Founder and Artistic Director, LYSIS and austraLYSIS, international sound and intermedia creative and performance group. LYSIS was formed in Cambridge, while I was studying there, and became a focused activity in 1974 once I had moved to London.

***Other Professional Activities and Distinctions (Selected):***

- 1979-86 Member of the Editorial Board of the Biochemical Journal
- 1979-1988 Recipient of Creative and Performance Grants from the Arts Council of Great Britain, and the British Council
- 1985-1988 Expert member of the Ciba Foundation's 'Media Resource Service'
- 1988-1995 Board Member, International Committee on Proteolysis (ICOP)
- 1989-1990 Chair/President of the Australian Atherosclerosis Society
- 1990-1996 Member Regional Grant Interviewing Panels, National Heart Foundation Australia
- 1990-1995 Member of the Editorial Boards of Free Radical Research and Free Radical Biology & Medicine
- 1990-2005 Recipient of Creative Support Grants from the Australia Council for the Arts, including Key Organisations triennial grants
- 1992-2001 Member or Chair, Regional Grant Interviewing Panels and Discipline Panels, National Health and Medical Research Council
- 1993 Awarded Curnow Medal, Association of Clinical Biochemists
- 1993-95 President, Australasian Society for Free Radical Research, and board member of the International Society
- 1994-2006 Founder Member of the Editorial Board of Redox Report
- 1994 Chair, Biennial Conference of the International Society for Free Radical Research
- 1997-2000 Member of the Editorial Board of Pathogenesis
- 1997 Kempson Maddox medal Lecturer of the Cardiac Society of Australia & New Zealand
- 1997 Recipient of competitive commission from the Australian Film Commission for an interactive web art work, *WordStuffs*
- 1998-2003 Member of the Editorial Board of Clinical Science
- 1998-2006 Member of the Editorial Board of International Journal of Biochemistry and Cell Biology
- 1998 Co-recipient (with Dr Roland Stocker) of the Kenneth Bower Award of the National Heart Foundation
- 2000 Chosen by the International Computer Music Association for competitive inclusion in their first CD-ROM
- 2000-2005 Founder shareholder and Scientific Advisory Committee Member, SciCapital Pty Ltd, Venture Capital in the Biosciences
- 2003-2007 Advisory Board member of infLect, an international journal of multimedia writing based at the University of Canberra
- 2003 Distinguished Service Medal of the Society for Free Radical Research, Australasia
- 2003-2005 Board member of the New Zealand Universities Academic Audit Unit
- 2004- Ambassador for the Australian Capital Territory, appointed by Chief Minister, Jon Stanhope.
- 2004- Member of the Editorial Advisory Board for the international journal Critical Studies in Improvisation (based in Canada)
- 2004-2006 Deputy Chair of the Board of the Australian and New Zealand Council for the Care of Animals in Research and Teaching
- 2006-2007 Member of the Australian Capital Territory Skills Commission
- 2005-2008 Elected board member of the Australian Music Centre Ltd.
- 2005-2007 Elected Board member of auDA Ltd, administering the .au domain
- 2007-2008 Chair, board of the Australian Music Centre Ltd; subsequently member of its advisory council.
- 2008- Founding Co-Editor, soundsRite, an online multimedia journal of creative works in sound, writing and image (soundsrite.westernsydney.edu.au).
- 2016-2021 Member of the Editorial Board, Musicae Scientiae.

- 2016- Foundation Committee Member of the Australasian Jazz and Improvisation Research Network.
- 2017- Member of the Editorial Board, Journal of Creative Music Systems.
- 2018 Co-recipient of the international Robert Coover Award, for a new work of electronic literature, awarded by the Electronic Literature Organisation (with Hazel Smith, text; Will Luers, video and programming; my specific role was in sound and programming).
- 2021- Editorial Team member for Chroma, the journal of the Australasian Computer Music Association.

***Ongoing Cognition, Humanities and Creative Arts Publications (mainly since 2006):*** 5 authored/3 edited research books, >100 substantive research articles in international publications, more than 100 musical and intermedia compositions and published improvisations, and more than 60 commercial or open access releases (LP, CD, CD-ROM, Web).

***Previous Biological Publications (mainly from 1974 to 2007):*** 3 authored/6 edited books; >280 substantive articles in international publications.

***Citation Analysis:*** Google Scholar notes I have >27000 citations; a Hirsch Index of  $h \geq 82$  (h publications cited at least h times). My Google citation profile is [here](#). The Australian National Citation Report of ISI (2004), reflected in the REPP database at the ANU, shows that for Australian publications 1981-2004, 199 (0.05% of those considered, and mostly review articles) had  $\geq 500$  citations: I have two publications from that period with  $\geq 500$  citations by 2004 (one primary and one review article). My most highly cited journal paper presently has >2200 citations.

***Reviewing Service:*** In the UK I reviewed grant applications regularly for 6 British, 2 American, and occasionally for 1 Australian, granting body. Since being in Australia I have reviewed for most Australian research bodies, as well as for NZ, US and European Bodies. I have regularly reviewed manuscripts for more than 25 international journals; and for several book publishers. I have also contributed book reviews to several journals. My major reviewing service was as an Editor of the Biochemical Journal (1979-86), and of all the international journals concerning free radicals. I now serve on the editorial groups of several journals concerned with music computation and cognition. I am founding co-editor of soundsRite, a journal of creative work emphasising intermedia, notably that containing sound and text, and multi-channel audio.

***Research Supervision:*** I have been involved in supervising >35 Ph.D. students and 3 M.Phil. students in biochemistry and music cognition. All have been successful.

***PhD and Higher Doctorate Examining:*** I have examined for many Universities in the UK and Australia, for the Council for National Academic Awards, UK (CNAAB) and also for several New Zealand Universities.

***Competitive Grant Support:*** In the UK I was supported by MRC, Arthritis Research Council, National Heart Foundation, Science and Engineering Research Council, Environmental Research Council, Wellcome Trust, Cancer Research Campaign, and several other bodies. Since being in Australia and until 2007, I was continuously supported by competitive grants from the National Health and Medical Research Council, and the Australian Research Council. I have also received funds from numerous other bodies, national and international (such as the National Heart Foundation, Wellcome Trust, Juvenile Diabetes International). At the Heart Research Institute the competitive grants in which I was a Chief Investigator routinely supported around 12 post-doctoral fellows, research assistants and PhD students. On average they corresponded to about 500,000 dollars per annum (2004 dollars). In addition, I personally held commercial research contracts amounting to c. 2 million dollars. As a Vice-Chancellor, I was a Chief Investigator on one funded NHMRC and one funded ARC project grant (sole CI, in music cognition), and I steered a node of an ARC Research Network. I was also a CI on two ARC linkage grants in sonic communication, one grant from the ACT Health and Medical Research Council, and one from the Capital Markets Cooperative Research Centre. Since moving to music cognition in 2007 I have continuously held ARC Discovery and Linkage Grants, together with funds from other sources such as DAAD (Germany), and Create (NSW Government).

## **Curriculum Vitae:**

### ***A) Synopsis of achievements– Professor Roger Dean, FAHA***

#### **Key features:**

International standing as academic leader and researcher, and as creative arts worker

An energetic innovator

An experienced and successful enterprise- and institution-builder

Exceptional institution-wide leadership and managerial experience (more than 18 years as a CEO)

Has promoted, negotiated and directed multi-million dollar business developments, nationally and internationally

Expert in political/financial negotiation with governments, and in media relations, on behalf of institutions and causes

Extensive experience within academic institutions, as teacher, researcher and high-level leader

Experienced member of boards, mainly of not-for-profit organizations, with turnovers up to 130M AUD p.a. (2007 dollars)

Experienced in highly profitable philanthropic fundraising

I maintain strong collaborative connections with the UK, which I left for Australia after the first twenty years of my academic career. I have dual British and Australian nationality.

#### **Key academic and creative achievements:**

In biological sciences: author of more than 280 primary scientific research publications, and author/editor of 9 books. Appointed a full professor of biology at the age of 35 at Brunel University, UK

Foundation Executive Director of the Heart Research Institute Ltd, Sydney, 1988- January 2002

Internationally regarded composer-improviser in music, now at the cutting edge of computer-interactive creation. Creator of more than 100 works, represented on more than 80 CDs and other releases world-wide. The 2<sup>nd</sup> (and apparently one of only two living) Australian to be a subject in both the 'bibles' of music, the new Grove Dictionaries of Music and of Jazz. The late Don Banks was the first Australian represented in both.

Author of five books on improvisation in music and the arts broadly. That on computer-interactive sound improvisation was published in 2003; the most recent in 2005 and an additional volume is in preparation. This is the most extensive body of research work in the field of improvisation by any individual. Editor of three other humanities books. Author of more than 100 substantive humanities/cognitive sciences articles, across a wide terrain, and with a developing output on the science of music cognition and computation.

Founder of the Sonic Communications Research Group, University of Canberra (2004-2007).

Founder and Artistic Director of LYSIS/austraLYSIS, an international cutting-edge creative and performing sound and multimedia ensemble (1970-present).

#### **Substantive Professional Positions held (ordered primarily by cessation date):**

##### **a)Educational, Research, Biological and Commercial**

May 2007- : Research Professor of Sonic Communication, MARCS Auditory Laboratories (now Institute), University of Western Sydney (Acting Director for many extended periods). The University is now called Western Sydney University, and the institute is renamed MARCS Institute for Brain, Behaviour, and Development.

2009-2020: Visiting Researcher at Goldsmiths, University of London, and since 2012, Queen Mary University of London (QMUL), collaborating with Prof Geraint Wiggins and Dr Marcus Pearce, Centre for Digital Music. Since 2016, Visiting Professor at QMUL, from 2018 primarily linking with Dr Pearce, as Prof Wiggins moved to Belgium.

February 2002 -2007: Vice-Chancellor and President, University of Canberra, ACT 2601, Australia; Professor, University of Canberra.

July 2004 – 2006: Deputy Chair of Board of Australia and New Zealand Council for the Care of Animals in Research and Teaching.

2006-2007: Elected board member of .auDA Ltd, administering the .au internet domain.

December 2004–2007: Steering Committee member for the Australian Research Council Network on

Human Communication Science (HCSNet).

2000 – 2005: Member, Scientific Advisory Council (discontinued 2005), and founder shareholder, SciCapital Pty Ltd (a biotech/pharma venture capital company).

February 2003-2005: Board Member, New Zealand Universities Academic Audit Unit, representing Australia.

September 2004: Visiting Professor, MARCS Auditory Laboratories, University of Western Sydney.

August 2003: Visiting Professor, University of London.

December 1988 – January 2002: Foundation Executive Director, The Heart Research Institute Ltd, Sydney, Australia. Also Leader, Cell Biology Group; Professor, Faculty of Medicine, University of Sydney.

1994-2001: Executive Chair, Sydney Free Radical Group, Inc.

1994-2001: Foundation Executive Director, Heart Research Developments Pty Ltd, Sydney.

1991-2001: Senior Cardiovascular Scientist, Royal Prince Alfred Hospital, Camperdown, Sydney.

2000 (April-July): Visiting Professor at the Rayne Institute, University College London.

1996 (April -July): Visiting Professor at University College, London, Dept. of Molecular Pathology.

1989-1995: Honorary Faculty member of School of Biological Sciences, Macquarie University, Sydney.

1994 (April- July): Visiting Professor at the University of California at Berkeley, Dept. of Biochemistry.

1984-1988: Professor of Cell Biology, Brunel University, UK, and Director of Cell Biology Research Group.

Occasional Acting Head of Department of Applied Biology, Brunel.

1988 (April-May): Visiting Professor at the University of Tokyo, Dept. of Reaction Chemistry.

1986 (November) - 1988 (January): Visiting Professor in the Division of Molecular Medicine, Clinical Research Centre, Harrow, UK.

1987 (July-September): Visiting Professor and Consultant at CIBA-GEIGY, Basel, Switzerland.

1986 (July-September): Visiting Professor and Consultant at Merck Institute of Therapeutic Research, Rahway, New Jersey, USA.

1979-1984: Reader (= Associate Professor) in Applied Biology, Brunel University, UK, and Director of Cell Biology Research Group.

1984 (July-September): Visiting Professor at the University of Sydney, Australia, Dept of Histology and Embryology.

1983 (July- September): Visiting Professor at Harvard University, Boston USA, Dept. of Physiology

1982 (July-September): Visiting Professor at the Research Institute for Internal Medicine, University of Oslo, Norway.

1981 (July-September): Visiting Professor at Hôpital des Enfant Malades, Paris (INSERM U132).

1976-9: Medical Research Council Scientist in Division of Cell Pathology, Clinical Research Centre, UK.

1963-1976: Research Fellow, University College Hospital Medical School, London. 1976 became tenured lecturer.

1970-1973: Research Student, Strangeways Research Laboratory, Cambridge.

I have also held many consultancies and advisory panel memberships with pharmaceutical and biotech companies.

## **b)Creative Arts**

1970-present: Founder and Artistic Director of LYSIS, now australYSIS (a creative and performance ensemble in sound and new media) and of its associated administering organisation australYSIS Productions Inc.

1976-present: Founder of Soma Publications, which releases arts work in print, on CD, on CD- and DVD-ROM, and on the web.

2008- : Co-Founder and Co-Editor, soundsRite, an online journal of creative work.

2007– 2008: Chair, Australian Music Centre, Ltd.

2005–2008: Elected Board Member, Australian Music Centre, Ltd.

1992-6: Board member, Sydney Improvised Music Association, Inc.

1976-1979: Board Member, Jazz Centre Society Ltd, UK.

**Professor Roger Dean, FAHA. Detailed Curriculum Vitae:**

**B) Humanities, Music Cognition and Creative Arts Experience**

**Contents:**

**Synopsis of humanities and music cognition/computation research and creative work**

**Substantive positions held in creative arts and humanities**

**Professional distinctions and memberships**

**Technical experience in music and the humanities**

**Research expertise**

**Selected contributions in editing, reviewing, supervising, teaching, and conference organisation**

**Music compositional, computer and multimedia expertise**

**Expertise in improvisation in music**

**Instrumental performance (brief synopsis)**

**Arts/Humanities and music cognition/computation research**

**Research books**

**Research and education articles (peer-reviewed and/or edited)**

**A selection of my articles in newspapers as public intellectual**

**Research work and other articles submitted or in advanced stages of preparation**

**Other publications containing significant original material**

**Creative Works**

**Completely notated compositions**

**Acousmatic works (pre-recorded tape/digital works for sound projection in concert or event)**

**Selected compositions for improvisers**

**Multimedia work, including performance work involving text and/or image, and sound; and work for the web and CD-ROM**

**Commercial recordings of completely improvised works**

**Selective list of commercial recordings/releases involving my creative work**

**LP recordings on vinyl**

**CD and other recordings, CD-ROM, museum installations**

**Commercial recordings as interpreter**

**Competitive creative grants and fellowships received: selective listing**

**A selected media comment**

**Synopsis of humanities and music cognition/computation research and creative work:**

I am a researcher in music cognition and computation, musicology, and in the humanities more broadly. As an internationally active creative artist I am a composer-improviser in music; in the creation of 2D and 3D visual images and animation; and in the creation of interactive multimedia. As an international musical performer, I am a keyboardist and computer/laptop artist. I have also been a leading double bassist in classical and new music, as well as professional vibraphonist. My humanities research (the phrase I use to imply the range detailed in the first sentence of this paragraph) is closely integrated with my creative work, even though my output is listed in separate categories below. I have also contributed as a public intellectual, in particular promoting the importance of higher education, and of humanities research notably concerning improvisation, as 'human technologies', essential for the successful uptake of scientific and commercial technologies within a stable society and for peaceful world integration. I also advocate for the underfunded role of creative artist. My fundamental approach to research and creative work is to seek to traverse all parts of what I have characterized (Smith and Dean, Edinburgh University Press 2009) as the



‘iterative cycle of practice-led research and research-led practice’.

My main long-term humanities endeavour is to understand and exploit the process of improvisation as well as that of composition, and to couple and harness it within computational creativity. I have made the most substantial research contribution to the study of improvisation in the arts yet achieved by an individual, in the form of five major books (and many articles), and one book (2003) also included an interactive CD-ROM. I am now focusing on sonic communication, and in particular music cognition and computation. I have developed unusual expertise in conceiving and programming for interactive real-time performance and improvisation, and the results have been made available to on-line and CD-ROM users, both as hypersound work and as intermedia (see for example early works such as *Wordstuffs* and *Intertwining*, both web pieces; and *Walking the Faultlines*, a CD-ROM piece listed below). This work involves music and sound composition, but also image creation, animation, and real-time controllable algorithmic exchanges between both 'streams' of information flow, the visual and the sonic. The current trends in education and the arts for use of digital technologies and web presentation, allowing greater active participation by the user as well as by the creator or educator, will vastly enlarge the future exploitation of such approaches: I am actively contributing to such developments, notably in algorithmic music, and in the use of deep network techniques to provide machine learning collaborators. I have also collaborated on theatre, radio, performance, installation and gallery work involving text (displayed and performed), as well as image and sound.

As performer-creator, I have participated in the highest levels of international music making ranging from medieval music to jazz, and the most adventurous acoustic and electroacoustic composition and improvisation. I am the artistic director of *austraLYSIS* (which I founded as *LYSIS* in the UK in 1970), the international sound and intermedia arts creative ensemble. Essentially all of the work of *austraLYSIS* is initiated by my efforts, and I create or co-create much of the work. Selected additional information about *austraLYSIS* is provided below, but much more information, and extensive examples for listening and viewing, are available on our website [www.australysis.com](http://www.australysis.com).

In 2004 I formed the Sonic Communications Research Group (SCRG) at the University of Canberra, based on a successful Australian Research Council (ARC) Discovery Grant Application on music computation and cognition. I was elected a Fellow of the Australian Academy of the Humanities in the same year. I have since terminated my earlier biochemical research (see below for information on it) in order to concentrate my research time on music computation and cognition. From May 2007 onwards, I have focused on research in sonic communication, at the MARCS Auditory Labs (now MARCS Institute for Brain, Behaviour and Development), University of Western Sydney (now Western Sydney University), where I am a full-time research professor.

While Vice-Chancellor of the University of Canberra I also held a seed grant from the Capital Markets CRC (in sonification of market data), and SCRG was a foundation node of the now-concluded ARC Human Communication Sciences Network. I was or am also a CI (with several others, in one case including my Post-Doc, subsequently my collaborator as Senior Research Fellow until 2012, Dr Freya Bailes, who is now an Associate Professor at the University of Leeds, UK) at MARCS on two ARC Linkage grants commenced in 2006, on an ARC LIEF grant on behalf of the Australian Music Centre and on several further ARC Grants (the latest 'Discovery' grant commencing 2019 on improvisation as a tool for older people in learning musical instruments), and a Linkage Grant commencing 2016 on developing a Personalised Music Recommender System for exploring unfamiliar music), and one commenced December 2019 on Deep Learning for adventurous music generation. I have also received research funding from DAAD (Germany), and IICSI (Canada). Subsequent grants focus on analysing the network of Australian Improvised Music (ARC Linkage), and establishing tools for maintaining (and resurrecting) digital-born artistic materials (ARC Lief, lead by Prof Melanie Swalwell, Swinburne). A major endeavour now in its final stages is an ARC Discovery Grant originally lead by Dr Jenni MacRitchie (with co-Cis myself and Prof Kate Stevens) on mechanisms and impacts of music learning on keyboards by novice elders (65-80 years old) in which my role, besides co-design, was the quantitative analyses of music learning, and cognitive and motor changes (all turning out substantially positive). After Dr MacRitchie moved to a UKRI research fellowship in Sheffield University, UK, I necessarily took on some additional roles, though happily she remains actively involved.

**Substantive positions held in humanities and creative arts** (ordered by commencement date)

2021- Editorial Team member for *Chroma*, the journal of the Australasian Computer Music Association.

2017- Foundation committee member of the Australasian Jazz and Improvisation Research Network (chair

and initiator Dr Rob Burke).

2012-2020 Visiting Research at the Centre for Digital Music (C4DM), Queen Mary, University of London (collaborating with Geraint Wiggins and Marcus Pearce). Formal appointment as Visiting Professor, 2016.

2008- Co-Founder and Co-Editor, soundsRite, an online journal of creative work

2007-8 Chair, Board of the Australian Music Centre Ltd. Resigned upon gaining a substantial Australian Research Council grant on behalf of AMC, but lead by Dean at the University of Western Sydney, to preclude any conflict of interest.

2006-2007 Elected Board member of auDA Ltd, administering the .au Domain

2005-8 Elected Board member, Australian Music Centre Ltd.

2004-2007 Steering Group Member, Australian Research Council Network on Human Communication Sciences.

2003-2004: ACT representative on the committee of the Australasian Computer Music Association.

2002-present: member of What is Music? association.

2002-present: Member of Foundation International Advisory panel for *inFlect*, a journal of multimedia web writing, based at the University of Canberra.

2004 (part of September): Visiting Professor at the MARCS Auditory Labs, University of Western Sydney, working on cognition of musical segmentation.

2003 (part of August): Visiting Professor at University College London, working on computer-interactive intermedia, including NoiseSpeech, a genre we have initiated.

1992-1996: Board member, Sydney Improvised Music Association, Inc.

1989-present: Founder, CEO and Artistic Director of australYSIS (which incorporated LYSIS, see below), based in Sydney. australYSIS has become primarily a creative ensemble, focusing on real-time interactive sound, image and text work. CEO of its associated promotional organisation australYSIS Productions Inc, which I formed in 1992. From 2001-2004 australYSIS Prods. Inc. was a 'key organisation' of the Australia Council for the Arts.

1976-present: Founder and CEO of Soma Publications, which releases arts work in print, on CD, on CD- and DVD-ROM, and on the web.

1976-1979: Board Member, Jazz Centre Society Ltd, UK.

1970-1989 Founder, CEO and Artistic Director of LYSIS, the European new music group based in London, which focused on improvisation and new composition, and was involved also in jazz. This became australYSIS in 1989, see above.

### **Professional distinctions and memberships**

There is a dedicated entry on me in both the New Grove Dictionary of Music 2<sup>nd</sup> Edition, and the New Grove Dictionary of Jazz 2<sup>nd</sup> Edition (published 2002). To be in both Groves is an unusual privilege, as initially shared amongst Australians only by the late Don Banks, later also by Paul Grabowsky. I am also a subject in several other international dictionaries and reference books on music and the real-time arts. Since 2007 Wikipedia has an English [entry](#) on me, and a briefer entry in German. Reference coverage of my humanities activity is discussed in slightly more detail below.

I am a fully represented composer of the Australian Music Centre. I have served on boards, committees and working groups for several organisations such as: the former Jazz Centre Society (UK; 1976-9); the national judging panel for the Australian Broadcasting Corporation's Improvisation awards (1999); a planning group for the Performance Space, Sydney; for the International Society for the study of Symmetry's 2001 conference; the program and reviewing group for the 2nd Asia Pacific Conference on Cognitive Sciences of Music (2005) and for many subsequent conferences on music cognition; and the Human Communication Sciences Network, an Australian Research Council supported network (steering group member 2004-6, and conference contributor). I am a member of a range of professional societies in the arts and humanities, and in some of these I have taken a significant lobbying role, for example in relation to the New Music Network, Sydney, which has successfully promoted enhanced awareness of the importance and interest of new music/sound art, amongst audience, politicians, funding bodies, and the media. A contribution of wide musical scope is that I made on the board of the Australian Music Centre (member 2005-7, and Chair 2007-8) and continue through their Advisory group. I served the New Music Network, of which australYSIS was a founding member, by co-curating their mini-series in 2011; and APRA/AMC by serving on an adjudication panel for jazz excellence (2012). In 2012-13 I served the International Conference on Computational Creativity through the steering group. I am one of five non-

Canadian researchers (and the only Australian) involved with the Canadian Social Sciences and Humanities Research Council Multi Centre Research Institute, the International Institute for Critical Studies in Improvisation, based in Guelph and concerned with the sociology/practical application of improvisation (lead by Ajay Heble: I was a founder member).

## **Technical experience in Music and the Humanities**

### **Research expertise**

My academic humanities research is contributing a highly theorised historical and analytical approach to the study of improvisation, and also addresses contemporary issues in hypermedia. Originally focused on music, it now embraces the arts broadly; *Hyperimprovisation:...* (2003) concerns both music, sound art and multimedia. I have unusual experience in musical and sonic analysis, and in the analysis of rhythmic structure, and of non-notated compositions such as acousmatic music (that designed for presentation from CD or tape rather than by performers, and usually exploiting non-instrumental sound). I research algorithmic mechanisms for the generation of large-scale musical structure, its cognition and affects, deep learning in music, and networking and interactive technologies. I now have strong experience in empirical cognition studies and the relevant statistical analyses, including developing substantial applications of time series analysis, a technique essential yet neglected in perceptions of continuous responses to music, network analysis and Bayesian techniques. Besides cognitive psychology, my work contributes to contemporary debates in critical theory and cultural studies. In the music-sound cultural discourse, for example, it relates particularly to the work of Attali, Born, Cook, Deleuze, Frith, Kahn, Middleton, Nettle, Radano, and Tagg. I have a broad knowledge of the arts, not only real-time arts including film, but also plastic and visual arts, as evidenced in my book on the arts at large, *Improvisation, Hypermedia and the Arts since 1945* (1997). Most recently I have (co)edited volumes on *Computer Music* (Oxford) (2009), *Practice-led Research, Research-led Practice in the Creative Arts* (Edinburgh) (2009) and *Algorithmic Music* (Oxford, 2018).

### **Selected contributions in editing, reviewing, supervising, teaching, and recent conference presentation and organisation**

My main humanities editing contributions have been a journal issue for *Sounds Australian* (1991), and acting as the main Australian Contributor-Editor for the *Grove Dictionary of Jazz*, 2nd Edition (1996-2002) and 3<sup>rd</sup> Edition (2021- ). I am currently an advisory editor for the open access peer-reviewed journal, *Critical Studies in Improvisation*, based in Canada, and since 2016 and 2017 a member of the Editorial Boards of *Musicae Scientiae* (term completed 2021) and the *Journal of Creative Music Systems* (respectively). In 2021- I was a foundation member of the Editorial Team of *Chroma*, the journal of the Australasian Computer Music Association.

I have acted as reviewer for articles submitted to virtually all the international journals of music cognition and computer music; for *Musicology Australia*, *Perfect Beat*, and several journals of music-film studies; for books submitted to Cassell (UK), Cambridge University Press and Open University Press (UK), Oxford University Press (USA), and the University of Wollongong Press amongst others; and for applications for representation by the Australian Music Centre. I also referee humanities and other grant applications to the Australian Research Council and for the European Research Council and several other European organisations.

I have co-supervised honours and Masters theses in music and composition, at the Australian National University and La Trobe University. One concerned the opera *Malcolm X*, by Anthony Davis. I co-supervised a PhD on glitch sound work, and later one on applications of sonification (display of data in sound rather than visualization in image), both at the University of Canberra. At the MARCS Institute I continue to participate in supervising several PhD students. Several of my humanities post-graduate student and post-doctoral collaborators have embarked on successful post-doctoral and academic careers (one is a full professor in the USA, another associate professor in University of Leeds UK, others holding academic or research positions in several countries).

I have given humanities research seminars, and teaching lectures, workshops and small group classes in Universities and research centres in UK, USA, Australia, Canada, Hong Kong, India, Indonesia, New Zealand, Norway, Philippines, Singapore and elsewhere.

I have organised, chaired and presented for the Musicological Society of Australia. In 2002 I contributed as chair and presenter for a session in a conference co-organized by the Australian Academy of

Humanities. In 2003 I was a speaker at the International Conference on Music and Gesture, University of East Anglia, UK, on my concept of NoiseSpeech. I was Chair, discussion facilitator and presenter, on IT and Educational Futures, at the Association of Commonwealth Universities, Triennial Conference, Belfast, UK, September 2003. In 2004 I spoke at a symposium of the International Musicological Society (held in Melbourne) and also gave the closing address. Our current work appeared at the 2005 Experimental Psychology Conference, Melbourne, and at the Asia Pacific Conference on Music Cognition (August 2005), at which I was a session chair, and at the International Conferences on Music Perception and Cognition, Bologna 2006, Montreal 2007, and Sapporo 2008 and regularly since. In 2005 I gave 3 Keynote addresses on music cognition and computation (Griffith University, HCSNet conference, and the Conceptualising Communication Conference at University of New England); while in 2010 I gave a workshop course on Time series analysis for the cognitive sciences, to the Human Communications Sciences Network. In 2008 I was a keynote at the Australasian Computer Music Association Annual conference, and in 2009 at Research-led practice in the creative arts (at a symposium run by Deakin Creative). In 2012 I have presented at an Econometrics symposium in Tasmania (because of the importance of time series analysis, a statistical technique I use widely, in that field). Similarly, in 2012 I was an invited speaker at the Joint Statistical Meetings (San Diego, USA), and at the International Interactive Keyboard Symposium (London, November); and in 2013 on computational and cognitive approaches to sound design and spatialisation at the first Singapore Sound Symposium.

Since 2015: I was invited to symposia at the US society for music cognition (SMPC), and the Electronic Literature Conferences (Norway, Portugal), and had work presented also at ESCOM (the European Society for Music Cognition), the International Conference on Music Perception and Cognition, and NIME (New Interfaces for Music Expression). I gave a keynote at both the inaugural Australasian Jazz and Improvisation Research Network meeting and that in 2021, and I contribute as a committee member to its ongoing endeavours. As an illustration of my ongoing research presentations, I note that in 2018 I gave 3 talks in Australia, and 5 in the UK. As covid hopefully recedes somewhat, I am recommencing more fully such activities in 2023, with substantial talks in Coimbra (Portugal), the UK, and as an Alfred Hook Public lecture at the University of Sydney.

### **Music Compositional, Computer and multimedia expertise**

I have used most compositional approaches, from the neotonal aspects of idiomatic jazz and some minimal music, through rigorous complexity, to textural and sonic composing. Much of my compositional work is now partly algorithmic. Some is purely acousmatic, involving sculpting sound directly by computer, using a wide range of software and technical approaches, and then presenting it solely as pre-recorded sound. In several aspects, I have developed novel techniques (as detailed in the following sections). I am active in art music, but have also produced music for the adventurous dance floor (drum and bass), and for the underground (noise performance, by laptop or synthesiser).

My computing expertise is also substantial, ranging from interactive object-oriented programming for performance and the web, to graphics, animation, including 3D animation in VRML and subsequent technologies, video, and real-time image and sound processing (including DSP and other analytical approaches, for example with the phonetics/acoustics platform, Praat). I use Keras, Tensor Flow and Python as my platform in a project on using machine learning (deep nets) for generation of novel music. My core expertise is with MAX/MSP and more recently video and image processing in this same context, now using Jitter. I have developed novel techniques by which the algorithms controlling the generation of music (and/or image) can be reconstructed on the largest structural level by the performer in real-time in a networked context. I have also established means of integrating computational influences on the sound progression with those on image progression. These include developing real time transparent exchange of data between the two aspects. This permits both a mutual cooperation and interrogation between the semiotic and structural streams (as discussed in some detail in my 2003 book *Hyperimprovisation*). I continue to produce acousmatic (completely composed) computer music works, while australYSIS creates sound technodramas for radio, and interactive web/CD-ROM intermedia work. Most recently I have also collaborated with Keith Armstrong, Hazel Smith and Sieglinde Karl-Speance (Australia) on interactive installation works, and Will Luers (USA) in sound-video work. I have also participated in many other collaborations, such as with Martin Ng (Australia); and Torbjörn Hultmark and Jonathan Impett (UK). Examples of all these kinds of output are included my list of works, below. *novelling*, an interactive recombinant digital novel (comprising text, image, video and sound, done in collaboration with Will Luers

(USA), and Hazel Smith), was shortlisted for the European TurnOn Literature prize in 2017, and won the 2018 international Robert Coover award for a new work of electronic literature.

My cognitive and computational science feeds directly into the real-time techniques of computational creativity I use and am developing.

### **Expertise in improvisation in music**

My work in improvisation in music is not solely an expression of implicitly acquired expertise, but also of the development of unique technical approaches. In acoustic music, I have ranged from free improvisation to referent-based improvisation, in which there is a preformed schema from which to elaborate. Certain idiomatic schema I have used, such as those of jazz, are well known; others I have used are unusual or unique. Amongst the latter are several rhythmic schema which involve 'competition' between different pulses and meters, and a range of methods to elicit a controllable mix of heterogeneity and homogeneity of approach by individuals within a collaborating ensemble. I have also created means to control the gradations between harmonic and polyphonic improvising, and between pitches, multiphonics and textural sounds. Most recently, I have taken advantage of computer-interactive technologies to translate these approaches into 'orchestral' and other multilayered approaches, which can now be controlled by one or a small number of persons. In addition, networking permits data exchange between players of an objective kind not previously possible. So I have developed computer schema (such as an algorithmic patches programmed in MAX/MSP/Jitter) which allow a referent to be drastically changed during performance, and yet still be shared amongst improvisers if so required. Computer networking allows one to create and schedule events in the relatively distant future; thus I can choose to control my own sound world and/or that of my collaborators. In sum, I have used computer-interactive improvisation to permit many layers and types of improvisatory control which were previously impossible; at the same time, I use it to introduce literally uncontrolled (randomly generated or timed) events. I am currently developing new techniques by which computational creativity can contribute both to improvisation and composition, including those involving machine learning by deep nets. While my work primarily uses live algorithms (where the algorithm is pre-composed but usually flexible/interactive), I also sometimes use live coding techniques (where the algorithm is written during performance).

### **Instrumental Performance (brief synopsis)**

I was an internationally known double bass player and keyboardist, as well as composer and improviser. I was based in London (UK) until late 1988, and worked extensively on the European scene, as well as in Asia, Australasia, and the US. I studied the bass with Eugene Cruft and was Principal bass in the National Youth Orchestra (UK). I gave a solo performance at the Wigmore Hall, London at the age of 15. I have worked with most of the leading new music and many chamber ensembles in London, such as the Almeida Ensemble, Berliner Band, London Sinfonietta, Music Projects/London, Nash Ensemble, Sonant, Spectrum and the Wallace Collection, as well as with symphony orchestras (such as the BBC Symphony) and many chamber orchestras. I have given premieres of many works for solo double bass (e.g. Bright, Bush, Bussotti, Feldman, Ferneyhough, Finnissy, Henze, Holmboe, Kagel, Knussen, Loevendie, Nicholson, Wallace, Xenakis) and many have been written for me. I ceased bass playing in 2002. I continue to be active as keyboard player with other ensembles, and have previously worked as accompanist frequently with Hazel Smith (violin), John Wallace (trumpet), Colin Lawson and Peter Jenkin (clarinet) and also with Gerald English (tenor) and most recently, Torbjörn Hultmark (soprano trombone). I was the keyboard player with the leading British jazz group Graham Collier Music from 1974-2013: my last recording with Graham (who died in 2011) was in November 2004 in the UK for the 'Celebration Band' at the London Jazz Festival, to perform and record. Most recently, I performed in the tribute to Graham's work in the London Jazz Festival (2012), and on the cd recordings of his last two suites (2013) which formed the double CD *Luminosity* (released 2014). I have played both bass and piano with Sydney Alpha Ensemble, was amongst their featured soloists in 1995, and worked with other Australian ensembles such as Watt. I worked extensively as sole or principal bass player with the Australian Chamber Orchestra. I have conducted ensembles ranging from the Australian Chamber Orchestra and Sonant to the incipient Loose Tubes Orchestra and the Kinetic Jazz Orchestra.

I have collaborated with many important musicians, ranging stylistically amongst jazz musicians and improvisers from Ted Curson, Kathy Stobart, Terje Rypdal, and Tomas Stanko, to Derek Bailey, Evan Parker, Barry Guy and the London Jazz Composers' Orchestra and including many Australians such as my regular

collaborators Sandy Evans, Phil Slater and Greg White (who can be heard on several of our recordings). I have also collaborated with many eminent composers such as Mauricio Kagel, Pauline Oliveros, Krystof Penderecki and Karlheinz Stockhausen.

I formed the European group LYSIS in 1970, and it evolved into austraLYSIS in 1989 after I moved to Australia. The ensemble initially was active in jazz, and separately juxtaposed freely improvised and composed music in performance and commissioned and created many works to premiere on the South Bank in London, for the BBC, and at international events such as the World Music Days of the ISCM. Electroacoustic components, and the work of composers within the ensemble gradually became more important to its efforts, and by 1992 most performances involved computer interactive works. From 1997 onwards, multimedia work, including text performance and electroacoustic manipulation of speech as well as natural and musical sounds dominated. Most recently we have used a variety of approaches to real-time algorithmic exchange and fusion between data and process in the visual and sonic modalities. Deep learning and algorithmic techniques have been in use and under development since 2016. A new emphasis in our 2024 release *Dualling* (Earshift 085) is duo improvisation with pre-composed electroacoustic material (though this has some antecedents in our work). An extended musical biography is on the austraLYSIS web site.

## Arts/Humanities and music cognition/computation research

### Authored Research Books

B1) R.T. Dean *Creative Improvisation : Jazz, Contemporary Music and Beyond*. Open University Press, UK/USA, 1989 (pp. 136). This book was published with a tape by LYSIS of performance, analysis and guidance, listed below as CD#2.

B2) R.T. Dean *New Structures in Jazz and Improvised Music since 1960*, Open University Press, UK/USA, 1991 (pp.230)

B3) H.A. Smith and R.T. Dean *Improvisation, Hypermedia and the Arts since 1945*, Harwood Academic, 1997 (pp. 334).

B4) R.T. Dean *Hyperimprovisation : Computer Interactive Sound Improvisation*, A-R Editions, Madison, WI (USA), 2003 (pp.203). With a CD-Rom of software, algorithmic interactive patches, and sound works, by Dean and others.

B5) R.T. Dean, *Sounds from the Corner: Australian Contemporary Jazz on CD since 1973*, Australian Music Centre, Sydney, 2005 pp.193.

### Edited Research Books

B6) H. Smith and R.T. Dean (eds) *Practice-led Research: Research-led Practice in the Creative Arts*. Edinburgh University Press, 2009. (pp. 278)

B7) R.T. Dean (ed) *The Oxford Handbook of Computer Music*. Oxford University Press, 2009 (pp. 595).

B8) A.McLean, R.T.Dean (eds) *The Oxford Handbook of Algorithmic Music*. Oxford University Press, 2018 (pp. 694). Paperback edition 2021.

### Journal Research Articles (peer-reviewed)

(this list excludes numerous short reviews of recordings written for journals such as Coda and Jazz Journal in the period up to 1988)

J1)(1977) R.T. Dean, 'Jazz Vibes: Bebop and After', *Jazz Journal* 30, 4-7

J2) (1991) R.T.Dean and H.A. Smith 'Digesting the Message: A view of Texts for Interpretation, Reconstruction and Improvisation', *Sounds Australian*, 29, 38

J3) (1992) R.T. Dean (editor) 'Eleven Views of Music Improvisation', *Sounds Australian* 32. Includes three additional contributions by Dean :

J4) 'Editorial: Eleven Views of Improvisation';

J5) 'Assembling.... Improvising', an edited conversation between Rik Rue and Roger Dean; and

J6) 'Improvising the Listener: The Listener Improvises', an edited conversation between Simone de Haan and Roger Dean.

J7) R.T. Dean and Paul Dyne (1992) 'Improvising Ideas and Education', *Music In New Zealand*, 19, 43-46

J8) R.T.Dean (1993) 'Elektric Impulse', *The Strad*, 104, 740-742

J9) H.A. Smith and R.T. Dean (1993) 'Thinking and talking : David Antin in conversation with Hazel Smith and Roger Dean', *Postmodern Culture*, an Oxford University Press international peer-reviewed electronic journal, also in hard copy Vol 3, issue 3. Accessible online as ANTIN.593.

J10) R.T. Dean (1995) 'I might call my work...' *Sounds Australian* 46, 15

J11) R.T. Dean (1997) 'Polyphonies of pulse : on the control of pulse and meter in computer-interactive improvisation' *MikroPolyphonie*, (<http://farben.latrobe.edu.au/mikropol>). This on-line article includes a

streamed sound file of *'Sloping'*, from the australYSIS Electroband CD *'Present Tense'*.

J12) R.T. Dean (1997) 'Music: The Other Profession?', Cambridge, the Journal of the Cambridge Society, 40, 16-20

J13) Dean, R. T. (1998). 'Another Xenakis recording.' Computer Music Journal 22: 4.

J14) Smith, H. and Dean, R. T. (2002). 'The Egg The Cart The Horse The Chicken: Cyberwriting, Sound, Intermedia.' Interactive Multimedia Electronic Journal of Computer Enhanced Learning 4(1): [imej.wfu.edu/articles/2002/1/index.asp](http://imej.wfu.edu/articles/2002/1/index.asp).

J15) R.T. Dean (2002) 'Creative arts, creative research and the politics of new media' Southern Review 35, 10-22

J16) R.T. Dean (2002). Economic and Social Benefits of Universities: Policy Implications. *Agenda*, 9(3), 275-288.

J17) Smith, H. and Dean, R. T. (2003). 'Voicescapes and Sonic Structures in the Creation of Sound Technodrama.' Performance Research, 8, 112-122.

J18) Dean, R. T. (2004). 'Anthology of Australian Music on Disc, Series V, from the Canberra School of Music, Australian National University.' Sounds Australian 63: 54-55 (columns disordered).

J19) Dean, R. T. (2005). 'NoiseSpeech, a Noise of Living Bodies: towards Attali's 'Composition'.' J. New Media and Culture 3(Fall 2004; web journal). Includes a sound piece by the author, Speak Noise Speech, also available online.

J20) Dean, R. T. and H. Smith (2005, cover date 2003). 'Sonic narratives: intermedia transformations in the work of australYSIS.' Australasian Music Research 8., 91-105

J21) Dean, R. T. and H. Smith (2005). 'The evolving technology of performance in the work of australYSIS, and the politics of co-operativity.' Sounds Australian 65: 16-21. Also available online at the Australian Music Centre.

J22) Dean, R. T., M. Whitelaw, H. Smith and D. Worrall (2006). 'The Mirage of Algorithmic Synaesthesia: Some Compositional Mechanisms and Research Agendas in Computer Music and Sonification.' Contemporary Music Review 25, 311-327

J23) Dean, R. T. (2006). 'Book Commentary: *Playing Ad Lib: Improvisatory Music in Australia 1836-1970*.' Critical Studies in Improvisation (online international refereed journal, Canada).

J24) Smith, H., & Dean, R. T. (2006). Posthuman collaboration: Multimedia, improvisation and computer mediation. *M/C Journal*. (vol6, online; includes video of excerpts of performance of 'Time, the Magician', work by the authors, performance by australYSIS).

J25) Dean, R.T., and F. Bailes. (2006) 'Towards a Sociobiology of Music.' [Music Perception](#) 24, 83-84.

J26) R. T. Dean, F. Bailes (2007), 'NoiseSpeech.' Performance Research 11(3) 83-84; also published in Documenta 12, 2007.

J27) Dean, R.T. and Bailes, F. (2007) "'Human Understanding' in imagining and organising sound: some implications of John Locke's Essay." Organised Sound, 12: 89-95.

J28) Smith, H.A. and R. T. Dean, F. (2007), 'Voicescapes.' Performance Research 11(3), 134-135; also published in Documenta 12, 2007.



- J29) Bailes, F. & Dean, R. T. (2007). 'Listener Detection of Segmentation in Computer-Generated Sound: An Exploratory Experimental Study'. *Journal of New Music Research*, 36(2), 83-93.
- J30) Bailes, F. & Dean, R. T. (2007). 'Facilitation and coherence between the dynamic and retrospective perception of segmentation in computer-generated music'. *Empirical Musicology Review*, 2(3), 74-80.
- J31) Dean, R.T. (2007), New Introduction and reprint of 'Assembling. improvising. Rik Rue in conversation with Roger Dean'. *Resonate*, the online journal of the Australian Music Centre. Visit the 'interviews' page or <http://www.resonatemagazine.com.au/article.php?id=8>.
- J32) Bailes, F. & Dean, R. T. (2007). 'A Response to Cross and Rohrmeier's 'Comments on Facilitation and coherence between the dynamic and retrospective perception of segmentation in computer-generated music'. *Empirical Musicology Review*, 2(4), 149-151.
- J33) Dean, R.T., and F. Bailes. 2008. 'Is there a 'Rise-fall temporal archetype' of intensity in electroacoustic music?' *Canadian Acoustics* 36 (3):112-113.
- J34) Bailes, F. and Dean, R.T. (2008/2009) 'When is Noise Speech? A survey in sonic ambiguity.' *Computer Music Journal*. 32/4, DVD sound samples (2008); 33/1, 57-67 (2009).
- J35) Dean, R.T. 2008/2009 (published online at <http://www.leonardo-transactions.com/announcements/20080831>). 'Widening unequal tempered microtonal pitch space for metaphoric and cognitive purposes with new prime number scales.' *Leonardo* 42 (1): 94-5
- J36) Dean, R.T., Byron, T., Bailes, F. (2009). 'The Pulse of Symmetry: on the Possible Co-Evolution of Rhythm in Music and Dance' *Musicae Scientiae Special Issue* 341-367.
- J37) Bailes, F., Dean, R.T. 2009 *Perception* 38,1386-1404 'Listeners Discern Affective Variation in Unusual Computer-Generated Musical Sounds'
- J38) Dean, R.T. & Bailes, F. 2010. *Organised Sound* 15(2), 147-158 'A Rise-Fall Temporal Asymmetry of Intensity in Composed and Improvised Electroacoustic Music'
- J39) Dean, R.T. & Bailes, F. (2010) 'The control of acoustic intensity during jazz and free improvisation performance: possible transcultural implications for social discourse and community.' *Critical Studies in Improvisation*, 6(2), 1-22. <http://www.criticalimprov.com/article/view/1193>
- J40) Dean, R.T. & Bailes, F. (2010) 'Time series analysis as a method to examine acoustical influences on real-time perception of music.' *Empirical Musicology Review* 5 (4), 152-175
- J41) Bailes, F. & Dean, R.T. (2011) 'The perceived affective expression of computer-manipulated sung sounds.' *Computer Music Journal* 35, 90-104 ((with sound samples on DVD accompanying Vol 35 issue 4)
- J42) Ferguson, S. , Schubert, E., Dean, R.T. (2011) 'Continuous subjective loudness responses to reversals and inversions of a sound recording of an orchestral excerpt.' *Musicae Scientiae* 15(3), 387-401. doi: 10.1177/1029864911410122
- J43) Dean, R.T., Bailes, F. & Schubert, E. (2011) 'Acoustic Intensity Causes Perceived Changes in Arousal Levels in Music: An Experimental Investigation', *PLoS One* 6 (4) e18591
- J44) Dean, R. T. and F. Bailes (2011). 'Modelling Perception of Structure and Affect in Music: Spectral Centroid and Wishart's Red Bird.' [Empirical Musicology Review](#) 6(2): 1-7.
- J45) Bailes, F. and R. T. Dean (2012). 'Comparative time series analysis of perceptual responses to

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- J48) Launay, J., R. T. Dean, F. Bailes (2013). 'Evidence for multiple strategies in off-beat tapping with anisochronous stimuli.' [Psychological research](#) DOI: **10.1007/s00426-013-0513-9**: 1-15.
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- J50) Bishop, L., F. Bailes, R.T. Dean (2013). 'Musical Expertise and the Ability to Imagine Loudness.' [PloS One](#) **8**(2): e56052.
- J51) Bailes, F., R. T. Dean, M.T. Pearce (2013). 'Music Cognition as Mental Time Travel.' [Scientific Reports](#) **3**.
- J52) Dean, R.T., K.N. Olsen, and F. Bailes (2013). 'Is there a 'rise-fall temporal archetype' of intensity in the music of Joseph Haydn? The role of the performer.' *Music Performance Research*. **6**: p. 39-67.
- J53) Bishop, L., F. Bailes, and R.T. Dean (2013) . 'Musical Imagery and the Planning of Dynamics and Articulation During Performance.' *Music Perception: An Interdisciplinary Journal*. **31**(2): p. 97-117.
- J54) Dean, R.T., F. Bailes, and J. Drummond (2014). 'Generative Structures in Improvisation: Computational Segmentation of Keyboard Performances.' *Journal of New Music Research*, (online ahead-of-print): p. 1-13.
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- J56) Dean, R. T. & Bailes, F. (2014). Influences of structure and agency on the perception of musical change. *Psychomusicology: Music, Mind, and Brain*, **24**(1), 103.
- J57) Launay, J., Dean, R. T. & Bailes, F. (2014). Synchronising movements with the sounds of a virtual partner enhances partner likeability. *Cognitive processing*, 1-11.
- J58) Olsen, K. N, Dean, R. T, & Stevens, C. J. (2014). A continuous measure of musical engagement contributes to prediction of perceived arousal and valence. *Psychomusicology: Music, Mind, and Brain*, **24**(2), 147.
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- J60) Dean, R. T. (2014). Low frequency spatialization in electro-acoustic music and performance: composition meets perception. *Acoustics Australia*, **42**, 102-110.
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- C3) (1988) R.T. Dean, 'Walt Dickerson', in New Grove Dictionary of Jazz (1st Edn, ed. B. Kernfeld), Macmillan Publishers, London, p.288
- C4)(1988) R.T. Dean, 'Barry Guy', in New Grove Dictionary of Jazz (1st Edn, ed. B. Kernfeld), Macmillan Publishers, London, p.464
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- C7) (1988) R.T. Dean, 'Bobby Naughton', in New Grove Dictionary of Jazz (1st Edn, ed. B. Kernfeld), Macmillan Publishers, London, pp.161-2
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- C52)Bailes, F., H. Smith and R. Dean (2007). 'Hearing and Imaging Place in Sound: a Program to interrelate the Cognitive, Cultural and Creative'. *Hearing Places*. Ed. R. Bandt, M.Duffy, and D.McKinnon. Cambridge Scholars Publishing, UK, pp. 126-142; with sound work extract from *The Space of History* (by Dean and Smith) on the accompanying CD.
- C53)Dean, R.T. (2008) Interview by David Bennett, in 'Sounding Postmodernism: Sampling Australian Composers, Sound Artists and Music Critics' by David Bennett, Australian Music Centre, pp.186-194.
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- C61) Dean, R.T. & Bailes, F. (online publication 2014) Cognitive processes in improvisation (in the Oxford University Press Handbook on Improvisation, 2 Volumes, edited by G. Lewis and B.Piekut).
- C62) Dean, R.T., Computer Music, in *Music in the Social and Behavioural Sciences, An Encyclopedia*. 2014, Sage. p. 239-242. (ed. W.F. Thomson).
- C63) Stevens, C.J., Dean, R.T., Vincs, K., & Schubert, E. (2014). In the heat of the moment: audience real-time response to music and dance performance *Coughing and Clapping. Investigating audience experience* (eds. K.Burland and S.Pitt) (pp. 69-87): Ashgate, Farnham, UK.
- C64)Dean, R.T. (2017) Creating Music: Composition. *The Routledge Companion to Music Cognition* (eds. R. Ashley and R. Timmers), pp 251-264. Routledge: London, UK.
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- C66)Hearne,G.M., Milne, A.J. & Dean, R.T. (2019) Distributional Analysis of  $n$ -Dimensional Feature Space for 7-Note Scales in 22-TET. *International Conference on Mathematics and Computation in Music*, 201-212.

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### **Selected Substantive Peer-reviewed conference proceedings**

I avoid publishing substantive material in such proceedings whenever possible; occasionally it is an inescapable requirement for attendance.

P1) Dean, R.T., G. White and D. Worrall (2004). Mind your body. The brain interacts with the body: does it really control? 10th International Conference on Auditory Display; published on CD-rom and on the web, Sydney, International Community for Auditory Display. Article and sound piece concerning sonification of brain and physiological data of someone listening to music: available online: [www.icad.org](http://www.icad.org).

P2) Bailes, F. and R. T. Dean (2005). 'Structural Judgements in the Perception of Computer-Generated Music'. 2nd International Conference of the Asia Pacific Society for the Cognitive Science of Music (APSCOM), Ewha Womens University, Seoul, Korea, APSCOM, pp.155-160.

P3) Bailes, F. and Dean, R.T. (2006) 'Comparing real-time and retrospective perceptions of segmentation in computer-generated music' Proceedings of the 9<sup>th</sup> International Conference on Music Perception and Cognition 76.pdf. eds. Baroni, Addessi, Caterina and Costa.

P4) Worrall, D., Bylstra, M, Barrass, S, Dean, R.T. (2007). 'SoniPy: the design of an extendable software framework for sonification research and auditory display.' 9pp. in 13th International Conference on Auditory Display. 2007. Montreal: ICAD, available online at [www.icad.org](http://www.icad.org)

P5) Wilkie, S., C. Stevens, and Dean, R. (2008) 'Psychoacoustic manipulation of the sound-induced illusory flash' Book of the Selected Proceedings of the International Computer Music Conference, Copenhagen 2007; pp. 1-15. LNCS Series, Springer Verlag.

P6) Bailes, F. and R. T. Dean (2011). Perceptions of Process in Duo Improvisation. [Asia-Pacific Society for the Cognitive Sciences of Music](#). Beijing, China, APSCOM: 1-4.

P7) Dean, R. T. and F. Bailes (2013). Event and process in the fabric and perception of electroacoustic music. Proceedings of the international Symposium: Xenakis. The electroacoustic music\_ ([http://www.cdmc.asso.fr/sites/default/files/texte/pdf/rencontres/intervention11\\_xenakis\\_electroacoustique.pdf](http://www.cdmc.asso.fr/sites/default/files/texte/pdf/rencontres/intervention11_xenakis_electroacoustique.pdf). Paris, Centre de Documentation Musique Contemporaine: Intervention11, pp.12.

P8) Milne, A.J., Herff, S.A., Bulger, D. , Sethares, W. & Dean, R.T. (2016) Xronomorph: Algorithmic generation of perfectly balanced and well-formed polyrhythms. Proc. Of the International Conference on New Interfaces for Musical Expression, pp. 1-6

### **A selection of my humanities articles and contributions in newspapers/magazines/websites as public intellectual**

P1)Dean, R.T. (2002) 'Universities develop society and the economy' *The Australian*, May 15, p.7.

P2)Dean, R.T. (2002) 'Alternative courses. Australia needs a world-class university system to be able to

compete in the emerging knowledge economy. How do we achieve it – and who is going to pay?' The Sunday Age, Melbourne, June 23, p.21.

P3)Dean, R. T. (2002). 'Advancing Higher Education.' Directions in Education 11(10): 1.

P4)Dean, R.T. (2002) 'Stop the research grab' The Australian, August 21, p. 42.

P5)Dean, R.T. (2002) 'We must restore special support' Canberra Times, 11 September 2002, p. 13 (concerning conservation of cultural materials).

P6)Dean, R.T. (2002) 'Investing for returns to society' Campus Review, October 30 2002, pp 7-8

P7)Dean, R. T. (2003). 'Higher Education Reform.' Educare News **139**: 45.

P8)Dean, R. T. (2004). 'Why I think humanities journals are often irrelevant' (title before editing: Why I believe: humanities journals require an editorial charter.) Times Higher Education Supplement: January 30, 2004, 16.

P9)Dean, R.T. (2005) Obituary for psychologist Liam Hudson, The Independent Newspaper, UK.

P10)Dean, R.T. (2007), New Introduction and reprint of 'Assembling. Improvising. Rik Rue in conversation with Roger Dean'. Resonate, the online journal of the Australian Music Centre. Visit the 'interviews' page or <http://www.resonatemagazine.com.au/article.php?id=8>

P11)Dean, R.T. 2008 (June 20). Towards the growth of an underground. On the web sites of SIMA (Sydney Improvised Music Association) and Jazz Australia. [www.sima.org.au/2008/06/20/towards-the-growth-of-an-underground](http://www.sima.org.au/2008/06/20/towards-the-growth-of-an-underground); [www.jazz.org.au/features/299?regions\[Region\]=&features\[start\]=25](http://www.jazz.org.au/features/299?regions[Region]=&features[start]=25)

P12)Dean, R. and Bailes, F. (2010) Cognitive Processes in Musical Improvisation: Some Prospects and Implications; <http://www.improvcommunity.ca/research/cognitive-processes-musical-improvisation-some-prospects-and-implications>

P13)Interview by Scot Gresham-Lancaster (2018) on sonification and creative technologies in music composition for the US Creative Disturbances podcast series (online at MIT Press/Arteca: c. 30')

P14)Dean, R.T. (2020) Facing the music ... and the science: Expertise opportunities and obligations during interdisciplinary work, in NiTRO, the online journal of the Deans and Directors of Creative Arts (Australia). <https://nitro.edu.au/articles/2020/8/31/facing-the-music-and-the-science-expertise-opportunities-and-obligations-during-interdisciplinary-work>

P15)Dean, R.T. (2021) Enjoying exploring the unfamiliar: establishing familiarity in new music, in Limelight Magazine online November 15, 2021.

P16) australYSIS; MARCS Institute for Brain Behaviour and Development, Western Sydney University, and Dean, R.T. (2021) The Music of Science, the Science of Music. 5 open access videos (3h) of composition, improvisation, and discussion of the creative processes involved, and the science of music creation, production and perception. Speakers: australYSIS: Drs. Roger Dean, Sandy Evans, Phil Slater, Hazel Smith and Greg White; other composers: Drs Felix Dobrowohl, Jo Thomas; MARCS Institute: Drs. Simon Chambers, Roger Dean, Peter Keller, Jennifer MacRitchie, Eline Smit, Kate Stevens. Released on [australysis.com/FindOut.html](http://australysis.com/FindOut.html), and the Australian Music Centre YouTube Channel ...

P17) Dean, R.T. (2021) Enjoying exploring the unfamiliar: establishing familiarity in new music. In the ABC journal Limelight. <https://limelightmagazine.com.au/features/enjoying-exploring-the-unfamiliar-establishing-familiarity-in-new-music/>

P18) Dean, R.T. (2022) The Music of Science, The Science of Music.

**Other publications containing significant original material**

01) R.T. Dean and G. White (1997) Computer Interactive Systems for the suitcase. *Chroma* **22**, 4

R.T. Dean (1975-2006) Brief but significant sleeve notes to all the (austra)LYSIS LPs/CDs listed elsewhere.

The following CD annotations are substantive:

02) R.T. Dean 'The Wings of the Whale ; You Yangs', Soma 784

03) R.T. Dean 'Moving the Landscapes', Tall Poppies TP007

04) R.T. Dean 'Windows in Time', Tall Poppies TP 039

05) R.T. Dean 'The Next Room', Tall Poppies, TP 050

06) R.T. Dean 'Present Tense', Tall Poppies TP 109

07) R.T. Dean 'Acouslytic', Tall Poppies TP 153

08) R.T. Dean 'Lysis Lives: Resounding in the Mirror', Future Music Records FMRC73-0900

09) R. T. Dean 'Evolution II' on 'Network Sounds' (2002), a CD of the New Music Network, Australia, NMN001.

010) R.T. Dean 'Sonic Stones', Tall Poppies TP 192 (2006).

011) R. T. Dean 'Cycles, Superimpositions, Dualyses', The LYSIS reissue series, double CD, SOMA 788 (2012)

012) R.T. Dean 'Multi-Piano', Tall Poppies TP 225 (2012).

013) R. T Dean "History Goes Everywhere' Tall Poppies TP 234 (2015)

Selected open access public lecture and seminar presentations:

014) University of Sydney Hook Lecture (202310) on musical creativity, including performance of my *Couperin meets Pelog* (2023) at about 64' into the event.

<https://www.youtube.com/watch?v=wxqJM-cDpIU>

## Roger T. Dean: Creative Works

Audio recordings of many of these works (other than those on Commercial CDs etc) are available on the [austraLYSIS](#) website, in the 'hearseeread' section.

This listing is sectionalised as follows:

- 1) Completely notated or pre-programmed compositions for performance
- 2) Acousmatic works (pre-recorded tape/digital works for sound projection in concert or event) and compositions involving live performance with acousmatic sound
- 3) Selected compositions for improvisers
- 4) Multimedia Work, including performance work involving text and/or image, and sound; and work for web and CD-rom and installation.
- 5) Commercial or open access recordings of completely improvised works
- 6) Selective list of commercial recordings involving my creative work (compositions, or improvisatory contributions)
- 7) Commercial recordings as interpreter

My electroacoustic music appears particularly in sections 2-6.

(Note: xx#n= Commercial recording and its number section 5; CD = compact disc; DD = commercial release of CD quality digital download album often with compressed version available for free listening; CR = commercial cassette; LP = commercial vinyl album CT= cassette tape of non-commercial recording available in digitised form on request or released on the [austraLYSIS](#) website in the hearseeread section.)

### 1) Completely notated (or pre-programmed) compositions for performance

The distinction between completely and partially notated is necessarily incomplete, and so an arbitrary division has been made. For example, some of the works in this section (e.g. 17, 20) contain modest optional improvisatory possibilities, whereas those with greater improvisatory scope are in their own list. Conversely, 25 (for example) is an algorithmic composition, which plays from a computer, and is solely embodied in a MAX computer program I have composed (there is no score in musical notation, and no scope for user interaction).

- #1. 1964 *Diversions* for Chamber Orchestra. Premiered by the Gloucestershire Youth Orchestra, UK 1964, with the composer conducting. Withdrawn.
- #2. 1967 *Trio* for clarinet, cello and vibraphone, First performance Cambridge University Music Club, 1970; performance [available](#).
- #3. 1969 *Study* for Solo Double Bass, premiered Cambridge 1969 by the composer, Manuscript score.
- #4. 1980/3 *Certain Roads to Uncertain Lands*. A tetralogue for violin and double bass. Premiered by LYSIS, South Bank, London, 1981, and also at the ISCM World Music Days, Aarhus, Denmark, Manuscript score.
- #5. 1980/19 *Breaking Worlds* for clarinet, violin and double bass. Based on Jean Tinguely. Premiered LYSIS, Purcell Room, South Bank 1981, Manuscript score.
- #6. 1980/20 *After Bill*. An in memoriam Bill Evans, for solo piano. Premiered by RD, BBC Radio 3 1981. Broadcast Scandinavia, Australia, Indonesia, New Zealand, Philippines and elsewhere subsequently, Manuscript score. Recording on CD#1.
- #7. 1980/21 *Conversely*, for trumpet and piano with optional pre-recorded tape. Premiered John Wallace and Roger Dean, South Bank London 1981, Manuscript score. See also *Metaconversely* in Section 2.
- #8. 1984/2 *515 Madison Avenue* (after Frank O'Hara). For Flute Violin and Piano. Premiered by LYSIS 1985, South Bank London, Manuscript score.
- #9. 1985/1 *Metropolitan After images*. (After Fritz Lang and Jeff Keen). For John Harle and his Berliner Band, Manuscript score.
- #10. 1985/3 *B-A. and B.A.* A brass quintet for Biskops-Arno and Bernd Alois Zimmerman. Commissioned by Rikskonserten, Sweden, and Equale Brass (UK). Premiered Biskops-Arno Sweden, 1985, by BrassaNova directed by Peter Goodwin. Premiered London by LYSIS, directed by the composer, Manuscript score.
- #11. 1985/4 *Motel Mobile* for flute and Guitar. Commissioned by Ann Cherry, and premiered UK 1985, Manuscript score.
- #12. 1989/1 *Timestrain : Trane's Time Emit*, for clarinet and piano with optional delay system.

Commissioned by Andrew Sparling, and premiered by him London 1989. Australian premiere by Peter Jenkin (1991); recorded by ABC and on a Tall Poppies CD (TP 039), Printed score. CD#12.

#13. 1992/2. *...it gets complicated...* for speaking pianist. Premiered Sydney 1992. Recorded for ABC by the composer. Recorded on Red House records CD (RED 9401) Australian Piano Miniatures by Michael Kieran Harvey, Printed score: In 'Australian Piano Miniatures, Book 3', 1992, Red House Editions, Melbourne, CD#6.

#14 (1993) *Elektra Pulses* for string quartet and tape. Premiered by the Elektra Quartet, and recorded by the ABC, Score.

#15 (1993/3) *Raising not Climbing: The Anangu Journey*, for solo cello. Premiered by David Pereira, and recorded by the ABC. On Tall Poppies CD TP096, (2001), *Uluru*, Score.

#16 (1994) *Three Bagatelles: for Left and Right*. For piano, Score. Recorded by Aaron McMillan on his 9-cd set of Australian works.

#17 (1995) *SonoPetal* for orchestra, commissioned by the Australian Chamber Orchestra, and premiered by them with the composer conducting and as soloist in australYSIS (Huntington Festival, 1995). Also performed around Australia 1996. Includes *Sono 1* for Oboe, *Sono 2* for double bass, *Sono 3* for improvisers, *Sono 4* for violin, Score, CR#16. Discussed in "Music Now", a Music Resource Kit for Secondary Schools, written by Kim Waldock (Australian Music Centre, 1996).

#18 (1995) *Warshaweshadowing* for cello and tape. Commissioned by Georg Pedersen, and premiered by him in Sydney, Score.

#19 (1996) *Collecting the Thoughts* for double bass, saxophone, keyboards, and computer interactive program. Commissioned by Rob Nairn and premiered 1996, Score.

#20 (1996) *Sono V: Tholos*, for solo clarinet. Commissioned by Peter Jenkin, for a volume of short works for clarinet. Premiered 1997, Score (musical notation is identical with that of #21).

#21 (1996) *Sono Va: Tholos*, for wind controller, saxophone and computer interactive program. Premiered by Sandy Evans, at the Huddersfield Festival of Contemporary Music, UK, 1996, Score (musical notation is identical with that of #20) CD#22.

#22 (1996) *Impacted Spaces*, for percussion. Score, for marimba (1 player), vibraphone (1 player), and other percussion (1 or more players).

#23 (1997) *...and the bells light the air...* for brass quintet. Commissioned by the Wallace Collection (UK) and premiered Australia and USA, 1997, Score.

#24 (1997) *...as the pictures burn...* for eight players. Commissioned by the Sydney Alpha Ensemble, and premiered Sydney, 1997, Score.

#25 (1997) *Automotive*. A computerised self-generating but variable algorithmic composition; with algorithmic and interactive audio processing by Greg White.

#26 (1997) *Sono VI: Plaka*, for solo guitar, Score, published by RedHouse Editions, in 'Guitar Miniatures' (RH 946, 1998). Recorded by Geoffrey Morris for release on Red House.

#27 (1997) *Flying*, for brass quintet. Score. Commissioned, premiered and recorded by Chaconne Brass, UK.

#28 (1997) *PetalSono*, for solo oboe, chamber orchestra, two improvisers, and electronic processing, Derived in part from SonoPetal (see # 17).

#29 (1997-8) *Sono 3a* for Violin and Viola, Score. Written for Maureen Smith and Simon Rowland-Jones; a development of SonoPetal (see #17).

#30 (2000) *Notes in Passing Evolution* (3 fragments for clarinet and optional digital processing). Premiered at the Performance Space, Sydney, November 18, 2000, Score.

#31 (2000) *Trumformations: Sono VII* for trumpet (for Torbjörn Hultmark). 5 fragments for trumpet and optional digital processing). Premiered at the Performance Space, Sydney, November 18, 2000, Score.

#32 (2000) *Evolution* (music for clarinet, trumpet, and live digital processing; with algorithmic computer sound). Premiered at the Performance Space, Sydney, November 18, 2000, Score. Trumpet material recorded by Torbjörn Hultmark.

#33 (2002) *Fanfare and Processionals I and II*, for the University of Canberra, Score. Several live performances, by Sandy Evans. Later, a pre-recorded performance by Torbjörn Hultmark was used for many graduations in the Australian Parliament House, Canberra.

#34 (2004) *8 Bagatelles* for '8 Os and a W', Score for saxophone and trumpet; part of a multimedia piece, '8 Os and a W', but performable solely with the sonic parts of the piece. Premiered Sydney 2004.

#35 (2007) *SnowTalk*, for brass quintet and electroacoustic tape, Commissioned by Chaconne Brass, UK, for performance and recording in the UK. Text by Hazel Smith.

- #36 (2007) *Harmonic Moves* for double bass and piano. Commissioned by Rob Nairn (USA for performance and for Tall Poppies CD recording, made May 2008)
- #37 (2009) *Resistance (a momentary pleasure)* for solo piano. Written in response to an ISCM call for piano works on the theme of momentary pleasures, each written in a single day.
- #38 (2012-3) *The Serial Collaborator*, an algorithm for interactive generation of rigorous serial melodic composition processes. Presented in concert in Sydney, Singapore, London, and elements used in several published intermedia and sonic works. Also discussed in an article in *Leonardo* (2014, by RT Dean).
- #39(2015)*Vocal Shafts*, algorithmic instrumental and EA sound together with notated composition for soprano (and optional bass) trombone. Commissioned by Torbjorn Hultmark (UK) for performance and recording by himself (soprano) with John Kenny (bass). Available online.
- #40) (2020) *Pan Pitches*, algorithmic music for multi-tuned piano, including sonification of covid-19 statistics in Australia and the world at large for Feb-April 2020. The piece also has interactive visualisation of pitch spectra and is best viewed at <http://www.australysis.com/hear-see-read/aLYS-works/worksEAcomp.htm> It was first released on <https://www.hca.westernsydney.edu.au/sites/makemusicday/> for world Make Music Day, June 21, 2020, but the title has been rendered incorrectly there.

## 2) Acousmatic works (pre-recorded tape/digital works for sound projection in concert or event) and compositions involving live performance with acousmatic sound

For convenience, Acousmatic is here taken (very loosely) to include live generated computer music whether or not the algorithms produce fixed outputs. Thus these works may involve extensive improvisation as well as composition. Sometimes the disposition of these works between this section 2) and following section 3) is necessarily arbitrary.

- #1. 1990 *Who Dies*. Electronic music for a multimedia work of the same name, by Kinetic Energy Theatre Company, The Edge, Sydney, Recording on CT.
- #2. 1992/3. *Who Lives*. Electronic music for a multimedia work of the same name, by Kinetic Energy, The Edge, Sydney, Recording on CT.
- #3 1992-3 *Silent Nuraghi*. Computer music on tape. Recorded by ABC as part of 'Nuraghic Echoes', see below, CD#11.
- #4 *Fissuring Silence* (1992). Computer work on tape. CD#9.
- #5 *Wobbling the Humours* (1996). Computer work on tape. CD#22.
- #6 *Electric Tomato* (1995) Computer work on tape. CD#22.
- #7 *FrogWordMirror* (1996) Computer work on tape. CD#22.
- #8 *Lowering the Sky: For Jackson Mac Low* (1997), CD#14; CD#22.
- #9 *Undiscovered Land : Voyages I and II* (music integral to two multimedia performance pieces by Kinetic Energy, 1996 and 1997), Digital.
- # 10 *Sono Va* (1996; for wind controller). A scored work, for realisation with electroacoustic sounds, and accompanying Max patch. CD#22.
- #11 *Dust* (the Chris Mann collaborations on Frog Peak) (1997), CD#13; CD#22.
- #12 *Sizzle* (1997). A work in the drum and bass idiom, Digital. *Polyrhythmia* (1998: available at [www.australysis.com](http://www.australysis.com)); and several small pieces included in *WordStuffs* (1998), an intermedia piece listed in the 'Multimedia works' section below; are derived from this by algorithmic remixing.
- #13 *Automotive* (1998). An algorithmic work, composed in Max. CD#22.
- #14 *Hope : The Spear and the Boat* (1998), First released on "Hope", Anthology CD by Audio Research Editions, UK 1998 (ARECD101; CD#19). Also on CD#22.
- #15 *Percy's Centrifuge* (1998), CD#22.
- #16 *Acouslytic* (1999), CD#22; CD #28.
- #17 *Jungle Jongleur* (1999). ( Drum and bass; together with generic MAX patches for musical event generation and sound processing). CD#22; CD #28.
- #18 *Traces of Reason* (1999), Released on "Trace", Anthology double CD by Audio Research Editions, UK 1999 (ARECD102; CD#20).
- #18 *soundasSympathy* (2000). A 30" sound work for the web site of the International Symmetry Conference 2001. (available), CD (2000): Metasynthia 2 (USA).
- #19 *Dr Metagroove: The Meta-Mix* (2000), CD (2000): Metasynthia 2 (USA).

- #20 *Sizing the Tools* by the Drum and bass machine alias Dr Metagroove (generated by Dean's Max patch), on CD-ROM with Dean's *Hyperimprovisation*, A-R Editions USA (2003).
- #21 *PianoStones* (2002), Digital. Premiered Brisbane Powerhouse, October 2002. released on CD #37 (2006).
- #22 *Mind your Body* (2004), Digital. Composed with David Worrall and Greg White. A 16 channel sonification of electrophysiological and physiological data from a person listening to music. Published by the 10th International Conference on Auditory Display, July 2004, and presented in the Studio of the Sydney Opera House. (Available on the conference proceedings CD-ROM and website, as stereo.)
- #23 *Architect of the Ether* (2004), Digital. Premiered Launceston, St George's Theatre, July 2004. A tribute to Rory Spence.
- #24 *Speak the NoiseSpeech* (2004), Digital. Accompanies and illustrates an online article on my concept of NoiseSpeech, in the Journal of New Media and Culture (2004).
- #25 *The Peace of Molonglo: A Place of Thunder* (2005), Premiered Sydney Conservatorium of Music, September 2005. Released on Australasian Computer Music Association CD, Unfenced, 2008.
- #26 *Ligating the Rhizome* (2006). A multistrand work of algorithmic post-minimalism, realized live by computer. Premiered Sydney 2006, presented at the Cultural Studies of Australasia Conference Special event 2006.
- #27 *Hanging Betsy* (2007) by Roger Dean and Hazel Smith. A short text and sound piece. Released online at the MEAPSoft Music Showcase of Columbia University. [www.meapsoft.org/showcase.php](http://www.meapsoft.org/showcase.php) (see final section of the page, "More Advanced Examples"). Also published 2010 by *Ekleksographia*, on line journal.
- #28 *SnowTalking* (2007), electroacoustic piece, with text by Hazel Smith, developed from the electroacoustic portions of Notated Work #35. Premiere December 2007, Sydney, in an austraLYSIS event at the Sydney Conservatorium of Music.
- #29 *Harmonic Moves II*, an algorithmic postminimalist harmonic piece for computer-controlled piano (premiered 2007). Released by the Australian Broadcasting Corporation, 200902 at <http://www.abc.net.au/classic/australianmusic/mp3/>.
- #30 *Mutase* and *MultiMutase*, two- or multi- strand algorithmic postminimalist polyphonic pieces for computer-controlled piano (premiered 2008). Also designed for computational/empirical studies of musical segmentation.
- #31 *Electrointensities* (2009) A four channel work structured primarily on the basis of temporal patterns of acoustic intensity change. An electronic counterpart to *Playing Intensities* (see below). Premiered Sydney Conservatorium of Music, 2009.
- #32 *Speaking Straight* (2009), by Hazel Smith and Roger Dean. Computer sound-poetry using austraLYSIS' Text Transformation Toolkit (see *Instabilities* in the Multimedia Listing for more information). Published 2010 in *aslongasittakes*, Volume 5, an online journal of sound poetry published by the Atlanta Poets. <http://www.aslongasittakes.org/issue5.html> is the homepage for the issue, which links to biographies, and the piece itself : <http://www.aslongasittakes.org/issue5/spkstr.mp3>.
- #33 *Speak Far and Wide* (2009), by Hazel Smith and Roger Dean. A multichannel sound piece, with the same bases as #32. Published (2010) in the US journal *Hyperrhiz.08*, online. Also published in *Drunken Boat 12* (US) online.
- #34) *Toy Language 2*, for mezzo-soprano and electroacoustic sound(2010). Written for Jenny Duck-Chong and Halcyon to perform with austraLYSIS. Premiere Sydney Conservatorium of Music 201012 (recorded by the ABC).
- #35) *SundayPianoDance* (2005/2011) for two pre-recorded pianos. Performed by Roger Dean in 2005, Canberra, and edited/mixed 2011 for multiple acousmatic presentations in *Dance Massive 2011* (Melbourne) as part of *Imagined Dances* (designed and curated by Madeleine Flynn and Tim Humphrey). <http://www.musicforimagineddances.com/> (go to 'full composer card selection', a java applet). Also subsequently released on "MultiPiano", Tall Poppies 225 double CD (see below).
- #36) *Disappearing* (2012/13), for 4 Channel projection, involving speaker and audio. By Hazel Smith, Greg White and Roger Dean. Premiered 2012/09/29 Sydney Conservatorium of Music. Published in *Electronic Overland* (2013), part of *Overland Literary Journal*. <http://overland.org.au/previous-issues/electronic-overland/poem-hazel-smith-roger-dean-and-greg-white/>.
- #37) *Magnetic Shards* (2012) for 4 Channel projection. By Roger Dean (developed from samples of the magnetic resonator piano devised by Andrew McPherson). Premiered Sydney Conservatorium, 20120929.
- #38) *Sonic Finitude* (2012) for 4 Channel sound, by Roger Dean. A sound work developed from the



interactive installation sound for Keith Armstrong and colleagues *Finitude* multimedia installation. #39) *Akurra* (2012), for two female singers and 4-channel pre-recorded sound. Commissioned and premiered by Halcyon, in a New Music Network performance, Sydney, November 2012.

#40) *Growing Time* (2013) by Roger Dean (electroacoustic multichannel performance work, derived from the sound for the Installation and interactive web piece “Long Time, No See”, by Keith Armstrong and team; 8min).

#41) Two short pieces for the *Bimblebox* installation collaboration: representing birds found at Bimblebox and under threat from a potential coal mine. Installation by Alison Clouston and Boyd, touring Australia 2014-2016. The pieces are online at the Bimblebox/Coalface site.

#42) *Scaling the voices* (2015), an acousmatic composition dealing with sonic objects at transformed physical scales.

#43) *Interstate Sonics* by Roger Dean. (an electroacoustic work developed from sound for Keith Armstrong's installation work *Inter State*, 2016). 7'.

#44) *Average Violin*, by Roger Dean (2017). Ninety seconds in memoriam John Ashbery, the American poet who died in 2017. For publication in relation to a celebratory symposium on his work (2017) in *Journal of Poetics Research* (2019).

#45) *Digging Deep* (2018) by Roger Dean. <http://www.australysis.com/hear-see-read/aLYS-works/worksEAimprov.html> : A duet between Dean, live piano and processing; and algorithmic manipulation of a piece generated by Deep Improviser in 2017. Deep Improviser is a prototype computational deep learning generative system created by Dean (see his 2018/2020 article on it). After the death of pioneer African-American piano improviser Cecil Taylor in early 2018, Dean included a brief piano performance tribute to him in each performance that year: this is the final work culminating from that series.

#46) *Metaconversely* (2019) by Roger Dean. This is a 4 channel work using the pre-recorded trumpet (John Wallace) and piano (Roger Dean) parts of *Conversely* (composed in 1981, see section 1). The pre-recorded materials are digitally transformed, montaged and spatialised, while they also appear as originally recorded. This piece has not yet been premiered though it is used in a transforming version within the music of our multimedia web piece *Dolphins in the Reservoir* (2022) (see multimedia section below).

#47) *Pitch Multitudes 1-2* (2020) by Roger Dean. An improvised piece using a continuous-pitch virtual piano, made for the 2020 Guelph Improvisation Festival online.

#48) *TabuaDean: Message Exchange* (2020) by Joe Tabua and Roger Dean. A remote collaboration commissioned by for a Western Sydney University creative event by Bruce Chapman.

#49) *Pitching Spaces* (2021) by Roger Dean. A multipart self-duet, formed as a video according to the Guelph Improvisation Festival online guidelines for 2021. Several tuning systems are used, including Bohlen Pierce and continuous pitch.

#50) Eight electroacoustic works (2021-3). For freestanding presentation, and for inclusion in the *austraLYSIS Earshift 085* album, with live improvisation and compositional montage.

#51) *Couperin meets Pelog* (2023) for piano, virtual piano, algorithmic piano, and computer interaction. Premiered at the Sydney Conservatorium of Music (202310), as part of a public Hook lecture and performance. Available on the video of the talk (at c. 65').

### 3) Selected compositions for improvisers

These are 'referents' (skeletal or substantial bases) for improvisation, sometimes called 'comprovisations'. Some (such as #1-7) are within the jazz idiom, and use repetitive rhythmic and harmonic forms. Others, such as 8-14, are not specific to the jazz idiom, but provide detailed stimuli, such as defined motivic material, melodic, harmonic, rhythmic and otherwise, for group improvisation. Many, such as 15, 19 and others, suggest if not require that improvisers exploit idiomatic proficiency within jazz (or other genre), but then find new ways to break out of (lyse) those bounds and yet be able to return within them cohesively. 21 is a series of process descriptions which imply musical, mutually interactive and structural processes which most improvisers find intriguing, perhaps perturbing, but usually stimulating. By the time of #53, I had begun to provide referents not only for musicians, but also for dancers, and for mutual interaction between sound, image, movement and other media; and to find new ways of articulating and stimulating these interactions. Later works, such as #58-61, exploit radio as a vehicle for such interactions between sound and verbal text, the latter used both as literary and sonic component. Subsequent works often develop the computer interactive large scale controlled and unpredictable processes, networked or otherwise, which I

summarise in "Expertise in improvisation....", above.

- #1. 1969/1a *Unit A*. Revised version renamed *Red-Black*, LP#4.
- #2. 1969/1b *Threely*, LP#3.
- #3. 1969/1c *Threesome*. (Initially called 'Unit B'), CD#1.
- #4. 1969/2 *Wheeling*. Written for Lysis and Ken Wheeler, premiered 1970 Cambridge, UK, LP#3.
- #5. 1970/21 *A.S.* Written for Lysis: a tribute to Alan Skidmore. Premiered 1970, Cambridge, UK. Published score, LP#3.
- #6. 1972/3 *Peel*, LP#3.
- #7. 1973/1; 75/3 *Electric Suite*, LP#3.
- #8. 1975/1 *Quartet* (for trumpet, piano, double bass and percussion), Manuscript score; LP#3.
- #9. 1975/2. *Trio*. Premiered 1975 London, LP#3.
- #10. 1975/4 *Duo* (for trumpet and piano), LP#3.
- #11. 1976/1 *Cycle 1 (The Journey)* for a slide installation in collaboration with Pat Whiteread, premiered London 1976, and toured to regional art galleries. LP#4.
- #12. 1976/2 *Solo: To Paul Bley*. Additional version 1990 for trio of piano, double bass and percussion (score). LP#4.
- #13. 1976/5 *Cycles 2* (for 2 keyboards), LP#4.
- #14. 1976/6 *Solo*, LP#4.
- #15. 1976/11 *Quartet*. For Ken Wheeler and Lysis. Premiered London 1976. LP#9; re-issued on CD#21.
- #16. 1979/1 *Destructures 6*. for solo trumpet, and large ensemble. Parts 1 and 2. Total duration : 33' 34". Recorded featuring Ken Wheeler, John Wallace, and Lysis, 1979., LP#9; re-issued on CD#21.
- #18. 1980/1a *Autonomy 1*. Rearranged 1990 for trio of contrabass, piano and percussion. Score.
- #19. 1980/1b,2,4-6 *Suite: Time*. A five part suite for jazz ensemble, exploiting an unusual range of rhythmic devices. Written for LYSIS and premiered by them on the South Bank London 1980., Printed score of Part 2; Published score of Part 4. Recording of Part 3 on CD#1.
- #20. 1980/10-11. *Autonomy 3 and 4*. Manuscript scores. Recording of *Autonomy 3* on LP#10.
- #21. 1980/12-15. *Heteronomy 1-4*. Process scores for improvisers. Premiered BBC Radio 3 1982. Manuscript or printed scores. Brief recordings of #2 and #3 on CD#2 Full scale recordings of all on LP#10.
- #22. 1980/18 *Even Sweet Time Varies*. Premiered BBC Radio 3. Broadcast widely. Printed score. CD#3.
- #23. 1981/1 *Piece A for Jazz Orchestra*. Premiered Trinity College of Music, London, 1981, by the incipient Loose Tubes Orchestra, RD directing. Manuscript score. Became Loosening, first performance in Australia January 2011, with the Kinetic Jazz Orchestra, RD directing.
- #24. 1981/2 *Study 1 for Jazz Orchestra*. First performed by the Loose Tubes ensemble, with the composer conducting. Manuscript score.
- #25. 1981/3 *Study 2 for Jazz Orchestra*. First performed by the Loose Tubes ensemble, with the composer conducting. Manuscript score.
- #26. 1981/1a *The Debris of All Certainties*. For violin, and two groups of improvising accompanists. First performed South Bank, London, 1981. First broadcast BBC Radio 3. Manuscript score. CD#8.
- #27-29. 1982/1 *New Remembrances, a three part Suite: Falla and More; Remembrances 2; 1904*. Premiered BBC Radios 1 and 2, 1982; Radio 3, 1983. Manuscript scores.
- #30. 1982/5 *The Wings of the Whale*. After Miroslav Holub, For quartet. Premiered Lysis, Radio 3 1982. Manuscript and printed parts of score. Recording on CD#1. Recording of one section of the work also on CD#2.
- #31. 1982/8 *A.A. For Arild Andersen: a jazz trio*. Premiered Radio 3 UK 1983. Manuscript score.
- #32. 1983/1 *Blues Multiple*. For trumpet and piano. Written for John Wallace, and premiered by him with the composer 1983, UK. Performed Scandinavia, Asia, etc and broadcast on BBC-TV on Pebble Mill at One, as well as outside UK and on ABC, in version for saxophone and piano. Recorded in version for clarinet and piano for Tall Poppies CD of Peter Jenkin. Manuscript score. CD#12.
- #33. 1983/1a *Artforming for jazz orchestra*. First performed by the Loose Tubes ensemble. Manuscript score.
- #34. 1985/2 *You-Yangs* : for improvising ensemble. After Fred Williams. Written after my first visit to Australia (1984) and premiered UK 1985. Broadcast UK and elsewhere. Original version for saxophones, piano, bass and drums. 1989 version for saxophones, piano and drums only. Printed score. CD#1.
- #35. 1986/1 *Alela*. For sequencer and ensemble. A permuted (allelic) rhythmic structure for improvisers.

Premiered London 1986; first broadcast Hong Kong 1987. Printed score. CD#1.

#36. 1986/2 *Round Middy*. For the Jazz Section, Czechoslovakia. Premiered BBC Radio 3 1986 by LYSIS. Manuscript score.

#37. 1987/1 *Djurdi-Djurda*. Based on Aboriginal and Torres Island materials (from the Institute of Aboriginal Studies Recordings). Written for the ABC, and premiered by LYSIS in Sydney Opera House 1987 (ABC broadcast). Printed score. CD#2.

#38. 1987/2 *Heteroduplex* for two pianos. Commissioned by Radio New Zealand and the Arts Council of NZ, and premiered 1987 on Radio NZ by Roger Dean and Phil Broadhurst. Broadcast widely, later on ABC radio. Manuscript score.

#39. 1987/3 *Get 'In' Blues*, for quartet and sequencer. Premiered BBC Radio 3. Printed score. CD#2.

#40. 1987/4 *The Horses*. After the Norwegian artist and friend Frans Widerberg. Premiered Riverside Studios, London, 1987.

1989 15 works for australYSIS jazz/improvising repertoire (for Sandy Evans, Tony Buck and Roger Dean). Including 3 works for solo keyboard. All works premiered by australYSIS, 1989-90 in Sydney at the Edge, Newtown; the Sydney Conservatorium of Music in the 'Superimpositions' concert series; and some at the Strawberry Hills (for Sydney Improvised Music Association). Supported by the Australia Council. 10 works (both solo and ensemble) recorded for ABC 1990. These works included #41-3, 45-51 below. Selected scores. Recordings on CD#3.

#41. 1989/2 *Reins* (for trio of saxophones, keyboards, and percussion/electronics), Score.

#42. 1989/3 *Take Five Again* (for trio), Score.

#43. 1989/4 *Tones and Times* (for trio, as above). Score.

#44. 1989/5 *Inventions and Rights*, For Ten Part Invention (a ten piece jazz orchestra), Sydney. Score.

#45. 1989/5a *Seven is Even*, for percussion solo. Revised 1991. Premiered 1991, by Daryl Pratt. Score.

#46. 1989/6 *DyePulse* for trio. Score, CD#3.

#47. 1989/7 *Pinnacles*. For trio. After the area in Western Australia of the same name. Score, CD#3.

#48. 1989/8 *Reel Choice*; for three improvisers., Published Score (in *Compositions for Improvisers*, ed. Jeff Pressing, La Trobe University Press, 1994). CD#3.

#49. 1989/9 *Drums are.....*. A percussion feature for Tony Buck, and two other improvisers. Score. CD#3

#50. 1989/11 *Hardly Moving*, for trio. Score. CD#3.

#51. 1990/1a *Harry's Tune*, for solo piano or trio. 'Townships' music, for Harry Miller. Premiered by Roger Dean (piano), ABC radio 1990. Score.

#52. 1990/4 *352 Sound Engines*, for 2 pianos. Premiered ABC Radio, Random Round 1991, by Roger Dean and Chris Abrahams. Score.

#53. 1991/1 *TimeDances*, a music/dance work. Premiered at The Edge, May 1991 by australYSIS and Kinetic Energy. Commissioned by Kinetic Energy with the aid of funds from the Australia Council. Score.

#54. 1991/2 *TimeDancesPeace*, a music/dance work for australYSIS and Kinetic Energy. Premiered by australYSIS and Kinetic Energy, May 1991, and commissioned as above. Score. Video tape of performance.

#55. 1991/3 *Not Defying Gravity: Wimmera II*. Commissioned by Kinetic Energy, with funds from the Australia Council. Based on a painting of Michael Johnson. Premiered australYSIS at The Edge, Sydney, 1991. The percussion part of this piece exists separately as #45. Score.

#56. 1991/4 *Bass Metal*. A piece for sequencer (precomposed and recorded material) and live musicians. Premiered May 1991 by australYSIS, and commissioned by Kinetic Energy with funds for the Australia Council. Score.

#57 (1995) *Petallica 1* (for 3 improvisers), Score.

#58 (1995) *Hybrid Vigour* (for improvisers). 1. *Pulsing Crossovers* 2. *Pitch Crossing* 3. *Cross-mutating*, Score.

#59 (1995) *Micronesia's Choice*. Commissioned by Micronesia; for ten improvisers. Score.

#60 (1996) Computer-interactive improvisations for the australYSIS Electroband, written in MAX. CR#24. Sloping is available on the Mikropolyphonie site as Real Audio, and with a MAX score.

#61 (1996) *Postmetrical Modulism*, an MAX score for digital instrument and computer-player. MAX algorithm.

#62 (1996) *Impacted Spaces*, for percussion (4 players). Commissioned by B'Tutta. Score.

#63 (1997) *Flying High*, a setting of a text by Komunyakaa, commissioned by Pamela Knowles; for jazz vocalist and ensemble. Score.

#64 (1997) *Flying*, for brass quintet. A relative of #70, commissioned by Chaconne Brass (UK), for CD recording and premier performance Conway Hall, London, 1998, Score; released on CD by Chaconne.

- #65 (1998) *Intertwining*, an interactive hypertext performance piece, by Hazel Smith and Roger Dean, with improvised sound by the australYSIS Electroband, Available on the web, at Overland Express (Australia). 2001 : available also at How2 (US).
- #66 (2000) Interactive MAX works including, *The Cart, The Gate, The Egg, and The Horse; Where; ReSampled; Where Ever?; Recorded Shape; Lucent Harmonic; Mousse; MSP (more sensory perception); ReSiling Harmonies; The Engine.*, MAX patches for improvisers. Recorded 2000.01.30 for release on Future Music Records (FMR, UK) on "Lysis Lives: Resounding in the Mirror", double CD, FMR CD73-0900.
- #67 *Evolution II*, for wind players, computers, interactive patches, Released on New Music Network CD, 2002 (CR# 29).
- #68 (2003) *Sines of Tone 1 and 2*, by Roger Dean, Premiered Sydney 2003.
- #69 (2004) *The Improvising Space*, by Roger Dean and Greg White, For instruments and computer real-time spatialisation. Premiered Sydney 2004.
- #70 (2004) *Silent Exchange*, by Roger Dean and Greg White. A computer-interactive work in which newly generated sound is exchanged continuously but silently between two computer performers, and may or may not emerge in recognisable form. Premiered Sydney 2004.
- #71 (2005) *Alone Together*. A series of works for piano, duo piano, piano with prerecorded piano, and piano with computer-interactive processing. Performed Canberra and Sydney.
- #72 (2007) *VIPRE Piano 1*, by Roger Dean. Premiered at MARCS Auditory Laboratories, University of Western Sydney, VIPRE studio July 2007. Dedicated to Bill Duckworth and Post-minimalism.
- #73 (2008) *Ubasuteyama*, by Roger Dean and Hazel Smith (text). Premiered at the Aurora Festival, 2008. Released 2008 on the "Music of the Spirit" double CD, Wirripang Records.
- #74 (2008) *FiFu #1*, first of a series of pieces, each concerned with rhizomatic musical structures, in which motivic or harmonic streams fuse and fissure; and *Pulsing Anticipations*, lead by continuous manipulation of drum and other loops.
- #75 (2009) 8 comprovisations for a planned new australYSIS Multirhythm Band (acoustic quintet: not pursued).
- #76 (2009) *Subemergence*; and *Reconvening* for the australYSIS Electroband (scores available). Premiered Sydney Improvised Music Association, the Sound Lounge, Seymour Centre, 2009. *Subemergence* is also used as sonic material in performances of *Instabilities II*, and on the completed web-release of this multimedia piece.
- #77 (2009) *Cloudspotting*, a comprovisation structure using acoustic sound-spotting.
- #78 (2009) *Playing Intensities*, for two instrumentalists, pre-recorded piano, and sound diffusion. Like *Electrointensities*, concerned primarily with temporal patterns of acoustic intensity, but with a notated instrumental score, and spatial sound diffusion. Score available. Premiered Sydney Conservatorium 2009.
- #79 (2010) *History goes Everywhere*, an extended structure for acoustic and electroacoustic improvisers. 40'. Premiered at SIMA Sound Lounge, The Seymour Centre, Sydney 201006.
- #80 (2010) *Wordspotting*, for mezzo-soprano, live electroacoustic sound, and trumpet. Written for Jenny Duck-Chong and Halcyon to perform with australYSIS. Premiere ABC Studios (live broadcast) 201007.
- #81 (2010) *Toy Language 1*, for mezzo-soprano, live electroacoustic sound, and trumpet. Written for Jenny Duck-Chong and Halcyon to perform with australYSIS. Premiere ABC Studios (live broadcast) 201007.
- #82) *Sonic Instabilities* by Roger Dean and australYSIS. Incorporating *Subemergence* by Roger Dean, and released on New Music Network CD (2011).
- #83) *Louis Le Moine* (after Couperin and Monk), for piano and live electronics (solo performer; 2010/2011). Presented at Kinetic Jazz (2010), and Suoni Popolo Festival, Montreal, Canada (May 2011). Also, as *Thelonious Louis* (a version for the australYSIS Electroband, Seymour Centre, Sydney 2011). Released on 'MultiPiano' double CD TP 225 (2012).
- #84) *Inside the Magnetic Spheres* (2012), for improvisers and 4 Channel sound. Live manipulated recording of the magnetic resonator piano (developed by Andrew McPherson), and live spatialisation of the improvisers. By Roger Dean, Andrew McPherson and australYSIS. (first performed for SIMA, at the Seymour Centre, 20120831).
- #85). *BiKinetic*, a composition for the Kinetic Jazz Orchestra, premiered 2014 Sydney, directed by the composer, with soloists Mike Kenny (trumpet) and Tim Clarkson (saxophones) or guitar.
- #86) *Weaving the Rugs*, algorithmic piano and bells, with improvised trumpet (2014). Premiered November 2014, soloist Phil Slater. Part of a commission for a completely notated work for Torbjorn Hultmark, UK, for soprano and bass trombones and computer-generated sound: *Vocal Shafts* (#39 of section 1).

- #87) *February's Pitches* (2015) 9' by Roger Dean (for solo shakuhachi, with trumpet, soprano sax, microtonal piano and electronics).
- #88) *Internal Conversations*, by Roger Dean (Premiere Sydney 2015; by australYSIS, RD, Sandy Evans, Greg White, at Kinetic Jazz.) A work involving multiple computational sample and transform sound streams, using performed acoustic piano and saxophone sounds.
- #89) *The Lefnamd Distribution*, by Roger Dean and Greg White. (Premiere Sydney 2016: algorithmic piano, electroacoustic sound, acoustic piano. 2016) 7'30".
- #90) *Babbles/Babylon* with Xronomorph (2016/7), by Roger Dean (software conception and implementation by Andrew Milne, Steffen Herff, Roger Dean and others). Babbles is heard on #45 of Multimedia (4), with Sandy Evans as soloist; and Post-Babylon is #92 below.
- #91) Torbjorn Hultmark/Roger Dean (2017): *The Chechnyan Women*, TH soprano trombone and electronics, RD piano and electronics. Performed and recorded in the UK 2017. Released on australYSIS' Bandcamp site May 2018 in the
- #92) Roger Dean/ Torbjörn Hultmark/ (2017): *Post Babylon*, TH soprano trombone and electronics, RD piano and electronics. Performed and recorded in the UK. Released on australYSIS' Bandcamp site May 2018, in the digital album *Music for Soprano Trombone, Piano, and electronics*, DD#50 in section (6).
- #93) *Fields* (2018). A transforming environmental soundspace for solo trumpet (trumpet and pre-composed algorithmic sound). Premiered 20180809 Sydney. Included in Multimedia (4) work 45. Also to be heard, in a different performance, on CD #51, *Dualling*
- #94) *In the Snow Nest* (2018) by Charles Martin and australYSIS: structure based on two iPad environmental performance pieces by Martin, with acoustic improvisation. Premiered 20180809 Sydney.
- #94) *Digging Deep* (2018) for live piano, live processing, and algorithmically controlled material created previously by Deep Improviser, my prototype deep learning generative software. After the death in early 2018 of Cecil Taylor, influential African-American pianist, I included a short tribute to him in every performance I gave that year, sometimes integrated with other works. This piece was the final example (recorded 20181228, release online 201901) : see also work 46, in Section 2 above.
- #95) *Comparative Views* (2018) A composition for improvisers with irregular repeating rhythmic structures. No pitches are specified, but a rhythmic accompaniment continues throughout on the piano. On video #45, Section 4.
- #96) *Louis meets Pelog* (2019) A microtonal response to Louis Couperin, on video #45, Section 4.
- #97) Multiple compositions for duets between people, people and machines, and people and visual or text objects, or environments: used in australYSIS' recording session 20211217, as part of the preparation of a new CD for Earshift 085, *Dualling*. Including *Rhythharmonies*, an algorithmic harmonic accompaniment to an improvisation by Sandy Evans (saxophone). Also including four video works, to be a duet partner with a solo improviser and part of the *Dualling* project. These will be available on the *Dualling* page on the australYSIS website, together with the extended sleeve notes for the album.
- #98) *Regeneration: human-machine-human* (2022: for one live and 2 virtual pianos). Commissioned by the Art Gallery of New South Wales, and premiered there 20220916.

#### **4) Multimedia Work, including performance work involving text and/or image, and sound; and work for web and CD-rom and installation.**

- #1. *Poet Without Language* (1991; version 2), by Hazel Smith and Roger Dean. For speaker, pre-recorded speaker, and instruments. For live performance and for radio. Commissioned by the ABC's Listening Room. Score Available from the Australian Music Centre. Release on Rufus Records, '*Poet without Language*' by Hazel Smith with australYSIS. Rufus RF005 (1994). Nominated by the ABC for the Prix Italia.
- #2. *Silent Waves* (1992), by Hazel Smith and Roger Dean (for speaker, pre-recorded speaker, saxophone, sequencer, synthesiser). For live performance and for radio. Released on '*Poet without Language*' by Hazel Smith with australYSIS. Rufus RF005 (1994).
- #3. *Caged John Uncaged* (1992) by Hazel Smith and Roger Dean (for speaker and one instrumentalist, playing synthesiser, piano and samples). Released on '*Poet without Language*' by Hazel Smith with australYSIS. Rufus RF005 (1994).
- #4. *Nuraghic Echoes* (1993) by Hazel Smith and Roger Dean. Performance and radio technodrama, for speakers, and sound. Commissioned by the Listening Room, ABC, Released on '*Nuraghic Echoes*' by Hazel Smith and Roger Dean. Rufus RF025 (1996).

- #5. *The Riting of the Runda* (1994) by Hazel Smith and Roger Dean. Performance and radio technodrama, for speakers, and sound. Released on 'Nuraghic Echoes' by Hazel Smith and Roger Dean. Rufus RF025 (1996).
- #6. *The Musecal Detective* (1995) by Hazel Smith and Roger Dean. Performance piece for speaker and keyboard player. Manuscript score; and MAX patch. Released on Alt-X and (2001).
- #6a *Pulling the Tides* (1997) by Hazel Smith and Roger Dean. Speaker and music work, released 2008 on CD with Hazel Smith 'The Erotics of Geography', Tinfish Press USA.
- #7. *Walking the Faultlines* (1996-7). Hypertext by Hazel Smith, sound composition and interactive interface by Roger Dean; production and additional programming by Greg White. An installation piece, first presented at Performance Space, Sydney (1996), later developed as a CD-rom piece. Chosen in competition by the International Computer Music Association for release on its first CD-rom, Cyberquilt (1999).
- #8. *WORDSTUFFS* (1998), by Hazel Smith, Roger Dean and Greg White. An interactive web piece of hypertext, MIDI-sound, animations, and JAVA mobiles. Chosen in competition by the Australian Commission for funding for its 1998 STUFFART site. A requirement was that the work be no more than 1.4Mb in size. Available at the ABC website.
- #9. *Returning the Angles* (1998), a performance and radio technodrama by Hazel Smith and Roger Dean, for speakers, sound, and (in the performance version, interactive VRML animation by Dean). 35minutes; commissioned by the ABC for The Listening Room, The sound work can be heard on the Australian Broadcasting Corporation web site as streaming RealAudio (you need to open your RealPlayer, and call up [pnm://media1.abc.net.au/lroom/return.rm](http://media1.abc.net.au/lroom/return.rm)). Sound and image technodrama, released on CD with interactive CD-Rom. Soma 787.
- #10. *Intertwingling* (1999), by Hazel Smith and Roger Dean, with sound by the australYSIS Electroband. , Interactive web piece, of hypertext with RealAudio sound. Commissioned for and formerly available on the Overland Express web site (Intertwingling.) Now available at How2 (USA).
- #11. *Sympathetic Strings* (2000) by Roger Dean and Darani Lewers. Premiered Performance Space, Sydney, 18 November 2000. An interactive hypersound web performance piece, with two images by Lewers, transformed by slowly moving animations by Dean. Released on CDR with Dean's 'Hyperimprovisation: Computer Interactive Sound improvisation', A-R Editions, Madison WI.
- #12. *The Centre Series: Sites of Sound* (2000) by Darani Lewers and Roger Dean. Premiered Performance Space, Sydney, 19 November 2000, An interactive hypersound piece, with text symbols, and a rapidly transform complex animation based by Dean on a series of images by Lewers. Released on CDR with Dean's 'Hyperimprovisation:Computer Interactive Sound improvisation', A-R Editions, Madison WI.
- #13. *The Egg The Cart The Horse The Chicken* (2001), by Hazel Smith and Roger Dean, An interactive web piece, of flash animated text, and non-interactive palindromic sound, which is a piece of rhythmic minimal music. Available on the inflect multimedia web journal, volume 1. ([www.ce.canberra.edu/inflect](http://www.ce.canberra.edu/inflect)). inflect is also archived in [soundsrite.uws.edu.au](http://soundsrite.uws.edu.au)
- #14. *The Erotics of Gossip*, by Hazel Smith and Roger Dean (2001), An extended radio piece commissioned by the Listening Room of the Australian Broadcasting Corporation. This is a work of text, sound and music, with multiple voices and strands. Recording date: March 2001. Now available on the web as real-audio, from the ABC site; received its premiere broadcast in August 2001. Released on CD-R with Hazel Smith's 'The Erotics of Geography', Tinfish Press, USA, 2008.
- #15. *ProseThetic Memories* (2001) by Anne Brewster, Hazel Smith and Roger Dean. Premiered Performance Space, Sydney, December 2001, and performed Canberra, Melbourne, Brisbane (2002). A two screen 3D-hypertext work (in VRML), with complex sound. Recorded version released (2009) in the online journal soundsRite. ([soundsrite.uws.edu.au](http://soundsrite.uws.edu.au)).
- #16. *Virtual Movements II* (2002) by Roger Dean. Premiered Brisbane Powerhouse, November 2002, A two screen interactive video and sound work.
- #17. *Secret Places* (v. 2002), by Sieglinde Karl, Hazel Smith and Roger Dean. This version premiered Brisbane Powerhouse, November 2002, Performed text and interactive video.
- #18. *soundAFFECTs* (2003), by Anne Brewster, Hazel Smith and Roger Dean. Premiered Sydney Conservatorium of Music, October 2003. A work of text animation and sound, using MAX/MSP/Jitter. Published with the text online. Also released 2007 in the open access ebook *The Material Poem: An Anthology of Text-Based Art and Inter-media Writing* (ed. James Stuart) in the Hazel Smith section pp 155-162. A Non-Generic Publication, online at [www.nongeneric.net](http://www.nongeneric.net). First created and performed 2004. Included in cd-rom accompanying Hazel Smith's volume of poetry and multimedia, "The Erotics of Geography",

Tinfoil Press, USA (2008).

#19. *the writer, the performer, the program, the madwoman* (2003), by Hazel Smith, Roger Dean and Greg White. Premiered Sydney Conservatorium of Music, October 2003., Performed text and its real-time processing by one or two computer performers. Included in cd-rom accompanying Hazel Smith's volume of poetry and multimedia, 'The Erotics of Geography' Tinfoil Press, USA(2008).

#20. *The Weight of Time* (2003), by Roger Dean. Premiered Sydney Conservatorium of Music, October 2003., An interactive video and sound investigation.

#21. *Minimal*, by Hazel Smith and Roger Dean. A performance text and performance sound piece. (2003). Included on cd-rom accompanying Hazel Smith's volume of poetry and multimedia, 'The Erotics of Geography', Tinfoil Press, USA (2008).

#22 (2004) *The Space of History*, by Roger Dean and Hazel Smith, For spoken voice and real-time computer processing. Created and premiered Sydney 2004. Released 2006 on PennSound, a successor to UbuWeb, (USA). Also released 2007 in the open access ebook *The Material Poem: An Anthology of Text-Based Art and Inter-media Writing* (ed. James Stuart) in the Hazel Smith section pp 155-162. A Non-Generic Publication, online at [www.nongeneric.net](http://www.nongeneric.net). Published 2008 on CD-Rom with Hazel Smith 'The Erotics of Geography', Tinfoil Press, USA.

#23. *Eight Os and a W* (2004) by Roger Dean. Premiered Sydney Conservatorium of Music, October 2004. An interactive video and digital sound piece, with algorithmic synaesthesia (algorithms shared by sound and image), and eight bagatelles of notated music for trumpet and saxophone.

#24. *The Slow Jet*, (2005). Premiered Sydney Conservatorium of Music, September 2005. An interactive video, digital and acoustic sound piece.

#25. Smith, H. and R. T. Dean (2005). *Time, the Magician*, algorithmic video with text, performed text, live acoustic and computer sound. Premiered Sydney Conservatorium of Music, September 2005. (Video of excerpts of the performance released on MC journal 2006). Included in cd-rom accompanying Hazel Smith's volume of poetry and multimedia, 'The Erotics of Geography', Tinfoil Press, USA (2008).

#26. *Slow Commotion* by Roger Dean (2006). An evolving video-sound piece; premiered Sydney, October 2006.

#27. *Mid-Air Conversations*, by Hazel Smith and Roger Dean (2006). A multistranded work of spoken text and noisespeech, in 4 channel audio. Refereed conference publication:

[http://www.unaaustralia.com/exhibition/AAUNOZ/dean\\_smith/dean\\_smith.html](http://www.unaaustralia.com/exhibition/AAUNOZ/dean_smith/dean_smith.html).

#28. *The Afterlives of Betsy Scott*, by Hazel Smith and Roger Dean (recorded for broadcast and continuous online relay October-November 2007): a radio piece of sound and text for the ABC Radio Drama section. 27 minutes.

#29. *Live music, Dead Bodies*, by Hazel Smith and Roger Dean (2007). A text and sound work for pre-recorded actor, and live performers. 16.5 min; premiered Sydney December 2007. Published 2012 in the on-line Journal *Liminalities*, Volume 8 Issue 4. ([liminalities.net/8-4](http://liminalities.net/8-4)).

#30 *Instabilities 1 and 2* by Hazel Smith and Roger Dean (2008, 2009). Members of a series of works using the Text Transformation Toolkit, interactive software developed in Python by australYSIS as part of their Verbal Interactivity Project (lead contributors: David Worrall, Michael Bylstra, Jon Drummond, Roger Dean, Hazel Smith). *Instabilities 2* (completed for publication) is a 3 channel video representation of the original text, a real-time image transformation derivative, and a real-time TTT-performed window. The sound score by australYSIS is based on Dean's *Subemergence*. Published (2010) in the peer-reviewed US online new media journal, *Drunken Boat 12* <http://www.drunkenboat.com/db12/06des/smith/index.php>.

#31) *Clay Conversations*, by Hazel Smith, Joanna Still and Roger Dean (2009). A multimedia work with video-text and sound. c.10min. Premiered Sydney December 2009. Released by the peer-reviewed journal *Scan* (2010). [http://scan.net.au/scan/gallery/works/smith\\_april10/smith.php](http://scan.net.au/scan/gallery/works/smith_april10/smith.php).

#32) *Finitude*, by Keith Armstrong, Stuart Lawson, Darren Pack and Roger Dean (2011). A major interactive installation work, involving touch screen 3D animations, mobile sculptural dioramas, and interactive 4.1 channel sound (composed by Dean). The user(s) lie on a bed under the screen, and interact with all the image and sound. Presented first at the Mildura Palimpsest (September 2011); subsequently Artisan Gallery, Brisbane (April 2012, for two months); National Science and Arts Museum, Beijing, for the month of November 2012. <http://embodiedmedia.com/-/page/finitude>.

#33) *Film of Sound*, by Will Luers, Hazel Smith and Roger Dean. A video-text-sound work, with 4Channel audio, and two-sided screen projection. Presented first in Concert, Sydney Conservatorium, December 2011. Also presented at the Electronic Literature Conference, USA, June 2012, ISEA USA 2012; Bath UK 2012;

Bristol UK (Liberated Words Festival), September 2013.

#34) *Hypnagogia*, interactive sound and video by Will Luers and Roger Dean, Premiered Sydney 2013.

#35) *Long Time No See*, by Keith Armstrong and collaborators, interactive spatial sound by Roger Dean. Commissioned by the NBN/Australia Council Broadband Creative Initiative. Installed in ICE, Paramatta June 2013, for ISEA; workshopped in Australian and New Zealand. Currently on line as a developing community interactive work. And in 2014 on display in the multimedia space The Cube, at Queensland University of Technology, Brisbane.

#36) *The Blue Bus* by Hazel Smith, Roger Dean and Greg White. A text with sound performance. Published 2014 in the journal *Gangway*. [link](#). In 2015, a version with live video was made.

#37) *Motions*, by Hazel Smith, Will Luers, and Roger Dean (2013; interactive audio-visual piece, with multichannel sound). Presented 2014 at the File festival Brazil, and at the Electronic Literature Organisation Media Display. Published 2014 in the US journal *Drunken Boat*. [link](#) Shown and installed at the FILE festival of electronic language, Brazil, 2014. Chosen for the international Electronic Literature Organisation Anthology 3 (2016) and available online there.

#38) *Bird Migrants*, by Hazel Smith and Roger Dean. Radio work (text and sound) Commissioned by the Australian Broadcasting Corporation, recorded and first broadcast October 2014. Available as a podcast from the ABC website. *Bird Migrants 2* also includes a video composition, premiered November 2014.

#39) *Metaphorics*, by Hazel Smith and Roger Dean. Text and sound work, using live coding. Premiered Manchester, UK 2014. A later performance (Sydney 201411) is available on the blog of Charlie Roberts, the creator of the live coding platform, Gibber, which was used in the performance.

#40) *Interstate* (2016), by Keith Armstrong (concept, direction), Roger Dean (sound) and others: an installation work displayed first at UTS Gallery Sydney, August-September 2016 and subsequently repeatedly in South Africa. Visual display, microfiche reader, sound.

#41) *The character thinks ahead*, by Hazel Smith (text) and Roger Dean (composition, programming). (Performed and displayed text, neural net deep learning text generation, sound (2016/7)). The work is included in the videos of #45 of this section.

#42) *novelling*, by Will Luers, Hazel Smith and Roger Dean (2016). 9'30". An audiovisual recombinant digital novel. [Published](#) by Binary Press (2016). This was shorted listed for the 2017 TurnOn Literature Prize (Europe), and was the winner of the 2018 international prize for electronic literature, the Robert Coover Award (administered by the Electronic Literature Organisation). It was subsequently include in the Electronic Literature Collection Volume 4.

#43) *The lips are different* (2018), by Hazel Smith (text), and Roger Dean (real-time image programming and composition performed by australYSIS). Premiered in Miperra Sessions #1 at the performance space of the MARCS Institute for Brain, Behaviour and Development of Western Sydney University (August 2018). The work is included at the end of an article on its creation and on border racism, part of its topic, at <https://thedigitalreview.com/issue00/lips-are-different/index.html> Also available on video #45 in this section. .

#44) *Heimlich Unheimlich* (2019) by Hazel Smith (text, text performance), Sieglinde Karl-Spence (images), Roger Dean (AV programming and performance, composition) and australYSIS. This work was published in July 2020 at the Electronic Literature Conference, University of Central Florida, at <https://projects.cah.ucf.edu/mediaartsexhibits/uncontinuity/Smith/smith.html> An introductory description is given there. This AV work is part of the installation exhibition of the same name by Karl-Spence and Smith, an australYSIS work later presented in galleries in Sydney, Perth and Miles (Queensland). Also on video #45, Section 4.

#45) australYSIS; MARCS Institute for Brain Behaviour and Development, Western Sydney University, and Dean, R.T. (2021) *The Music of Science, the Science of Music*. 5 open access videos (3h) of composition, improvisation, and discussion of the creative processes involved, and the science of music creation, production and perception. Speakers: australYSIS: Drs. Roger Dean, Sandy Evans, Phil Slater, Hazel Smith and Greg White; other composers: Dr Felix Dobrowohl, Jo Thomas; MARCS Institute: Drs. Simon Chambers, Roger Dean, Peter Keller, Jennifer MacRitchie, Eline Smit, Kate Stevens.

#46) Hazel Smith, John Encarnacao, Roger Dean, Brendan Smyly (2021): *Headless Remembrances*. Text and text performance: HS; JE: guitar and processing; RD: piano and draft montage; BS: saxophone, digital sound, final montage and mastering.

#47) Hazel Smith, Roger Dean and australYSIS (2021) *Unbalancing*. A text and music performance work on video #45 above.



#47) Will Luers, Hazel Smith, Roger Dean (2022) *Dolphins in the Reservoir*. An interactive intermedia work. Published in The New River: <https://thenewriver.us/dolphins/> This was on a short-list of 5 for the 2023 international new media writing prize.

#48) Four algorithmic videos (made in Jitter (2021), montaged 2023) for use in the *Dualling* album (CD #51, section 6) bonus material, on the australYSIS website.

I have also designed and created the image for the book sleeve of 'Keys Round Her Tongue' (Hazel Smith, 2000) a volume of poetry; for the sleeve of my own CD, 'Acouslytic'; for the sleeve of the Oxford Handbook of Computer Music (2009); and a large digital autoportrait (2007) commissioned by the University of Canberra to celebrate my term as Vice-Chancellor and President. In 2020 I contributed text generated by deep learning (AI, a form of machine learning) to an essay by Hazel Smith "Pitching the Poem-essay: Subversive Argument in the Work of Charles Bernstein" in the Electronic Book Review: <https://electronicbookreview.com/ebr-author/hazel-smith/> and in 2022 some further such texts to her book *Ecliptical* (Spineless Wonders, ES Press).

### 5) Commercial and open access recordings of completely improvised works

These works are free improvisations, with no predetermined referent (c.f. the 'comprovisations' mentioned above). As revealed in 19, this does not preclude the use of programmed performing patches. Especially if they can be 'perturbed' in their operation, in the same way that a free improviser can perturb the use of a conventional instrument, which is equally acceptable within such performance. In a few cases (e.g. 15, 16) unorthodox instruments (microtonal synthesiser patches) are used; in others not listed here, some studio control is operated on the final work. Time is of the essence in music, and other interactive arts: thus I have focussed on time scale, controlling its application in some otherwise free improvising, from a few minutes, as in most works listed, to roughly an hour, as in the two items under 18.

#1. *Trio Improvisation 1* (1975), Recording on CR#3

#2. *Trio Improvisation 2* (1975), Recording on LP#3

#3. *Piano Improvisation 1* (1975), Recording on LP#3

#4/5. *Piano Improvisations 2-3* (1977), Recording on LP#4

#6. *Dualysis 1*. (1978/5), Recording on LP#7

#7. *Destructures 4* (1978/6), Recording on LP#7

#8. *Dualysis 2*. (1978/7), Recording on LP#7

#9. *Dualysis 3*. (1978/8), Recording on LP#7

#10. *Dualysis 4* (1978/9), Recording on LP#7

#11. *Dualysis 5* (1978/10), Recording on LP#7

#12. *Dualysis 6* (1978/11), Recording on LP#7

#13. *Piano Pulse*, Recording on LP#10

#14. *Trombone and....* (1980), Recording on LP#10

#15. *Tuning the Tempers #1* (1990). A microtonal synthesiser improvisation (no overdubbing), Recording on CD#1

#16. *Tuning the Tempers #2* (1990). A companion to #1, Recording on CD#1 (freely available on australYSIS' MySpace music site).

#17. *Moving the Landscapes* (1991), Recording on CD#3

#18. *The Next Room* (1992) and *Solid as An age* (1992). Two extended improvisations with australYSIS, Recording on CD#5

#19. *Present Tense* (1996-7) Together with the improvisations on this CD, '*The Digital Improvisor*' is a computer interactive free improvisation, in which nothing is pre-arranged, yet MAX patches can be used, CD#15

#20. *ReSounding in the Mirror* (2000). Contains several tracks of free improvisation, CD#21.

#21. *Memeing Ex Cathedra* (2001; released 2006). A 60 minute live to the internet duo computer interactive improvisation, for the international Cathedral 24hour Webcast. Released on CD#37.

#22. *Acoustics* (2007), released by the Australian Broadcasting Corporation at <http://www.abc.net.au/classic/australianmusic/mp3/>.

#23) *Pitch Multitudes*, an improvisation for multi-tuned piano by Roger Dean. AV work, with interactive video of acoustic spectra of the piece, to be premiered in a 24h online Improvisation Festival August 7

## 6) Selective list of commercial recordings involving my creative work (compositions, or improvisatory contributions)

### LP recordings on vinyl

- LP#1) '*Midnight Blue*' by Graham Collier Music, on Mosaic GCM 751 (1975)
- LP#2) '*New Conditions*' by Graham Collier Music, on Mosaic GCM 761 (1976)
- LP#3) '*Lysis Live*' by LYSIS, on Mosaic GCM 762 (1976 ; rereleased on CD #21)
- LP#4) '*Cycles*' by LYSIS, on Mosaic GCM 774 (1977 : reissue on CD #45)
- LP#5) '*Symphony of Scorpions*', by Graham Collier Music, Mosaic LP 773 (1977)
- LP#6) '*The Solo Trumpet*' by John Wallace with LYSIS, on Soma 781 (1978)
- LP#7) '*Dualyses*' by LYSIS, on Soma 782 (1978; reissued on CD #45)
- LP#8) '*The Day of the Dead*', by Graham Collier Music, Mosaic double LP 783/4 (1978; re-released on CD)
- LP#9) '*Lysis Plus*' by LYSIS and Ken Wheeler, on Mosaic GCM 791 (1979) (rereleased on CD #21)
- LP#10) '*Superimpositions*' by LYSIS, on Soma 783 (1980 : reissued on CD #45)
- LP#11) '*Something British*' by Graham Collier Music, Mosaic GCM 871 (1985; re-released on CD)

### CD and other recordings, CD-ROM, museum installations

- CD#1) '*The Wings of the Whale*' by LYSIS, on Soma CD 784 (1987) (Suite Time part 3 freely available on [austraLYSIS' MySpace music site](#))
- CD#2) Cassette tape published by Open University Press with the book '*Creative Improvisation*' by Roger Dean (1989).
- CD#3) '*Moving the Landscapes*' by [austraLYSIS](#), on Tall Poppies, TP007 (1992)
- CD#4) '*Windows in Time*', by [austraLYSIS](#), includes '*Timestrain*', and also creative contributions by RD to Hazel Smith's '*Simultaneity*', and Rik Rue's '*Three Nocturnal Windows.*' (1994)
- CD#5) '*The Next Room*' by [austraLYSIS](#). A double CD of extended improvisations (each approx. 60 minutes) on Tall Poppies TP 0050 (1995)
- CD#6) '*Australian Piano Miniatures*' (performed by Michael Harvey) Red House Records, Red 9401. Includes '*It gets Complicated*'. (1994)
- CD#7) '*Poet without Language*' by Hazel Smith with [austraLYSIS](#). Rufus RF005 (1994)
- CD#8) '*Arc of Light*' (Jade CD 1050), including '*The Debris of All Certainties*' (1981) played by Hazel Smith violin, with [austraLYSIS](#) (1994)
- CD#9) '*Network Vol 1*'. Discus 3CD Includes '*Fissuring Silence*' (1995)
- CD#10) '*Assembly*'. Australian Computer Music Association Vol 2 includes '*Silent Nuraghi*' (1995). This is almost exactly the same as the version on CD#11, and so it is not separately supplied by Soma.
- CD#11) '*Nuraghic Echoes*' (by Hazel Smith and Roger Dean) Rufus CD RF 025 (1996). The Riting of the Runda, from this CD, is freely available on [austraLYSIS' MySpace music site](#).
- CD#12) '*A Day in the life of the Clarinet*' (CD by Peter Jenkin), includes '*Blues Multiple*' and also creative contribution to Rik Rue's *From Three Nocturnal Windows*, 'Tall Poppies CD (1996)
- CD#13) '*The Chris Mann Project*', FrogPeak USA, includes '*Dust*' (1996)
- CD#14) '*The Jackson Mac Low Festschrift CD*', produced by Andrew Levy, NYC, USA, includes '*Lowering the Sky*' (by Roger Dean and Hazel Smith) (1997)
- CD#15) '*Present Tense*', by the [austraLYSIS Electroband](#), Tall Poppies, TP 109 (1997). Several of the tracks of this album can be previewed in Real Audio on the [Digital Music Archive](#) site.
- CD#16) '*Music Now*', The Australian Chamber Orchestra, ACOKITCAS, Cassette released by the Australian Music Centre; includes '*Sonopetal*' conducted by the composer (1996)
- CD#17). '*Walking the Faultlines* (1996-7). Hypertext by Hazel Smith, sound composition and interactive interface by Roger Dean; production and additional programming by Greg White. An installation piece, later developed as a CD-rom piece. Chosen by the International Computer Music Association for release on its first CD-rom, *Cyberquilt* (1999).
- CD#18) '*The Third Colour*', by the Jazz Ensemble, music of Graham Collier, with Dean playing piano and electronic keyboards. CD (1998)
- CD#19) '*Hope*, Audio Research Editions (UK) 1998, ARECD101. Anthology CD which includes Dean's *Hope: The Spear and The Boat*.

CD#20) *Trace*, Audio Research Editions (UK) 1999, ARECD102. Anthology double CD, which includes Dean's Traces of Reason.

CD#21) *Lysis Lives : ReSounding in the Mirror*, by LYSIS and the australYSIS Electroband, Future Music Records FMRC73-0900,(December 2000). This double CD re-releases LP#3 and LP#9, together with 40 minutes of new recordings (2000) by the Electroband (one of the latter is (freely available on australYSIS' MySpace music site).

CD#22) *Acouslytic*, devoted to the Acousmatic and Electracoustic music of Roger Dean, Tall Poppies TP 153, (November 2000). Several of the tracks of this album can be previewed in Real Audio on the Digital Music Archive site.

CD#23) *Uluru* (David Pereira, Cello) includes '*Raising not Climbing*' (Tall Poppies, TP096, 2001)

CD#24) *What Is Music?* An anthology curated by Max Lyandvert, WISMCD01, includes Dean improvising his Symphony (1998).

CD#25) '*Midnight Blue*' by Graham Collier Music, on Disconforme (Andorra, 2000) CD 1972 (re-release of Mosaic GCM 751 (1975))

CD#26) '*New Conditions*' by Graham Collier Music, on Disconforme (Andorra, 2000) CD 1973 (re-release of on Mosaic GCM 761 (1976))

CD#27) '*Symphony of Scorpions*', by Graham Collier Music, on Disconforme (Andorra, 2000) CD 1974 (re-release of Mosaic LP 773 (1977))

CD#28) '*The Day of the Dead*', by Graham Collier Music, on Disconforme (Andorra, 2000) double CD 1975 (re-release of Mosaic double LP 783/4 (1978), together with first release of the suite *Triptych*)

CD#29) '*Something British*' by Graham Collier Music, on Disconforme (Andorra, 2000) CD 1976 (re-release of Mosaic GCM 871 (1985))

CD#30) *We are not Alone*, by Chaconne Brass and Friends, includes Dean's *Flying* (1998) for Brass Quintet, based on a text of Komunyaaka (released 2001).

CD#31) *Poet without Language* (excerpt), by Hazel Smith and Roger Dean on CD1 of 'Homo Sonorus', and International Anthology of Sound Poetry, curated by Dmitry Bulatov, released by the National Centre for Contemporary Art, Russian Federation (2001)

CD#32) Creative contributions as bassist and improviser to the music by Greg White for '*circa*', a multimedia-theatre installation at the new National Museum of Australia, Canberra (2001).

CD#33) *Network Sounds*, New Music Network New Music From Australia (2002), includes australYSIS performing Dean's Evolution II, for instruments and computer interactive system.

CD#34) *The Third Colour*, by Graham Collier, with The Jazz Ensemble (a reissue of CD#18), on Jazz Print JPVP129CD (2003; recorded 1997)

CD#35) With 'Hyperimprovisation...', published by A-R Editions, Wisconsin, USA (2003): includes Dean's 'Sizing the Tools' using his drum and bass generator algorithm; and LowHz, with Martin Ng, as well as 3 of my interactive web pieces.

CD#36) *Live at Middleheim*, 1975, Graham Collier Music, on Workpoints, Cuneiform Records USA, Rune 213-214 (2005)

CD#37) *Sonic Stones*, the australYSIS Electroband, Tall Poppies Records, TP 192, Australia (2006)

CD#38) *Hoarded Deams*, 1983 Graham Collier Music, Cuneiform Records USA, Rune 252 (2007).

CD#39) *Music of the Spirit*, 2008. Wirripang Records, 2008. Works from the Aurora Festival, 2008. Includes '*Ubasuteyama*' (2008).

CD#40) *The Peace of Molonglo: A Place of Thunder*, Premiered Sydney Conservatorium of Music, September 2005. Released on Australasian Computer Music Association CD, *Unfenced*, 2008.

CD#41) *Directing 14 Jackson Pollocks*, double CD of music by Graham Collier, recorded Europe 1997,2004 (Jazz Continuum CD released 2009). Dean plays keyboards.

CD#42) *New Music Network 2011*, 2 volume promotional CD includes *Sonic Instabilities* (2008), the sonic component of *Instabilities 2*, recorded by australYSIS 2009.

CD#43) *Kinetic Jazz 2011*, includes my *Loosely* (1981a, work renamed) for improvisers' orchestra, directed by me; and a MultiPiano Event work, *Cloudspotting* (Dean, piano and electronics). Bamboozle Records.

CD#44) *Relook* (2011), A double cd memorial collection for Graham Collier (1937-2011). Dean appears on 7 tracks (piano, kbds). Jazz Continuum.

CD#45) *Cosmic Waves* by Sandy Evans and Friends, with Guru Kaaraikkubdi Mani and Sruthi Laya (2012, Underscore Records, 12EX001ACD). Dean provides transformed drone sounds on tracks 5, 8 and 10.

CD#46) *Cycles, Dualyses, Superimpositions* by Roger Dean and LYSIS (2012, SOMA 788 double CD; the LYSIS

Re-issue series). A re-release of the original Mosaic and SOMA LPS, together with previously unreleased material from the time.

CD#47) MULTI-PIANO, solo and computer interactive piano by Roger Dean, recorded 1978-2012 (Tall Poppies, TP 225, double CD, 2012).

CD#48) "*Blue*" and "*Luminosity*", by Graham Collier Music (double CD, 2014; Continuum; Dean plays piano and electronics).

CD#49) *History goes everywhere*, the australYSIS Electroband, (Tall Poppies TP 234, 2015).

DD#50) Digital Download Release: Music for Soprano Trombone, piano and electronics. Torbjörn Hultmark (soprano trombone and electronics), Roger Dean (piano and electronics): Bandcamp album, 2018.

CD# 51) *Produced 2021-3: Dualling*, person-machine-artefact duets. Earshift 085: preliminary track release Trumpet Pelog (20240316), album release 20240416. Album supported by Create NSW.

## 7) Commercial recordings as interpreter

(Except where noted, Dean plays double bass in the recordings listed here. xx#n refers to number in the list of recordings of Dean's creative work).

1) Christian Wolff : *Edges*. Recorded by LYSIS on LP#6. Interpretive and improvisatory.

2) Iain Hamilton : *Five Scenes for trumpet and piano*. (RD playing piano). Recorded on LP#6.

3) John Wallace: *Rhapsody for trumpet and double bass*. Recorded on LP#6.

4) Milhaud: *String Quintet* and *Dreams of Jacob* for Oboe Quintet. Interpretive work. Released on LPs and CDs: as on KNEW CD 305.

5) Glenn Branca: music for *The Belly of an Architect*, a film by Peter Greenaway. Recorded with the London Sinfonietta.

6) Xenakis: *Epei*, with Spectrum, on Wergo CD 6178-2.

7) Tom Phillips: Sections of *Music for n* on CD#2. Interpretive and improvisatory.

8) Michael Gordon : *Acid Rain*, with Spectrum, on *Big Noise from Nicaragua*, CRI Composers Recordings Inc, CD 636.

9) Grieg : *Holberg Suite*, on *Australian Chamber Orchestra*, Sony Masterworks SK 53356.

10) Elena Kats Chernin : '*Clocks*', Chamber music, played by Sydney Alpha Ensemble, ABC Records 456 468-2 (1997; by mistake, Dean is not credited on the CD-notes.)

11) *The Sinking of the Rainbow Warrior*, an opera by Colin Bright and Amanda Stewart, performed by the Song Company and australYSIS, conducted by Roland Peelman. On Vox Australis VAST028-2 (2000; Dean plays keyboards).

12) Harrison Birtwistle : *Silbury Air*, music performed by Sydney Alpha Ensemble, conducted by David Stanhope (ABC 465 651-2; released 2000).

13) Robert Iolini: *Congo* and *Zimbabwe* on ReR Quarterly CD Vol4 #2, 1997. See Robert's web site for some excerpts of his music including other performances involving Dean. Other works of Iolini with Dean (piano), Sandy Evans, and other performers are on his 2001 CD "iolini" (ReR Megacorp; see their website).

14) *Arc of Light*, for solo piano, by Ian Shanahan. On Jade CD 1091 (2001). Dean plays piano.

15) *Lines of Light*, for recorder, synthesizer, and percussion, by Ian Shanahan. On Jade CD 1091 (2001; recorded by australYSIS; Dean plays synthesizer)

16) *Zodiac*, for recorder, wind controller, and keyboards/computer, by Ian Shanahan. On Jade CD 1092 (2001; recorded by australYSIS; Dean plays keyboards/computer).

17) *Lines of Light*, and *Zodiac* (again performed by australYSIS), music by Shanahan. See [www.amcoz.com.au](http://www.amcoz.com.au). The cd is entitled Harmonia: Australian Music Featuring Recorders. Ian Shanahan, recorders, with australYSIS and many others. Includes Shanahan's Lines of Light: Seven Improvisations, and Zodiac: Crystal Orbit Improvisations. Sidereal Records, SRCD001 (2004). Dean plays keyboards/computer.

18) John Rimmer: Chamber Music Waiteata Collection of New Zealand Music Vol 10 (WTA 10; 2008), contains *Omarama — Place of Light*, for trumpet, violin and piano (Dean), commissioned and performed by LYSIS (1987).

19) Torbjörn Hultmark: *A Brief Note* (for soprano trombone, prerecorded voice, and piano). Based on a text of Brian Nisbet. Dean plays piano. (On a Bandcamp australYSIS DD album, recorded UK 2017, released 2018, of music for soprano trombone, piano and electronics).

### **Competitive Grants and fellowships, honours received: selective listing**

I have been recipient of several composer awards and fellowships from the Arts Council (GB), and the Australia Council for the Arts. Together with Hazel Smith and Greg White, I was recipient of a competitive commission for a multimedia work from the Australian Film Commission (1998). As a result of my applications LYSIS received competitive support from the Arts Council; Greater London Arts; Southern Arts; and the British Council (UK), and from bodies in New Zealand and Norway. As a result of my applications australYSIS has also received extended support from the Australia Council since our commencement in Sydney in 1989, and culminating in our high-profile 'Key Organisation Grant' (2001-2004). The Key Organisation Grant ceased when the Australia Council restricted this category of funding to large turnover organisations, which we did not aspire to be. We have also received support from the NSW Ministry for the Arts, through the New Music Network Inc, and more recently through Create NSW. I have also obtained funding from the QEII Arts Council of New Zealand, and the New South Wales Government's Ministry for the Arts, including a grant 2020-2022 from Create NSW to make a new duo cd and web collection. I have received composition commissions from many ensembles and performers, with funds from many bodies: including the Australian Chamber Orchestra, Chaconne Brass (UK), Kinetic Energy Theatre Company (Australia), Rob Nairn (USA), Sydney Alpha Ensemble, the Wallace Collection (UK), and most recently the Monash Art Ensemble. In addition, I and australYSIS have received grants to commission many other composers and visual artists to work and record with us. At the invitation of Sydney Conservatorium of Music, University of Sydney, I gave an Alfreda Hook public lecture on the topic of creativity in music together with a solo performance of piano and computer-interaction (all available on YouTube) in 2023/10.

### **On selected media comment**

John Clare has written most generously and at length of my contributions (Sydney Morning Herald, June 18 2005, p18) in an article about the interaction of arts and science: "If you were looking for a thoroughly modern renaissance man however, I would direct you to Roger Dean, the vice-chancellor and president of the University of Canberra." The Canberra Times (July 10, 2006, Times2 p.3) described me as "UC's vice-chancellor and avant-garde leader".

Of the australYSIS Electroband, Sydney Morning Herald (June 2008): 'doyens of computerized music'

Of Roger Dean playing piano and keyboards with Graham Collier (1997) in a live performance, London, released on CD: 'a sublimely weird freakout' : see

<http://www.grahamcolliermusic.com/recordings/Relook/Relook.html>

I appreciate these comments; and that about which I was most pleased was the deeply sympathetic and empathetic extended review of our Australian Tall Poppies CD, 'Moving the Landscapes', by David Malouf, poet and writer.

**Professor Roger Dean, FAHA. Full Curriculum Vitae:**

**C) Earlier Experience in biochemistry and molecular cell biology (1970-2007)**

BIO-SCIENTIFIC CAREER AND POSITIONS HELD

- 1970-73 Ph.D. Cambridge, with J.T. Dingle, Ph.D., Sc.D. at Strangeways' Research Laboratory, Cambridge. Subject: Translocation of lysosomal components. Experience in enzymology, immunochemistry and subcellular fractionation.
- 1973-76 Researching in the laboratory of Prof. J.D. Judah (Dept. of Experimental Pathology, University College Hospital Medical School, London). Subjects: Lysosomal function: protein turnover, lysosomal turnover. Experience with perfused organs.
- 1974 Collaboration with Dr. M. Messer (Sabbatical visitor from the University of Sydney) on the immunochemistry of amylase and enzymology of glucuronidase.
- 1976-79 Medical Research Council Scientist in Division of Cell Pathology, Clinical Research Centre, London (Head of Division: Dr. A.C. Allison).  
Subjects: Mechanisms of protein degradation; macrophage activation and secretion of inflammatory mediators; endocytosis and degradation of extracellular macromolecules; cell growth and aging; cell-mediated cytotoxicity against transformed cells. Experience with cultured cells and immunology. Sabbatical visitors included Prof. Norton Taichman (Philadelphia) and Dr. Elliott Shaw (Brookhaven, & Miescher Institute, Basle).
- 1979-84 Head of Cell Biology Research Group, and Reader (= Associate Professor) in Applied Biology, Brunel University, Uxbridge, West London, UK.
- 1984-88 Head of Cell Biology Research Group, and Professor of Cell Biology, Brunel University.  
The group investigated: Firstly, macrophage activation in relation to inflammation and degradation of extracellular macromolecules, defence against foreign organisms and transformed cells, and atherosclerosis. Secondly, the role of free radicals in macromolecule damage and turnover, particularly in relation to protein degradation and control of cell growth. The studies encompassed organ, cellular, biochemical and molecular biological levels.  
The group received support from Agricultural and Food Research Council; Arthritis and Rheumatism Council; BRIEF (Brunel); British Council; British Foundation for Aging Research; British Heart Foundation; Cancer Research Campaign; CNpQ (Brazil); Cystic Fibrosis Trust; European Space Agency; Medical Research Council; National Foundation for Cancer Research; National Kidney Research Fund; Natural Environment Research Council; Nuffield Foundation; 3i Ventures; and the Wellcome Trust. By means of Science and Engineering Research Council (SERC) CASE studentships it developed several connections with the Pharmaceutical Industry. From 1984-87 the group had a formal academic link with the Institute for Indremedisinsk Forskning, University of Oslo (Prof. Hans Prydz), supported by the British Council.
- December 1988-2002 Foundation Executive Director (CEO) of the Heart Research Institute, Ltd Sydney, Australia (HRI), and Leader of the Cell Biology Group; honorary Professor in the Faculty of Medicine, Sydney University.

My group within HRI investigated : the chemistry and pathology of protein oxidation; the role of lipid and protein oxidation in their intracellular storage, as in atherosclerotic foam cells; mechanisms of macrophage-mediated initiation and inhibition of lipoprotein oxidation; the role of oxysterols in inhibition of lipid efflux from foam cells; and possible pharmaceutical vehicles to remove excess lipids from diseased vessel walls.

The group received support from: Australian Research Council; Astra Pharmaceuticals; CibaGeigy Pharma (now Novartis); Diabetes Australia; GlaxoWellcome Pharmaceuticals; International Atherosclerosis Society; Juvenile Diabetes Foundation International; MSD Foundation; National Heart Foundation; National Health and Medical Research Council; Ramaciotti Foundation; Sydney Free Radical Group Inc; Wellcome Trust; Worksafe Australia; and other bodies.

- June 1989-1995 Honorary faculty member of School of Biological Sciences, Macquarie University, Sydney.
- June 1991-2002 Senior Cardiovascular Scientist, Royal Prince Alfred Hospital, Camperdown, Sydney.
- 2002-2007 Vice-Chancellor and President, University of Canberra, ACT 2601. Research grants and collaborations continuing at the Heart Research Institute, University of Canberra, and elsewhere. Continued funding from the Australian Research Council, ACT Health and Medical Research Council and the National Health and Medical Research Council for molecular cell biology work. Most recent biochemical grant: 2005-7, NHMRC, 421,000 dollars, PIs Dr Ken Rodgers, Prof. Roger Dean, Dr Mike Davies.
- September 2004-end 2006 Deputy Chair of Board of the Australia and New Zealand Council for the Care of Animals in Research and Teaching (nominated by the AVCC)
- 2004-2007 Member of the ACT Health and Medical Research Council, nominated by the Minister.

#### OTHER PROFESSIONAL DISTINCTIONS IN SCIENCE

- 1979-86 Member of the Editorial Board of the Biochemical Journal
- 1985-88 Expert member of the Ciba Foundation's 'Media Resource Service'
- 1988-95 Board Member, International Committee on Proteolysis (ICOP)
- 1989-90 Chair/President of the Australian Atherosclerosis Society
- 1990-1997 Member Regional Grant Interviewing Panels, National Heart Foundation, Australia
- 1990-1995 Member of the Editorial Boards of Free Radical Research and Free Radical Biology & Medicine
- 1992-2001 Member or Chairperson, Regional Grant Interviewing and other Panels, National Health and Medical Research Council
- 1993 Curnow Medal Lecturer, Association of Clinical Biochemists
- 1993-1995 President, Australasian Society for Free Radical Research
- 1993-1995 Board Member, International Society for Free Radical Research
- 1994-2006 Member of the Editorial Board of Redox Report
- 1997-2000 Member of the Editorial Board of Pathogenesis
- 1997 Kempson Maddox Lecturer of the Cardiac Society of Australia & NZ

|           |   |
|-----------|---|
| 1998-2003 | Member of the Editorial Board of Clinical Science   |
| 1998-2006 | Member of the Editorial Board of International Journal of Biochemistry and Cell Biology           |
| 1998      | Co-recipient (with Dr Roland Stocker) of the Kenneth Bower Award of the National Heart Foundation |
| 2002      | Distinguished Service Award of the Society for Free Radical Research (Australasia)                |
| 2003      | Commonwealth Centenary Medal Recipient, for services to medical research and improvised music.    |

#### EXTERNAL COLLABORATIONS AS A VISITING SCIENTIST IN BIOCHEMISTRY (1970-2002)

July-September 1981

Visiting Professor at Hôpital des Enfants Malades, Paris (INSERM U 132), supported by the Royal Society (UK). Collaboration with Dr. J-L Virelizier on human monocyte cytotoxic activity against transformed cells and its regulation by interferons.

July-September 1982

Visiting Professor at Research Institute for Internal Medicine, University of Oslo, supported by the Wellcome Trust. Collaboration with Prof. Hans Prydz, on regulation of thromboplastin in human monocytes.

July-September 1983

Visiting Professor at Harvard University, Boston, USA, supported by Nuffield foundation and BRIEF (Brunel). Collaboration with Dr. J.F. Dice, Physiology and Biophysics, on the application of microinjection techniques to the study of proteolysis and its derangement in ageing.

July-September 1984

Visiting Professor at the University of Sydney, Australia, supported by the Royal Society (UK). Collaboration with Dr. J.K. Pollak (Dept. of Histology and Embryology) on proteolysis in mitochondria, in relation to radical flux rates.

June-September 1986

Visiting Professor and Consultant at Merck Institute for Therapeutic Research, Rahway, New Jersey, USA. Research on free radical attack on proteins, and on mechanisms for increasing protein accretion in animals.

November 1986-January 1988

Visiting Professor at Division of Molecular Medicine, Clinical Research Centre, Harrow, UK (approximately 60% of time). Supported by BRIEF (Brunel) and the Nuffield Foundation. Collaborating with Drs. James Scott and Richard Pease on mutagenesis and expression of apo-B cDNAs in order to elucidate binding sites for cellular receptors expressed in low density lipoprotein, particularly after free radical modification; and their atherogenic potential.

July-September 1987

Visiting Professor and Consultant at CIBA-GEIGY, Basel, Switzerland. Collaborating with Dr. H.P. Schnebli and Dr. H.P. Nick on the proteinase inhibitor Eglin C, and the influence of free radicals on the proteinase/proteinase inhibitor balance in the extracellular space.

April-May 1988

Visiting Professor at University of Tokyo, Japan, supported by the Japan Society for the Promotion of Science. Collaboration with Prof. Etsuo Niki and Dr. Yorihiro Yamamoto on topological influences on the capacity of free radicals to attack membrane proteins, and antioxidants to protect against this.

April-July 1994

Visiting Professor at University of California at Berkeley, in laboratory of Professor Bruce Ames; and at INSERM U321 Paris, France with Dr. John Chapman.



April-July 1996

Visiting Professor at University College, London, UK, in the Department of Molecular Pathology, with Prof. Patrick Riley.

April- July 2000

Visiting Professor at the Rayne Institute, University College London, in the Centre for Respiratory Research (with Prof. Geoff Laurent).

August 2003 (part)

Visiting Professor at the University of London (UCL).

#### INVITED PRESENTATIONS AT INTERNATIONAL & NATIONAL CONFERENCES

I have spoken at more than 400 international meetings, laboratories, universities and pharmaceutical companies in Western and Eastern Europe, USA, Asia and Australasia. This includes Ciba Foundation Symposia, 5 Gordon Conferences, the Federation Meetings (USA), National and International Society and State Academy of Sciences meetings. These meetings have included the International Vascular Biology conference, the International Atherosclerosis Society Satellites, and 4 biennial meetings of the International Society for Free Radical Research, including that in 2002. I was again an invited speaker of a Biochemical Society Major Symposium, UK (December 2002). I also chaired many sessions at such conferences, and served on international advisory panels for them. I was a session chair at the Society for Free Radical Research Australasia international meeting, Christchurch, December 2004, and work involving myself and 4 colleagues was presented.

#### CONSULTANCIES & CONTRACTS

I have consulted for several drug companies, and fulfilled contracts for others, and also for the European Space Agency and Brunel Institute of Bioengineering. I was a founder shareholder and was a founder Scientific Panel member for the profitable but largely passive Australian biotech Venture Capital company, SciCapital Pty Ltd.

#### MEETING ORGANISATION

I contributed to the organisation of symposia and conferences for the Biochemical Society, Ciba Foundation, Lysosome Club (UK), European Group for the Study of Lysosomal Diseases, the European Cell Biology Conference, Australian Biochemical Society, Australian Atherosclerosis Society, Australasian Society for Free Radical Research. I was Chair and co-organiser of the 1994 Biennial Meeting of the International Society for Free Radical Research.

#### OUTSIDE COLLABORATIONS & VISITING WORKERS IN MY LABORATORIES

In the UK I maintained several international collaborations; and collaboration with other laboratories in the UK. Similarly, I had visiting workers in my laboratory regularly, from Eastern and Western Europe, Australia, and particularly from the USA. The same policies operated in the Heart Research Institute, Sydney, Australia. My Australian collaborations were particularly with groups at the Heart Research Institute, Australian National University, and University of New South Wales.

#### TEACHING, AND ACADEMIC LEADERSHIP AND MANAGERIAL EXPERIENCE

|         |  |
|---------|--|
| 1970-73 | Supervisions and demonstrations in cell biology and biochemistry, Cambridge, UK. |
| 1973-88 | Occasional lectures, University College, London and Middlesex Hospital Medical   |

School, London.

- 1979-1988 Lectures on M.Sc. courses in Immunology, Cell Science, and Medical Biochemistry, Brunel University, UK. Undergraduate teaching, including designing and presenting course units on biotechnology, cell culture, biological ethics, and cell biology; together with associated seminars and practicals. I also taught occasionally in several universities outside the UK.
- 1984-2002 Several periods as acting head of Department, Brunel. Extensive experience on and as chair of university academic committees of management and planning (e.g. biological facilities; radiation, safety, research, strategic planning), and on appointment and promotions committees, at Brunel University and at Sydney University.
- 1989-90 Together with other members of The Heart Research Institute presented a highly subscribed course in "Biochemistry of Disease Reactions" to Biochemistry Students at Sydney University.
- 1990-2001 Occasional lectures in the Faculty of Medicine and Faculty of Science, University of Sydney and at Macquarie University.
- 2002-2007 Vice-Chancellor and President, University of Canberra, ACT 2601.
- 2007-present Acting Director, MARCS, for many periods.

*Professor Roger T. Dean, FAHA : Biological Publications*

#### SYNOPSIS

Dean's biological output numbers >280 substantive items; he has edited or written 9 biological books. An \* before the first author marks those 20 publications he views as most significant in this list. Note that a few publications appear as Dean R instead of Dean RT).

#### BIOLOGICAL PUBLICATIONS LIST

##### THESES

- 1 Dean, R.T. (1973) The synthesis and translocation of lysosomal enzymes. PhD, Cambridge University, Cambridge.
- 2 Dean, R.T. (1984) Compartmentalisation as a controlling factor in mammalian cellular degradative processes. DSc, Brunel University, London.

##### AUTHORED BOOKS

Dean, R.T. (1977) *Lysosomes*, Institute of Biology Series, Edward Arnold, London, pp. 90. Republished in several countries and languages.

Dean, R.T. (1978) *Cellular Degradative Processes*, Chapman & Hall, London, pp. 120. Republished in several countries and languages.

\*Davies, M., and Dean, R.T. (1997) *Radical mediated protein oxidation: from chemistry to medicine*, Oxford University Press, pp. 443.(>350 citations)

##### EDITED BOOKS

Dingle, J.T., and Dean, R.T. eds. (1975) *Lysosomes in Biology and Pathology*, Vol.4, Elsevier, Amsterdam, pp. 614.

Dingle, J.T., and Dean, R.T. eds. (1976) *Lysosomes in Biology and Pathology*, Vol.5, Elsevier, Amsterdam, pp.

Dingle, J.T., Dean, R.T., and Sly, W. eds. (1984) *Lysosomes in Biology and Pathology*, Vol.7, Elsevier, Amsterdam, pp. 479.

Dean, R.T., and Jessup, W. eds. (1985) *Mononuclear Phagocytes: Physiology and Pathology*, Elsevier, Amsterdam, pp. 426.

Dean, R.T., and Stahl, P.D. eds. (1985) *Developments in Cell Biology: Secretory Processes*, Butterworths, London, pp. 234.

Dean, R.T., and Kelly, D.T. eds. (2000) *Atherosclerosis: Gene expression, cell interactions and oxidation*, Oxford University Press, Oxford, pp. 450.

## BOOK SECTIONS

1. Dean, R.T. (1975) Multiple forms of lysosomal enzymes, In: *Lysosomes in Biology and Pathology*, Vol.4, Dingle, J.T. and Dean, R.T., eds., Elsevier, Amsterdam, pp. 349-382.
2. Barrett, A.J., and Dean, R.T. (1976) Enzymes of lysosomes, In: *Cell Biology I*, Vol.1, Altman, P.L. and Katz, D.D., eds., Fed. American Soc. for Exp. Biol., Bethesda, Maryland U.S.A., pp. 317-324.
3. Dean, R.T. (1977) The isolation of lysosomes, In: *Lysosomes, A Laboratory Handbook*, Dingle, J.T., ed., Elsevier, Amsterdam, pp. 1-17.
4. Dean, R.T. (1978) Lysosomal Mechanisms of Protein Degradation, In: *Protein Turnover and Lysosomal Function*, Segal, H.L. and Doyle, D., eds., Academic Press, New York, pp. 29-41.
5. Dean, R.T. (1979) The carrier potential of some glycoproteins, In: *Drug carriers in Biology and Medicine*, Gregoriadis, G., ed., Academic Press, New York, pp. 71-86.
6. Dean, R.T. (1979) Proteolysis in lysosomes, In: *Biological Functions of Proteinases*, Holzer, H. and Tschesche, H., eds., Springer Verlag, Berlin, pp. 49-54.
7. Dean, R.T. (1980) Secretion of Lysosomal Hydrolases and other Inflammatory Mediators by Activated Macrophages, In: *Activated Macrophages, Proceedings of an International Workshop*, Siena University, Italy.
8. Dean, R.T. (1980) Mechanisms and regulation of protein degradation, In: *Animal Cells Biochemistry of Cell Regulation, Clinical and Scientific Aspects of the Regulation of Metabolism*, Vol.2, Ashwell, M., ed., CRC Press, USA, pp. 101-122.
9. Dean, R.T. (1980) Lysosomes and protein degradation, In: *Ciba Foundation Symposium*, Vol.75, pp. 139-149.
10. Dean, R.T. (1980) Regulation and mechanisms of degradation of endogenous proteins by mammalian cells: general considerations, In: *Degradative Processes in Heart and Skeletal Muscle*, Wildenthal, K., ed., Elsevier, Amsterdam, pp. 3-30.
11. Dean, R.T., and Judah, J.D. (1980) Post-translational processing of polypeptides, In: *Comprehensive Biochemistry*, Vol.19B, Neuberger, A., ed., Academic press, New York, pp. 233-299.
12. Jessup, W., and Dean, R.T. (1984) On the apparently normal function of lysosomes in cystic

fibrosis, In: *Lysosomes in Biology and Pathology*, Vol.7, Dingle, J.T., Dean, R.T. and Sly, W., eds., Elsevier, Amsterdam, pp. 381-399.

13. Anastasi, A., and Dean, R.T. (1985) Regulation of Protein Breakdown in Fibroblasts, In: *Intracellular protein Catabolism*, Khairallah, K., Bond, J. and Bird, J.W.C., eds., Liss, New York, pp. 655-657.

14. Dean, R.T., and Jessup, W. (1985) General Introduction: Macrophages and Macrophage Activation, In: *Mononuclear Phagocytes: Physiology and Pathology*, Vol.11, Dean, R.T. and Jessup, W., eds., Elsevier, Amsterdam, pp. vii-ix.

15. Dean, R.T., and Jessup, W. (1985) The zipper model of phagocytosis, In: *Mononuclear Phagocytes: Physiology and Pathology*, Vol.11, Dean, R.T. and Jessup, W., eds., Elsevier, Amsterdam, pp. 3-4.

16. Dean, R.T., Roberts, C.R., and Jessup, W. (1985) Fragmentation of extracellular and intracellular polypeptides by free radicals, In: *Intracellular Protein Catabolism*, Khairallah, E., Bond, J. and Bird, J.W., eds., Liss, New York, pp. 341-348.

17. Dean, R.T., and Wolff, S.P. (1985) Free Radical Damage to Proteoglycans and Proteins, In: *Basic mechanisms, Tissue Injuring Principles and Clinical Models*, Venge, P. and Lindbom, A., eds., Almqvist and Wiksell, Stockholm, pp. 289-296.

18. Harvey, J.J., Wagner, M.M.F., Edwards, R.E., Temple, A., Patterson, S., and Dean, R.T. (1985) Tumors induced experimentally by silica: establishment and characterisation of malignant cell lines in vitro, in silica, silicosis and cancer, In: *Controversy in Occupational Medicine*, Goldsmith, D.F., Winn, D. and Shy, C.M., eds., Praeger, New York, pp. 229-242.

19. Jessup, W., Leoni, P., and Dean, R.T. (1985) The Macrophage in Inflammation, In: *Basic mechanisms, Tissue Injuring Principles and Clinical Models*, Venge, P. and Lindbom, A., eds., Almqvist and Wiksell, Stockholm, pp. 161-186.

20. Jessup, W., Leoni, P., and Dean, R.T. (1985) Constitutive and Triggered Lysosomal Enzyme Secretion, In: *Developments in Cell Biology*, Vol.1, Dean, R.T. and Stahl, P.D., eds., Butterworths, pp. 38-57.

21. Leoni, P., Jessup, W., and Dean, R.T. (1985) Secretion of Hydrolases by mononuclear phagocytes, In: *Mononuclear Phagocytes: Physiology and Pathology*, Dean, R.T. and Jessup, W., eds., Elsevier, Amsterdam, pp. 181-202.

22. Vince, G.S., and Dean, R.T. (1985) Effects of Gentamicin on the endocytosis of plasma proteins by kidney tubule cells, In: *Renal Heterogeneity and Target Cell Toxicity*, Bach, P., ed., Wiley, New York, pp. 523-526.

23. Dean, R.T. (1986) Effects of free radicals., In: *Biochemistry of Macrophages. Ciba Foundation Symposium 118.*, Pitman, London, pp. 231-233.

24. Dean, R.T. (1987) Some critical membrane events during mammalian cell death, In: *Perspectives on Mammalian Cell Death*, Potten, C.S., ed., Oxford University Press, Oxford, pp. 18-38.

25. Dean, R.T., Naish-Byfield, S., and Hunt, J.V. (1989) Free radicals and protein damage which may lead to intracellular catabolism, In: *Intracellular Proteolysis: Mechanisms and Regulations*, Katunuma,

N. and Kominami, E., eds., Japan Scientific Societies Press, pp. 500-501.

26. Dean, R.T., Naish-Byfield, S., Hunt, J.V., and Wolff, S.P. (1989) Free radicals and Protein Damage: Consequences for Protein Function in Catabolism and in Cytolysis, In: *Protein Traffic in Parasites and Mammalian Cells*, Lonsdale-Eccles, J.D., ed., ILRAD, Nairobi, pp. 35-42.

27. Naish-Byfield, S., and Dean, R.T. (1989) Antioxidants and the influence of free Radical Damage to proteins on proteolysis in and around mammalian cells, In: *Current Trends in The Study of Intracellular Protein Degradation II*, Knecht, E. and Grisolia, S., eds., pp. 361-375.

28. Jessup, W., Bedwell, S., and Dean, R.T. (1990) The role of oxidative metabolism and antioxidants in low-density lipoprotein structure and metabolism, In: *Free Radicals, Lipoproteins, and Membrane Lipids*, Vol.189, Crastes de Paulet, A., Douste-Blazy, L. and Paoletti, R., eds., Plenum Press, New York, pp. 239-247.

29. Dean, R.T. (1991) Protein Damage and Repair: An Overview, In: *Oxidative Damage and Repair. Chemical, Biological and Medical Aspects*, Davies, K.J.A., ed., Pergamon Press, New York, pp. 341-347.

30. Gebicki, J., and Dean, R.T. (1991) The Oxidative damage to Proteins during Aging, In: *New Horizons in Aging Science. 5th Asia and Oceania Conference on Aging*, Orimo, H., Fukuchi, Y., Kuramoto, K. and Iriki, M., eds., University Press, Tokyo, pp. 61-63.

31. Jessup, W., Dean, R.T., Gieseg, S.P., Hazell, L., Kritharides, L., Mander, E., Simpson, J.A., and Stocker, R. (1992) Oxidation of lipids and apolipoprotein B in LDL: Mechanisms and Consequences in Dietary Lipids, Antioxidants and the Prevention of Atherosclerosis, In: *Dietary Lipids, Antioxidants and the Prevention of Atherosclerosis*, Ursini, F. and Cadenas, E., eds., Cleup University, Padova, Italy, pp. 83-89.

32. Suarna, C., Dean, R.T., and Stocker, R. (1992) The reactivity of tocotrienols and other lipid-soluble antioxidants towards peroxy radicals, In: *Lipid-soluble Antioxidants: Biochemistry and Clinical Applications*, Packer, L. and Chong, Y., eds., Birkhauser Publishers, pp. 17-26.

33. Dean, R.T., Gieseg, S.P., and Simpson, J.A. (1993) Marker or mechanism: Possible pro-oxidant reactions of radical-damaged proteins in aging and atherosclerosis, an age-related disease, In: *Free Radicals: from Basic Science to Medicine*, Poli, G., Albano, E. and Dianzani, M.U., eds., Birkhäuser Verlag, Basel, Switzerland, pp. 175-184.

34. Dean, R.T., Armstrong, S., Fu, S., and Jessup, W. (1994) Oxidised proteins and their enzymatic proteolysis in eucaryotic cells: a critical appraisal, In: *Free Radicals in the Environment, Medicine and toxicology*, Nohl, H., Esterbauer, H. and Rice-Evans, C., eds., Richelieu Press, London, pp. 47-79.

35. Jessup, W., Dean, R.T., and Gebicki, J.M. (1994) Iodometric determination of hydroperoxides in lipids and proteins, In: *Methods in Enzymology "Oxygen Radicals in Biological Systems, Part C"*, Packer, L., ed., Academic Press, Orlando, pp. 289-303.

36. Schnebli, H.P., Hassan, I., Hamilton, K.O., Lynch, S., Jin, Y., Nick, H.P., Peter, H.H., Junker-Walker, U., Khanna, S.C., Dean, R.T., and Bergeron, R.J. (1994) Towards better chelation therapy: Current concepts and research strategy., In: *The Development of Iron Chelators for Clinical Use*, Bergeron, R.J. and Brittenham, G.M., eds., CRC Press Inc, pp. 131-149.

37. Dean, R.T., Fu, S., Gieseg, G., and Armstrong, S. (1996) Protein hydroperoxides, protein hydroxides, and protein-bound DOPA, In: *Free Radicals: a practical approach*, Punched, N.A. and Kelly,

F.J., eds., IRL Press, Oxford, pp. 171-183.

38. Fu, S., Gebicki, S., Jessup, W., Gebicki, J.M., and Dean, R.T. (1996) Metabolism of protein bound reactive species formed by radical damage, In: *Proceedings of the International Symposium on Natural Antioxidants*, AOCs Press, Champaign, pp. 367-377.
39. Fu, S., Davies, M.J., and Dean, R.T. (1998) Molecular aspects of free radical damage to proteins, In: *Free radicals and molecular biology of human diseases*, Aruoma, O.I. and Halliwell, B., eds., Harwood Academic Press, pp. 29-56.
40. Jessup, W., Garner, B., and Dean, R.T. (1998) Metal Reduction by Macrophages: Its Role in low-density lipoprotein oxidation, In: *Plasma Membrane Redox Systems and their Role in Biological Stress and Disease*, Asard, H., Bérczi, A. and Caubergs, R.J., eds., Kluwer Academic Publishers B.V., The Netherlands, pp. 267-277.
41. Stocker, R., Upston, J.M., Niu, X., Terentis, A.C., Zammit, V., Hazell, L.J., Fu, S., and Dean, R.T. (1998) Lipoprotein Oxidation in Human Atherosclerosis, In: *Atherosclerosis*, Vol.XI, Jacotot, B., Mathe, D. and Fruchart, J.C., eds., Elsevier, Amsterdam, pp. 475-482.
42. Eaton, J.W., and Dean, R.T. (2000) Diabetes and atherosclerosis, In: *Atherosclerosis: Gene expression, cell interactions and oxidation*, Dean, R.T. and Kelly, D.T., eds., Oxford University Press, Oxford, pp. 24-45.
43. Fu, S., Dean, R.T., Davies, M.J., and Heinecke, J.W. (2000) Protein oxidation in atherogenesis, In: *Atherosclerosis: Gene expression, cell interactions and oxidation*, Dean, R.T. and Kelly, D.T., eds., Oxford University Press, Oxford, pp. 301-325.
44. Kritharides, L., Adams, M., Celermajer, D., Kelly, D., and Dean, R.T. (2000) Futures: Diagnosis and therapy of atherosclerosis, In: *Atherosclerosis: Gene expression, cell interactions and oxidation*, Dean, R.T. and Kelly, D.T., eds., Oxford University Press, Oxford, pp. 406-450.
45. Morin, B., Fu, S., Wang, H., Davies, M. J. and Dean, R. T. (2002). Analysis of aliphatic amino acid hydroxides in oxidised proteins. in *Oxidative Stress Biomarkers and Antioxidant Protocols*. D. Armstrong. New Jersey, The Humana Press: 101-110.
46. Dean, R. T., R. Dunlop, P. Hume and K. J. Rodgers (2003). Proteolytic 'defences' and the accumulation of oxidized polypeptides in cataractogenesis and atherogenesis. in *Biochemical Society Symposium on Proteases in Health and Disease*. J. Saklatvala, H. Nagase and G. Salvesen. London, Biochemical Society: 135-146.

## JOURNAL ARTICLES

Besides primary journal articles, this list includes one abstract and a small number of transactions which include significant original data not published elsewhere. ISI's Web of Knowledge lists about thirty additional biological items I have authored, but which I do not consider to be substantive and which are therefore not listed here. I have also published many hundreds of meeting abstracts, but I do not record these. Citation counts are mainly from 2005.

- 1) Dean, R.T. (1973) The Purification and properties of rabbit beta-glucuronidase. *Biochem. Soc. Trans.*, 1, 384.
- 2) Dean, R.T. (1974) Rabbit beta-glucuronidase. Purification and properties, and the existence of multiple

forms. *Biochem. J.*, 138, 395-405.

- 3) Dean, R.T. (1974) Rabbit beta-glucuronidase. Subcellular distribution and immunochemical properties. *Biochem. J.*, 138, 407-413.
- 4) Dean, R.T. (1975) Lysosomal enzymes as agents of turnover of soluble cytoplasmic proteins. *Eur. J. Biochem.*, 58, 9-14.(>63 citations)
- 5) \*Dean, R.T. (1975) Direct evidence of importance of lysosomes in degradation of intracellular proteins. *Nature*, 257, 414-416.(>189 citations)
- 6) Dean, R.T. (1975) Turnover of lysosomal proteins, and induction and distribution of rat liver proteinases, after treatment with Triton WR-1339. *Biochem. Soc. Trans.*, 3, 250-252.
- 7) \*Dean, R.T. (1975) Concerning a possible mechanism for selective capture of cytoplasmic proteins by lysosomes. *Biochem. Biophys. Res. Commun.*, 67, 604-609.(>64 citations)
- 8) Dean, R.T., and Messer, M. (1975) Evidence against the occurrence of artifacts due to carrier ampholyte-protein binding during isoelectric focusing. *J. Chromatog.*, 105, 353-358.
- 9) Messer, M., and Dean, R.T. (1975) Immunochemical relationship between  $\alpha$ -amylases of rat liver, serum, pancreas, and parotid gland. *Biochem. J.*, 151, 17-22.
- 10) Dean, R.T. (1976) The role of cathepsins BI and D in the digestion of cytoplasmic proteins in vitro by lysosomal extracts. *Biochem. Biophys. Res. Commun.*, 68, 518-523.
- 11) Dean, R.T., and Barrett, A.J. (1976) Lysosomes. *Essays in Biochemistry*, 12, 1-40.(>133 citations)
- 12) Dean, R.T., and Messer, M. (1976) Studies on the heterogeneity of mammalian beta-glucuronidase. *Comp. Biochem. Physiol.*, 54B, 107-110.
- 13) Dean, R.T. (1977) Lysosomal mechanisms of protein degradation. *Acta. Biol. Med. Germ.*, 36, 1815-1820.
- 14) Dean, R.T. (1977) Lysosomes and membrane recycling: a hypothesis. *Biochem. J.*, 168, 603-605.
- 15) Dean, R.T. (1978) Selectivity in endocytosis of serum and cytosol proteins by macrophages in culture. *Biochem. Biophys. Res. Commun.*, 85, 815-819.
- 16) Dean, R.T. (1978) The interaction of glycosidases with insolubilised ovalbumin. *J. Chromatog.*, 150, 279-283.
- 17) Dean, R.T., and Riley, P.A. (1978) Degradation of normal and analogue-containing proteins in MRC-5 fibroblasts during ageing in vitro. *Biochim. Biophys. Acta*, 539, 230-237.
- 18) Riley, P.A., and Dean, R.T. (1978) Phagocytosis and the cell cycle. *Exp. Cell. Biol.*, 46, 367-375.
- 19) \*Dean, R.T. (1979) Macrophage protein turnover: Evidence for Lysosomal Participation in Basal Proteolysis. *Biochem. J.*, 180, 339-345. (>81 citations)
- 20) Dean, R.T. (1979) Effects of Cytochalasin B on the pinocytosis and degradation of proteins by macrophages. *Biochem. Soc. Trans.*, 7, 362-364.

- 21)Dean, R.T. (1979) Macrophages as sources of hydrolases and other materials in chronic inflammation. *Eur. J. Rheumatol. Inflamm.*, 3, 11-16.
- 22)Dean, R.T., Hylton, W., and Allison, A.C. (1979) Induction of macrophage lysosomal enzyme secretion by agents acting at the plasma membrane. *Exp. Cell. Biol.*, 47, 454-462.
- 23)Dean, R.T., Hylton, W., and Allison, A.C. (1979) Lysosomal enzyme secretion by macrophages during intracellular storage of particles. *Biochim. Biophys. Acta*, 584, 57-66. (>48 citations)
- 24)Dean, R.T. (1980) Protein degradation in cell cultures: general considerations on mechanism and regulation. *Fed. Proc.*, 38, 15-19.
- 25)Jessup, W., and Dean, R.T. (1980) Spontaneous Lysosomal Enzyme Secretion by a murine macrophage-like cell line. *Biochem. J.*, 190, 847-850.
- 26)\*Shaw, E., and Dean, R.T. (1980) The inhibition of macrophage protein turnover by a selective inhibitor of thiol proteinases. *Biochem. J.*, 186, 385-390. (>77 citations)
- 27)Taichman, N.S., Dean, R.T., and Sanderson, C.J. (1980) Biochemical and morphological characterisation of the killing of human monocytes by leucotoxin derived from *Actinobacillus actinomycetes comitans*. *Infect. Immunity.*, 28, 258-268.(>119 citations)
- 28)Dean, R.T., and Cockle, S.M. (1981) Degradation of intracellular proteins in macrophages and fibroblasts. *Acta Biol. Med. Germ.*, 40, 1571-1575.
- 29)Cockle, S.M., and Dean, R.T. (1982) Derangement of regulation of protein degradation in transforming fibroblasts. *Biosci. Repts.*, 2, 107-114.
- 30)Cockle, S.M., and Dean, R.T. (1982) The regulation of proteolysis in normal fibroblasts as they approach confluence: evidence for the participation of the lysosomal system. *Biochem. J.*, 208, 795-800.
- 31)Cockle, S.M., and Dean, R.T. (1982) Endogenous protein turnover during lysosomal storage in normal Tay-Sachs and Sandhoff's fibroblasts. *Biochem. Soc. Trans.*, 10, 230-231.
- 32)Dean, R.T., and Jessup, W. (1982) Modulation of exocytosis of previously endocytosed fluid by particles and amines. *Biosci. Repts.*, 2, 551-560.
- 33)Dean, R.T., and Jessup, W. (1982) A prolonged slow linear phase in the release of previously endocytosed tracers from human fibroblasts. *Biochem. Soc. Trans.*, 10, 539-540.
- 34)Greenaway, V., Naish, S., Jessup, W., and Dean, R.T. (1982) Regulation of Lysosomal  $\alpha$ -mannosidase in macrophages. *Biochem. Soc. Trans.*, 10, 533-534.
- 35)Jessup, W., and Dean, R.T. (1982) Lysosomal enzyme secretion in cystic fibrosis fibroblasts is normal. *Clinica. Chimica. Acta*, 126, 265-273.
- 36)Jessup, W., and Dean, R.T. (1982) Secretion by mononuclear phagocytes of lysosomal hydrolases bearing ligands for the mannose-6-phosphate receptor system of fibroblasts: Evidence for a second mechanism of spontaneous secretion? *Biochem. Biophys. Res. Commun.*, 105, 922-927.
- 37)Jessup, W., Leoni, P., Bodmer, J.L., and Dean, R.T. (1982) Inhibition of spontaneous secretion by



P388D1 cells by amines. *Biochem. Pharmacol.*, 31, 2657-2662.

- 38)Leoni, P., and Dean, R.T. (1982) Acid Hydrolase secretion by human monocytes and its possible regulation by products of lymphocytes and neutrophils. *Biochem. Soc. Trans.*, 10, 228.
- 39)Shirazi, M.F., Aronson, N.N., and Dean, R.T. (1982) Temperature dependence of certain integrated membrane functions in macrophages. *J. Cell Science*, 57, 115-127.
- 40)Shirazi, M.F., and Dean, R.T. (1982) Effects of temperature on fluid phase adsorptive and receptor-mediated pinocytosis. *Biochem. Soc. Trans.*, 10, 229-230.
- 41)Bodmer, J.L., and Dean, R.T. (1983) Receptor-mediated phagocytosis of zymosan is unaffected by some conditions which reduce lysosomal enzyme secretion. *Biosci. Rept.*, 3, 1053-1061.
- 42)Bodmer, J.L., and Dean, R.T. (1983) A comparison of iodinated and technetium-labelled zymosan for measurement of particle binding and internalisation by macrophages. *Biochem. J.*, 214, 277-278.
- 43)Bodmer, J.L., and Dean, R.T. (1983) Possible role of the macrophage mannose receptor in initiation of lysosomal enzyme secretion. *Biochem. Soc. Trans.*, 11, 399-400.
- 44)Bodmer, J.L., and Dean, R.T. (1983) Does the induction of macrophage lysosomal enzyme secretion involve the mannose receptor? *Biochem. Biophys. Res. Commun.*, 113, 192-198.
- 45)Dean, R.T. (1983) Amines and secretory pathways. *Nature*, 305, 73-74.
- 46)Dean, R.T. (1983) The aspartic proteinase inhibitor, Pepstatin, enters mouse peritoneal macrophages by adsorptive pinocytosis. *Cell Biology International Reports*, 7, 405.
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#### **AUSTRALIAN PRELIMINARY PATENT**

Kritharides, L., Jessup, W., and Dean, R.T. (2000) Cyclodextrins and reversal of atherosclerosis.

#### **MISCELLANEOUS BIOLOGICAL PUBLICATIONS**

Dean, R.T. (1993) Forward, In: *Toxicity of Chemical Mixtures: An introduction to recent developments in toxicology*, Pollak, J.K., ed., CHAST (University of Sydney), Sydney, pp. 1-2.

Pollak, J.K., Baker, G., Dean, R.T., Drew, C., Faigl, P., Mellick, R., Morton, M., Raffan, M., and Reidy, G. (1990) *Pulp and Paper Mills: Their Effects on Ecology, Health & Economy*, CHAST (University of Sydney), Sydney, pp. 49.

Dean, R.T., and Harris, P.J. Is oxidation critical in atherosclerosis? (Audio visual tape also available on the Web as RealAudio). American College of Cardiology, ACCEL Vol 29, No 11, November 1997, Bethesda, US.

**Analysis of Published Work at large:** My papers have continued to be cited over much longer periods than is routine. My papers have attracted on average more than 30 citations each, which is a high citation rate for

the field. A notable feature of my output is the relatively large number of first or sole author papers, and on the other hand my significant number of collaborative publications with workers from other labs achieved during mutual visits. Even from the time of my PhD in Cambridge, from which the papers were published by me alone, I was encouraged and supported to strike out as an independent research initiator and publisher. Immediately after my PhD, I made some influential contributions to the field of lysosomes and protein degradation, again published alone (a group of more than a dozen publications, including a highly cited paper in *Nature*). Subsequently, a substantial amount of his work has been collaborative, but always with me as one of the key participants. I had a 20-year collaboration with Dr Wendy Jessup, and I supported the development of her career such that she became a long-term a Principal Research Fellow of the NHMRC, and was previously co-leader with me of the Cell Biology Group at the Heart Research Institute. This collaboration has produced many primary publications. I have also collaborated widely in the international arena, publishing with scientists from France, Norway, Switzerland, UK, US etc. The main ideas in my work are clearly my own, and my career positions have recognised my early and continuing contributions, for example by achievement of a DSc, appointment as Professor at the age of 35, and as third youngest Australian Vice-Chancellor at the time of appointment.

I remained committed to continuing a modest amount of research while being a University Vice-Chancellor, and during this period I made a transition into the cognitive sciences of music as my research area. I have now largely phased out my biological work, and focus on music cognition and computation, which is being complemented by continuing research work on improvisation in the arts, and by approaches informed by cultural theory; I have published the first research book on computer-interactive sound improvisation (in 2003), and am making ongoing contributions in this area, first funded by an ARC grant on cognition of sound, commenced mid 2004. I also formed the Sonic Communications Research Group at the University of Canberra (2004). In 2007 I completed my term as a Vice-Chancellor, and in May became a full time Research Professor in Sonic Communication, at the MARCS Auditory Research Laboratories (University of Western Sydney) focusing on music cognition and computation, and the biological and social evolutionary forces acting on and generated by music. I now have many journal and conference articles published or in press in this newly adopted area of science, together with an OUP Handbook of Computer Music and another on algorithmic music.

### **Professor Roger Dean: Synopsis of Contributions in Biochemistry and Molecular Cell Biology**

Dean has transformed the field of protein oxidation and its relation to enzymatic proteolysis, ranging from chemistry to organismal biology, and physiology to human pathology. He showed that lysosomes selectively degrade intracellular proteins; and that reactive species drive chain oxidation of proteins, and generate secondary radicals which damage lipids and DNA, including low density lipoprotein, important in atherosclerosis. Oxidized proteins are defensively degraded, and lysosomes and proteasomes participate. He co-initiated the field of glycooxidation, and defined protein oxidation in cataractogenesis and atherogenesis. These contributions are placed in context below.

#### **Lysosomes and cellular degradative mechanisms**

Dean was first to demonstrate (1975) that lysosomes are important in both basal and accelerated intracellular protein degradation. He provided mechanistic insights into this, and developed a hypothesis to explain selectivity of degradation of intracellular protein by lysosomes: this hypothesis is supported by current research. He also demonstrated that regulation of lysosomal proteolysis is an important component of regulation of overall cell growth and protein accumulation in both normal and transformed cells, and distinguishes the two cases.

He then showed that selectivity in endocytosis can have a similar role in turnover of extracellular proteins, and contributed to understanding how extracellular release of lysosomal enzymes may cause macromolecule degradation characteristic of inflammatory diseases (particularly, arthritis and periodontal disease). His key paper in this area has been cited more than 260 times.

#### **Macrophages in inflammation**

His interest in inflammatory mechanisms brought Dean's attention to macrophages, the quantitatively predominant cell in chronic inflammatory lesions. He was first to show that inflammatory particles not only induce lysosomal enzyme and other secretory processes, but in a coordinate manner also induce procoagulant activities. He demonstrated the interrelated action of lysosomotropic amines on secretory

pathways, endocytosis, vesicular transport within cells, and procoagulant expression on the cell surface, and integrated this field for the first time in an important review, containing several novel ideas. His key paper in this area has been cited more than 250 times.

### **Free Radicals and Protein oxidation**

In 1984, Dean commenced working on free radical-mediated macromolecule damage and degradation, and demonstrated its synergy with enzymatic degradation. He provided the first demonstration of, and key insights into, radical-mediated selective degradation of proteins in assembled supramolecular structures such as cartilage.

This led him to some influential novel contributions to the study of protein oxidation: the recognition of the importance of protein oxidation in lipid environments; and particularly the initiation (with Simon Wolff, a postdoc in his lab) of the study of damage to proteins induced by oxidation of sugars, now known as glycooxidative damage (1987). The key paper has been cited >1000 times, and has initiated a new field. The glycooxidative pathway is referenced by certain colleagues as the Wolff/Dean pathway; and the paper is the primary reference even in fairly recent US reviews (such as R.P. Robertson (2004), *Chronic Oxidative Stress as a Central Mechanism for Glucose Toxicity in Pancreatic Islet Beta Cells in Diabetes*, *J. Biol. Chem.* 279, 42351-42354).

Dean also contributed other important ideas now confirmed and widely developed: the demonstration and chemical definition (1992) of two classes of reactive but long-lived intermediates in protein oxidation (hydroperoxides; and the reducing moiety, DOPA); the definition of free radical species formed by secondary reaction of these two classes of product, and the realisation that they contribute to a multi-step chain of reactions in protein oxidation; and the characterisation of reactions between protein intermediates and other cellular macromolecules, notably DNA. Subsequently he demonstrated that protein oxidation products, in a spectrum of relative abundance characteristic of oxy-radical attack, accumulate hugely in cataractogenesis in the human eye, but not in comparably aged normal eyes. This process may be pathogenetic, and can explain the key consequences of the disease. More recently he initiated studies on possible novel mechanisms by which proteins are antioxidantised, and defined in three important papers in *J Biol Chem* and *FASEB J* a novel mechanism by which cells may initiate the oxidation of extracellular (lipo)proteins, involving a trans-plasma membrane electron transport system.

Many of these contributions to the field have been embodied in the first full scale synthesis of knowledge on protein oxidation, a monograph he coauthored with Dr Mike Davies, another member of the Heart Research Institute (1997; Oxford University Press). Of his key papers in this area, besides that cited more than 600 times, two have each been cited more than 300 times, and one more than 200 times.

### **Oxidation and Atherogenesis**

Since 1989 Dean focused on the possibly causal role of oxidation in atherosclerosis, the main root of heart disease, a leading killer disease. The work continued to emphasise protein oxidation, but also lipid and sterol oxidation. The following are salient novel contributions: the first chemical definition of the action of specified oxygen centred radicals on low density lipoprotein; the identification of conditions of protein oxidation which can cause inhibition of enzymatic protein degradation, both with free proteins, and with proteins in lipoprotein environments (these conditions may in part be responsible for the accumulation of lipoprotein-derived protein and lipid in incipient foam cells, the first hallmark feature of atherogenesis); revealing that macrophages have at least two mechanisms to inhibit LDL oxidation, one involving production of nitric oxide, the other perturbing the availability of transition metals; and the demonstration of a mechanism by which macrophages may initiate the oxidation of low density lipoprotein (LDL), involving transmembrane electron transport to redox active transition metals.

He has also identified the capacity of oxidised sterols, notably 7-ketocholesterol, to inhibit certain mechanisms that normally remove excess sterols from cells (this again may contribute to the formation of foam cells and their accumulation of lipid in atherogenesis). He has gone on to demonstrate some of the biophysical properties of 7-ketocholesterol, and to use mathematical modelling to aid the analysis of subcellular mechanisms which contribute to its inhibitory action. Studies of the role of specialised areas of the plasma membrane, such as rafts and caveolae are ongoing. The work has elucidated novel and counter-intuitive mechanisms by which cholesterol-carriers such as cyclodextrins may cooperate with extracellular phospholipids to accentuate removal of both normal and oxidised sterols from foam cells. This has been the subject of a patent application (2000), since the phenomenon became of pharmaceutical as well as basic

research interest in Dean's group.

Together with his colleague Roland Stocker, Dean undertook the first studies of antioxidant levels in human atherosclerotic tissue, surprisingly revealing coexistence of large proportions of oxidised lipids, with normal levels of several antioxidants, both aqueous and lipophilic. This has led into current research revealing that most antioxidants are also replete within the lipid-protein particles present in vessel walls, which nevertheless are oxidised. A deficiency of Coenzyme Q, important in lipoprotein oxidative defences, may explain this apparent anomaly, which could alternatively or additionally result from kinetic separation between oxidation and antioxidant replenishment. Extending these results, Dean has provided the first demonstration that substantial quantities of oxidised protein products occur in atherosclerotic tissue with a relative abundance pattern suggesting both oxy-radical- and probably non-radical- (hypochlorite) mediated oxidation. Indeed, some of these products accumulate at the earliest stages of atherogenesis, before lipid oxidation products do so, and thus they may be of particular importance. Most recently Dean developed the hypothesis that DOPA, as a primary product of protein oxidation, may be a signal for induction of a range of antioxidant defences in cells. This hypothesis is currently under investigation by genomic and proteomic approaches.

Several of these papers have attracted more than 100 citations.

## **D)Main Pro bono activities**

- 1976-1979 Board Member, Jazz Centre Society Ltd, UK.  
1985-1988 Expert member of the Ciba Foundation's 'Media Resource Service'  
1988-1995 Board Member, International Committee on Proteolysis (ICOP)  
1989-1990 Chair/President of the Australian Atherosclerosis Society  
1980-1992 Chair, London Music Productions Inc.  
1996-2007 Chair and Co-founder, Sydney Free Radical Group, Inc. (supporting research in free radical biochemistry in Sydney, and later Australia at large).  
1992-6 Board member, Sydney Improvised Music Association, Inc.  
1993- CEO and Artistic Director, australYSIS Productions Inc.  
2003-2007 Advisory Board member of infLect, an international journal of multimedia writing based at the University of Canberra  
2004- Ambassador for the Australian Capital Territory, appointed by Chief Minister, Jon Stanhope.  
2004-2006 Deputy Chair of the Board of the Australian and New Zealand Council for the Care of Animals in Research and Teaching  
2006-2007 Member of the Australian Capital Territory Skills Commission  
2005-2008 Elected board member of the Australian Music Centre Ltd.  
2005-2007 Elected Board member of auDA Ltd, administering the .au domain  
2007-2008 Chair, board of the Australian Music Centre Ltd  
2008- Founding Co-Editor, soundsRite, an online multimedia journal of creative sound, writing and image (soundsrite.uws.edu.au).  
2009- Member of the Advisory Council, Australian Music Centre.  
2016- Founder board member of the Australasian Jazz and Improvisation Research Network

I have also supported the following organisations financially or in voluntary capacities not mentioned above (selective list):

Australian Academy of the Humanities; Australian Broadcasting Corporation's Improvisation awards (1999); Australian Computer Music Association; Australian Music Centre; APRA (Australasian Performing Rights Association)/AMC adjudication panel; Australian Youth Orchestra; Baird Institute; Barbican Centre (London); British Music Information Centre; Cinema Reborn; Currency Press; Electronic Music Foundation; International Institute for Critical Studies in Improvisation (Canada); International Society for the study of Symmetry; Jazz Australia; Kinetic Energy Theatre Company; Musicological Society of Australia; New Music Network; Performance Space, Sydney; Sound and Music (UK); Sounds Australian; Sydney Festival; Sydney Film Festival; Sydney Improvised Music Association; What is Music?; and numerous short-term artistic and educational endeavours.

## **E)Referees.**

A list of referees may be obtained, when appropriate, by emailing me.