*CURRICULUM VITAE*

# MICHAEL DYALL-SMITH

2009
www.haloarchaea.com

**BORN:** 25th December 1954, Melbourne, Australia. (*nee* Smith)
Educated at Balwyn High School and Camberwell Grammar School

**TERTIARY EDUCATION:**

1974-1977: Melbourne University. Graduated B.Sc.(Hons) in March, 1978.
1978-1980: Melbourne University, Ph.D., Dec 1982
*Thesis: 'The genes and gene products of rotavirus.'*
*Supervisor: Dr Ian H. Holmes (co-discoverer of the human rotavirus)*

**RESEARCH INTERESTS:**

Archaeal genetics, lateral gene transfer, diversity and taxonomy
Haloarchaeal viruses (haloviruses), diversity, genetics, evolution.
Salt lake microbiology and ecology
Rotavirus vaccine development (1984 - 1988)
Human papillomavirus and skin cancer (1987-1993)

**TEACHING INTERESTS**:

Undergraduate microbiology: a wide scope, including bacteriology, molecular genetics, environmental microbiology and virology
Microbial biotechnology: genomics, metagenomics, bioinformatics; bacteriophages

**EMPLOYMENT**

1981-1984: Australian Postdoctoral Fellow (National Health and Medical Research Council), Melbourne University, Department of Microbiology
1984-1986: Lecturer (limited tenure),
1986-1988: Melbourne University (continuing), Melbourne University
1990-2008: Senior Lecturer, Dept. Microbiology and Immunology, University of Melbourne.
2008-: Visiting Professor, Max-Planck Institute for Biochemistry, Germany.

**AWARDS:**

1974-6: Commonwealth scholarship and several undergraduate awards from the Australian Society for Microbiology.
1976: Exhibition in Microbiology from the University of Melbourne (1976).
1991: The Frank Fenner Research Award, from the Australian Society for Microbiology

**SERVICE TO THE PROFESSION:**

**Editorships of Scientific Journals:**

Saline Systems (2006 - )
Journal of Extremophile Research (1996 - )
FEMS Microbiology Reviews (2002 - 2008)

Aquatic Microbial Ecology (2004 - 2006)

**Study Groups, Committees, Societies**

Member of the ICSP Subcommittee on the Taxonomy of the Halobacteriaceae
Research Associate: Climate Adaptation Science and Policy Initiative (CASPI) (2007)
Associate member of the American Society for Microbiology. (1985 - 2000 )
Member of the Australian Society for Microbiology (MASM) (1980 - 2000).
International Society for Salt Lake Research (2002 - )
Member of the Bacteriophage Ecology Group (http://www.phage.org/)
Member Bacterial Virus Subcommittee of the ICTV. (1999-)
Chair of ARC small grants committee (1997)
ARC small grants committee (1995-1996)
Honorary treasurer of the Victorian branch of ASM (1984-1988)

**Membership of committees (**while at Uni Melb.)

Dept. Honours committee (2004 - 2007). This was a significant position and carried considerable responsibility.
Dept. Safety Committee, Floor warden (2000-3)

**Industrial and Educational Consulting:**

I have been a consultant to the salt manufacturing industry, and to food companies that use solar salt for about 10 years. I have investigated some of the problems relating to the deterioration of salted food products in the environmental project practical classes (eg. 'salt rust', 'black spot'). I have also advised companies who develop educational resources for Australian high schools (eg. www.southernbiological.com), assisting them with pictures and with live strains of haloarchaea.

**SERVICE TO THE COMMUNITY:**

From 2000-2007) I took a leadership role in the Melbourne University Karate club (www.mukc.org.au), instructing daytime classes for students and staff. This was a very rewarding experience bringing people together for self-defence, fitness, and fun.

**OTHER INTERESTS:**

Karate (2nd Dan). Instructor and member of committee, MU Karate Club (1998-2008).
Ju Jutsu (SDS, Martinsried, Germany), 2008-
Member of the University Sports Association Executive committee (2002)
Web site design (particularly for teaching), Unix, programming, bioinformatics.
Egyptology (Rundle Foundation (ACE), Egypt Exploration Soc., AEL)
Eg. http://www.rostau.org.uk/Gardiner/index.htm
http://www.rostau.org.uk/Collier/collier.htm
http://www.rostau.org.uk/weni.ael/index.htm
Digital Photography, Classical guitar.

**B.Sc. (Honours) and B.Biomed. Sci (project) students supervised**

1986 Melissa Holmes (H1)
1987 Helen Trowell (H1, top), Vim Valera (jointly with Ian Holmes) (H2A)
1988 Stewart Nuttall (H1)
1989 Leslie Dawna Tuyau
1990 Christine Deris
[study leave Jun 1991- Jan 92]
1993 Nicholas Lampel, Jeff Boyle (jointly with C. Morrow, VIAS) (H1)
1995 C. Bath (H1), D. Tamvakis (H2A)
1996 Katrina Ngui (H2A)
1997 Liesbeth Schoenborn (jointly with Drs P. Janssen and W. Tee) (H1)
1999. Craig Major, Danielle Walker

2000. Joan Siah, Michael Rizkalla
2001. Guo Zhen (B.Biomed.Sci.)
2002. David Burns (H1)
2003. Tristan McAlpine (H2A), Kate Porter (H1)
2005. Tania Cukalac (H1)
2006. Alison Thorburn (H1)
2007. Dickson Oh (H1)

**Ph.D. and M.Sc. students supervised**

Wee Tee (M.Sc. 1988, thesis using prior publications)
Chris Hum (M.Sc. 1989, jointly with Ian Holmes)
Vim Valera (M.Sc. 1990, jointly with Ian Holmes). Thesis: *Expression of rotavirus VP4 on the surface of E.coli; potential for vaccine development*.
Katrina Erny (Ph.D. 1990) (jointly with K. Fahy, CSIRO). Thesis: *Immunobiology and molecular virology of fowl adenoviruses*.
Melissa Holmes (Ph.D. 1991). Thesis: *Construction of plasmid vectors for halophilic archaeabacteria.*
Helen Trowell (Ph.D 1992). Thesis: *Human papillomaviruses and skin cancer*.
Stewart Nuttall (Ph.D. 1994) Thesis: *Novel bacteriophages of halophilic Archaea*.
Wayne Woods (1992-6)
Carolyn Bath (1996-2004) Ph.D. 2004. Thesis: *The molecular biology of the halophilic archaeal viruses His1 and His2*.
Darrow Wendolowski, (M.Sc. student; Uni. Melb. National Scholarship)
Sen-Lin Tang (Taiwan, UM International scholarship. Ph.D. 2002). Thesis: *A picture of two haloarchaeal viruses: the genomic organization of haloviruses HF1 and HF2*.
Julie Thomas (LaTrobe University; Bendigo campus) 2002-5; Ph.D., 2005. Thesis: *Actinophages in activated sludge.*
David Burns (2003-7). *Cultivation and characterization of the square haloarchaeon Haloquadratum walsbyi and other novel isolates*.
Kate Porter (March 1, 2004 - 7). *Molecular analysis of viruses of extremely halophilic archaea, that replicate via protein priming*
Brendan Russ (feb 10, 2004 - 8 ) *[Halovirus HF2 transcription: submitted June 2009]*

**TEACHING** (2006-7): Undergraduate courses (at Melb. University)

526-321 Molecular Microbiology Techniques Practical
(I was sole coordinator of this unit; 6 weeks, 54 hrs contact time, 60 students)
526-301 Biotechnology 301 (10 lectures): molecular biology, genetics, virology
526-201 Principles of Microbiology (2nd year B.Sc.) (6 lectures), Archaea, phages, biotech. etc.
526-221 Practical Microbiology (2nd year B.Sc.) (4 lectures)

**VISITING SCIENTISTS AND STUDENTS** (to my lab while at Melb. University)

**1995:** Consuelo Ferrer, Alicante, Spain
**1996:** Prof. Michael Danson, Bath, UK
**1997-1998:** Prof. Michael Danson, Bath, UK
Clare Fisher, Bath, UK
Jemima Burden, Bath, UK;
Simone Deutschel, Bremen, Germany (3rd Oct, 1997 - 7th Apr, 1998)
Juan Serrano, Alicante, Spain (3 months, 1997)
**1998-99:**
Prof. Michael Danson, Bath, UK
Dr Raffaele Cannio, Istituto di Scienze dell'Alimentazione, CNR, Italy (Aug, 1999)
Dr. Valery Tarasov (Russia), UNESCO scholarship to come to my lab., Jan-Apr, 1999
Drs Tatsuo Karihara and Andrey Galkin. Institute for Chemical Research, Kyoto

University. March 5, 1999

Dr Peter Lund (Univ. Birmingham, UK) spent 5 months of 1999 in my laboratory while on study leave.

**2000-1:** **Julia Dittman**, Giessen, Germany (6 weeks in the laboratory)

**Prof**. **Ian Molineux**, University of Texas, USA. November.

**2003-4:** **Dr. Yan Boucher**, Dalhousie University, NS, Canada (Jan, 2004)

**2005:** **Prof. Martin Kessel** (NIH), Jan 12th.

**Dr Karla Heidelberg, Mr Jeff Hoffman** (Venter Institute/SorcererII) [http://www.sorcerer2-expedition.org/version1/HTML/main.htm]

**Drs M. Mormile (Univ. Missouri), K. Benison (Central Michigan Univ.)** (and 6 students accompanying them on a salt lake sampling trip).

**2006:** **Ms. Marrit Habets** (University of Groningen, The Netherlands). M.Sc. student. Jan-Aug: 6 months project study. Halovirus cell receptors.

**2007**: **Tetty Marta Linda**, M.Sc., Dept. of Biology, FMIPA, University of Riau, Indonesia. (8 week project in my lab, Nov 1 – Dec 24).

**PICTURES PUBLISHED:**

**Front covers of journals**

Int. J. System. Bacteriol., (vol 49, 1999). Picture of *Har. hispanica* colony.

Journal of Bacteriology (June, 1999, issue 12) Picture of a salt lake, Rottnest Is., WA

**Magazines, newspapers, text books, web sites**

**i.** The Helix, CSIRO publication, Oct/Nov 2002, p 13 (*Dunaliella salina* and salt lake pictures used in an article called: 'Extremophiles - life on the edge'

**ii.** Bio 101:From Biosphere to Molecules, Douglas Fambrough (Johns Hopkins University, USA). Virtual texts, www.ergito.com (Nov 4, 2002). This is a comprehensive e-text of life sciences, edited by B. Lewin. Figure 11.16, 'Environments supporting Archaebacteria.' Picture of a salt lake. 2003.

**iii**. *Naturens Verden* (2003) 5:86 (pp 25-26). Pictures of salt lakes and *Dunaliella*. [Danish scientific nature magazine]

**iv.** Fluorescent microscopy of saltern water in, *Microbiology: An organ systems approach* (ed. M.M. Kelly Cowan), McGraw-Hill, picture 4.30b. (2004)

**v. In late 2004, many websites carried descriptions of our isolation in culture of square haloarchaea.** Some examples are below:

• **Nature News:** http://www.nature.com/news/2004/041011/pf/041011-3_pf.html

• '**Image of the Week** ' (square bacteria). Access Science, McGraw-Hill Encyclopedia of Science & Technology online. 17/10/04.
http://www.accessscience.com/Newsletter/IOW_10_17_04.html

• **BioEd online**: http://www.bioedonline.org/news/news.cfm?art=1293

• **ABC News in Science**:
http://www.abc.net.au/science/news/enviro/EnviroRepublish_1215940.htm

• **Chemistry.org** (American Chemical Society):
http://www.chemistry.org/portal/a/c/s/1/feature_pro.html?DOC=professionals%5Cpro_squarebacteria.html

• **UniNews** (Univ. Melb. News): http://uninews.unimelb.edu.au/articleid_1830.html

**vi.** Botanic Garden and Botanical Museum Berlin-Dahlem website exhibits on halophilic algae (http://www.bgbm.org) [2005]

**vii.** Image of a Victorian salt lake (Pink Lake, Horsham) for use in a multimedia educational program for schools. The Learning Federation, Melbourne. August, 2004.

**viii**. World of Microorganisms, book. Two pictures (*Dunaliella* and *Har. hispanica* colony). 2006

**ix.** Introduction to Geomicrobiology, picture on page 30 of *D. salina.* [Introduction to Geomicrobiology, Kurt Konhauser, Giuseppe Bertola (Blackwell Publishing, 2006) ISBN 0632054549, 9780632054541 [http://books.google.com/books?id=sovVNZCj_3QC&printsec=frontcover#PPA30,M1]

## WEB SITE RESOURCES FOR HALOARCHAEAL RESEARCH

I maintain a web site (from 2008 it is now at www.haloarchaea.com) that provides:

a) A downloadable (pdf) manual of protocols for halobacterial genetics at:
http://www.haloarchaea.com/resources/halohandbook
This is currently at version 7, released in May of this year (2008). It is used in laboratories around the world and is considered a very useful resource.

b) Many pictures of salt lakes and their microbes. Several have been used for educational purposes in books, museums, conference presentations and on other web sites.

c) Instructions for setting up the phylogeny program ARB (ported from linux/unix to OSX by Ben Hines and myself). In 2008, we have successfully ported and packaged the latest version of ARB for use on the latest OS X release, 10.5 (Leopard).

d) Details on the use of the HaloBlue reporter gene, *bgaH,* for studying gene expression in haloarchaea. The gene and its application were pioneered in my laboratory. BgaH is a halophilic enzyme, isolated from Haloferax lucentense, that can hydrolyse chromogenic substrates such as ONPG or X-gal, to allow rapid measurement of promoter activity, and to screen colonies on agar plates. It is used extensively around the world.

**PEER-REVIEWED JOURNAL PUBLICATIONS:**

**1**. **Smith**,M.L., Lazdins, I. and Holmes, I.H. (1980) Coding assignments of double-stranded RNA segments of SA11 rotavirus established by in vitro translation. J.Virol. 33: 976-982. [cited 90 times]

2. **Dyall-Smith**, M.L. and Holmes, I.H. (1981) Gene-coding assignments of rotavirus double-stranded RNA segments 10 and 11. J.Virol. 38:1099-1103. [cited 78 times]

3. **Dyall-Smith**, M.L. and Holmes, I.H. (1981) Comparisons of rotavirus polypeptides by limited proteolysis: close similarity of certain polypeptides of different strains. J.Virol. 40: 720-728. [cited 18 times]

4. **Dyall-Smith**, M.L., Azad, A.A. and Holmes,I.H. (1983) Gene mapping of rotavirus double-stranded RNA segments 7,8,and 9. J.Virol. 46: 317-320. [cited 34 times]

5. **Dyall-Smith**, M.L., Elleman,T.C., Hoyne,P.A., Holmes,I.H. and Azad,A.A. (1983) Cloning and sequence of UK bovine rotavirus gene segment 7: marked sequence homology with simian rotavirus gene segment 8. Nucleic Acids Res. 11: 3351-3362. [cited 32 times]

6. Elleman, T.C., Hoyne, P.A., **Dyall-Smith**, M.L. and Azad, A.A. (1983) Nucleotide sequence of the gene encoding the serotype-specific glycoprotein of UK bovine rotavirus. Nucleic Acids Res. 11: 4689-4701. [cited 67 times]

7. Kantharidis, P., **Dyall-Smith**, M.L. and Holmes, I.H. (1983) Completion of the gene coding assignments of SA11 rotavirus: gene products of segments 7,8, and 9. J.Virol. 48: 330-334. [cited 13 times]

8. Ward,C.W., Elleman, T.C., Azad, A.A. and **Dyall-Smith**, M.L. (1984) Nucleotide sequence of gene segment 9 encoding a nonstructural protein of UK bovine rotavirus. Virology 134: 249-253. [cited 21 times]

9. **Dyall-Smith**, M.L. and Holmes, I.H. (1984) Sequence homology between human and animal rotavirus serotype-specific glycoproteins. Nucleic Acids Res. 12: 3973-3982. [cited 67 times]

10. Ward, C.W., Azad, A.A. and **Dyall-Smith**, M.L. (1985) Structural homologies between RNA gene segments 10 and 11 from UK bovine, simian SA11, and human Wa rotaviruses. Virology 144: 328-326. [cited 30 times]

11. Lazdins, I., Sonza, S., **Dyall-Smith**, M.L., Coulson, B.S. and Holmes, I.H. (1985) Demonstration of an immunodominant neutralization site by analysis of antigenic variants of SA11 rotavirus. J.Virol. 56: 317-319. [cited 42 times]

12. **Dyall-Smith**, M.L., Lazdins, I., Tregear, G.W. and Holmes, I.H. (1986) Location of the major antigenic sites involved in rotavirus serotype-specific neutralization. Proc Natl Acad Sci U S A, 83: 3465-3468. [cited 168 times]

13. Kantharidis, P., **Dyall-Smith**, M.L. and Holmes, I.H. (1987) Marked sequence variation between segment 4 genes of human RV-5 and simian SA11 rotaviruses. Arch.Virol. 93:111-122. [cited 44 times]

14. Brown, E.L., Ffrench, R.A., Gawler, J.M., Jackson, D.J., **Dyall-Smith**, M.L., Anders, E.M., Tregear, G.W., Duncan, L., Underwood,P.A. and White, D.O. (1987) Five distinct epitopes recognized by I-Ad restricted T cell clones within antigenic site E on the influenza virus hemagglutinin. J. Virol. 62: 305-312. [cited 25 times]

15. Caust, J., **Dyall-Smith**, M.L., Lazdins, I., and Holmes, I.H. (1987) Glycosylation, an important modifier of rotavirus antigenicity. Arch. Virol. 96:123-134. [cited 45 times]

16. Mark, A., Trowell, H., **Dyall-Smith**, M.L., and Dyall-Smith, D.J. (1987) Extraction of DNA from formalin-fixed paraffin-embedded pathology specimens and its use in hybridization (histo-blot) assays. Application to the detection of human papillomavirus DNA. Nucleic Acids Res. 15:8565. [cited 14 times]

17. Kantharidis, P., **Dyall-Smith**, M.L., Tregear, G.W. and Holmes, I.H. (1988) Nucleotide sequence of UK bovine rotavirus segment 4: possible host restriction of VP3 genes. Virology 166:308-315. [cited 51 times]

18. Hum, C., **Dyall-Smith**, M.L. and Holmes, I.H. (1988) The VP7 gene of a new G-serotype of human rotavirus is similar to G3 proteins in the antigenic C region. Virology 170:55-61. [cited 37 times]

19. Tee, W., Baird, R., **Dyall-Smith**, M.L. and Dwyer, B. (1988) *Campylobacter cryoaerophila* isolated from a human. J. Clin. Microbiol. 26:2469-2473. [cited 47 times]

20. Shaw, R.D., Mackow, E.R., **Dyall-Smith**, M.L., Lazdins, I., Holmes, I.H., and Greenberg, H.B. (1988) Serotype analysis of VP3 and VP7 neutralization escape mutants of rhesus rotavirus. J. Virol. 62: 3509-3512. [cited 16 times]

21. Nuttall, S.D., Hum, C.P., Holmes, I.H. and **Dyall-Smith**, M.L. (1989) Sequencesof VP9 genes from short and super-short rotavirus strains. Virology 171: 453-457. [cited 14 times]

22. Johnson, M., Misra, R.M., Lardelli, M., Messina, M., Ephraums, C.,Reeves, P., Bolcevik, Z., Noel, J.S., Hum, C.P., Mai H.V., **Dyall-Smith**, M.L., and Holmes, I.H. (1989) Synthesis in *Escherichia coli* of the major glycoprotein of human rotavirus: analysis of the antigenic regions. Gene 84:73-81. [cited 8 times]

23. Huang, J., Nagesha, H.S., **Dyall-Smith**, M.L. and Holmes, I.H. (1989). Comparative sequence analysis of VP7 genes from five Australian porcine rotaviruses. Arch. Virol. 109:173-183. [cited 27 times]

24. Holmes, M.L. and **Dyall-Smith**, M.L. (1990) A plasmid vector with a selectable marker for halophilic archaebacteria. J. Bacteriol. 172:756-761. [cited 56 times]

25. Holmes, M.L., Olsen, G.J. and **Dyall-Smith**, M.L. (1990) The halophilic archaebacteria *Hb.lacusprofundi* and *Hb.saccharovorum* are closely related: 16S rRNA sequence comparison. Nucleic Acids Research 18:4607. [cited 7 times]

26. Trowell, H.E., **Dyall-Smith**, M.L. and Dyall-Smith, D.J. (1990) Human papillomavirus associated with keratoacanthomas in Australian patients. Arch. Dermatol. 126: 1654 [cited 18 times]

27. Trowell, H.E., **Dyall-Smith**, D.J. and Dyall-Smith, M.L. (1990) Failure to detect human papillomavirus in solar keratoses of Australian patients. Int. J. Dermatol. 30:225. [cited 3 times]

28. Reeves, P., Johnson, M., Holmes, I.H. and **Dyall-Smith**, M.L. (1990) Expression of rotavirus VP7 antigens in fusions with bacterial proteins. Res. Microbiol. 141:1019-1025. [cited 5 times]

29. Dyall-Smith, D.J., Trowell, H. and **Dyall-Smith**, M.L. (1991) Benign human papillomavirus infection in renal transplant recipients. Int. J. Dermatol. 30:785-789. [cited 21 times]

30. Holmes, M.L. and **Dyall-Smith**, M.L. (1991) Mutations in DNA gyrase result in novobiocin resistance in halophilic archaebacteria. J Bacteriol 173:642-648. [cited 89 times].

31. Dyall-Smith, D.J., Trowell, H., Mark, A., and **Dyall-Smith**, M.L. (1991) Cutaneous squamous cell carcinomas in renal transplant recipients: a clinical and molecular biological study. J. Dermatol.Sci. 2:139-146. [cited 33 times]

32. Holmes, M.L., Nuttall, S.D. and **Dyall-Smith**, M.L. (1991) Construction and use of halobacterial shuttle vectors and further studies on Haloferax DNA gyrase. J. Bacteriol. 173:3807-3813. [cited 60 times]

33. Kamekura, M., Seno, Y., Holmes, M.L. and **Dyall-Smith**, M.L.(1992) Molecular cloning, sequencing, and expression of the gene for a halophilic alkaline serine protease, halolysin, from an unidentified halophilic archaea strain 172 P1. J.Bacteriol.174:736-742. [cited 33 times]

34. Nuttall, S.D. and **Dyall-Smith**, M.L. (1993) Ch2, a novel halophilic archaeon from an Australian solar saltern. Int. J. Syst. Bact. 43:729-734. [cited 13 times]

35. Nuttall, S.D. and **Dyall-Smith**, M.L. (1993) HF1 and HF2: Novel Bacteriophages of Halophilic Archaea. Virology 197:678-684. [cited 23 times]

36. Forterre, P., Bergerat, A., Gadelle, D., Elie, C., Lottspeich, F., Confalonieri, F., Duguet, M., Holmes, M., and M. **Dyall-Smith** (1994) Evolution of DNA topoisomerases and DNA polymerases - A perspective from archaea. System. and Appl. Microbiol. 16: 746-758. [cited 15 times]

37. **Dyall-Smith**, M.L. and Doolittle, W.F. (1994) Construction of composite transposons for halophilic archaebacteria (Archaea). Can. J. Microbiol.40:922-929 [cited 15 times]

38. Holmes, M.L., Pfeifer, F. and **Dyall-Smith**, M.L. (1994) Improved shuttle vectors for *Haloferax volcanii* including a dual-resistance plasmid. Gene 146:117-121. [cited 31 times]

39. Holmes, M.L. and **Dyall-Smith**, M.L. (1995) Analysis of the halobacterial plasmid pHK2 minimal replicon. Gene 153:117-121. [cited 15 times]

40. Lazdins, I., Coulson, B.S., Kirkwood, C., **Dyall-Smith**, M.L., Masendycz, P.J., Sonza, S., and Holmes, I.H. (1995). Rotavirus antigenicity is affected by the genetic context and glycosylation of VP7. Virology 209: 80-89. [cited 38 times]

41. Nuttall, S.D. and **Dyall-Smith**, M.L. (1995) Halophage HF2: genome organisation and replication strategy. J. Virol. 69:2322-2327. [cited 13 times]

42. Kamekura, M. and **Dyall-Smith**, ML. (1995) Taxonomy of the family *Halobacteriaceae* and the description of two new genera, *Halorubrobacterium* and *Natrialba*.. J. Gen. Appl. Microbiol. 41: 333-350. [cited 63 times]

43. Kamekura, M., Seno, Y. and **Dyall-Smith**, M. L. (1996) Halolysin R4, a serine protease from the halophilic archaeon Haloferax mediterranei; gene cloning, expression, and structural studies. Biochim. Biophys. Acta 1294: 159 - 167. [cited 19 times]

44. K.A. Jolley, E. Rapaport, D. W. Hough, M. J. Danson, W. G. Woods And M. L. **Dyall-Smith**. (1996). Dihydrolipoamide dehydrogenase from the halophilic Archaeon, *Haloferax volcanii* : homologous over-expression of the cloned gene. J. Bacteriol. 178: 3044 - 3048. [cited 22 times]

45. Woods, W., and M. **Dyall-Smith**. 1996. Revised nucleotide sequence of an archaeal insertion element (ISH28) reveals a putative transposase gene. Gene. 182:219-220.

46. Tee, W., **Dyall-Smith**, M.L., Woods, W.G. and Eisen, D. Probable new species of *Desulfovibrio* isolated from a pyogenic liver abscess. (1996) J.Clin.Microbiol. 34:1760-1764. [cited 46 times]

47. Holmes, M.L., Scopes, R., Englert, C., Pfeifer, F., Moritz, R., Simpson, R. and **Dyall-Smith**, M.L. (1997) Purification of an extremely halophilic b-galactosidase from *Haloferax alicantei*. Biochim. Biophys. Acta (Protein Structure and Molecular Enzymology) 1337: 276-286. [cited 37 times]

48. Woods, W. and **Dyall-Smith**, M.L. Construction and analysis of recombination-deficient (*radA*) mutant of *Haloferax volcanii*. (1997) Molec. Microbiol. 23: 791-797. [cited 33 times]

49. Kamekura, M., **Dyall-Smith**, M.L., Upasani, V., Ventosa, A. and Kates, M. (1997). Diversity of alkaliphilic halobacteria - proposals for transfer of *Natronobacterium vacuolatum*, *Natronobacterium magadii*, and *Natronobacterium pharaonis* to *Halorubrum*, *Natrialba*, and *Natronomonas Gen. Nov*, respectively, as *Halorubrum vacuolatum comb nov*, *Natrialba magadii comb nov*, and *Natronomonas pharaonis comb nov*, respectively. Int. J. Syst. Bacteriol. 47: 853-857. [cited 53 times]

50. Gerike U. Hough DW. Russell NJ. **Dyall-Smith** ML. Danson MJ. (1998) Citrate synthase and 2-methylcitrate synthase - structural, functional and evolutionary relationships. Microbiology. 144:929-935. [cited 21 times]

51. Bath, C., **Dyall-Smith**, ML. (1998) His1, an archaeal virus of the Fuselloviridae family that infects *Haloarcula hispanica*. J. Virol.. 72:9392-9395. [cited 30 times]

52. Tee W. Leder K. Karroum E. **Dyall-Smith** M. (1998) *Flexispira rappini* bacteremia in a child with pneumonia. J. Clin. Microbiol. 36:1679-1682. [cited 32 times]

53. Tee W. Korman TM. Waters MJ. Macphee A. Jenney A. Joyce L. **Dyall-Smith** ML. (1998) Three cases of *Anaerobiospirillum succiniciproducens* bacteremia confirmed by 16S rRNA gene sequencing. J. Clin. Microbiol. 36:1209-1213. [cited 9 times]

54. Ventosa A, Gutierrez MC, Kamekura M, **Dyall-Smith** ML (1999) Proposal to transfer *Halococcus turkmenicus, Halobacterium trapanicum* JCM 9743 and strain GSL-11 to *Haloterrigena turkmenica gen. nov., comb. nov*. Int J Syst Bacteriol 49:131-136. [cited 29 times]

55. Tarasov, V.Y., Pyatibratov, M.G., Tang, S-L., **Dyall-Smith**, M., and Fedorov, O.V. (1999) Role of flagellins from A and B loci in flagella formation of *Halobacterium salinarum*. Molec. Microbiol. 35:69-78. [cited 20 times]

56. Woods, WG., Ngui, K, and **Dyall-Smith**, ML. (1999) An Improved transposon for the halophilic archaeon *Haloarcula hispanica*. J. Bacteriol. 181:7140-7142. [cited 4 times]

57. Holmes, M.L. and **Dyall-Smith**, M.L. (2000) Sequence and expression of a halobacterial beta-galactosidase gene. Molecular Microbiology 36:114-122. [cited 27 times]

58. Nuttall, S.D., Deutschel, S.E., Irving, R.A., Serrano-Gomicia, J.A. and **Dyall-Smith**, M.L. (2000) The ShBle resistance determinant is expressed in *Haloferax volcanii* and confers resistance to bleomycin. Bioch. J. 346:251-254. [cited 6 times]

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64. Schoenborn, L., Tee, W., **Dyall-Smith**, M.L., Abdollahi, H. and Janssen, P. (2001) A member of the delta-proteobacteria from a pyogenic liver abscess is a typical sulfate-reducer of the genus *Desulfovibrio*. J. Clin. Microbiol. 39:787-790. [cited 8 times]

65. Tee, W., Peter Midolo, Peter H. Janssen, Trevor Kerr and Michael L. **Dyall-Smith**. 2001. Bacteremia due to *Leptotrichia trevisanii* sp. nov. Eur. J. Clin. Microbiol. Infect. Dis. 20 (11): 765-769 [cited 8 times]

66. Tee, W., Janet Montgomery and Michael **Dyall-Smith**. 2001. Bacteremia due to a *Helicobacter pullorum*-like organism. Clinical Infectious Diseases 33:1789-1791. [cited 11 times]

67. Tang, S., Nuttall, S., Ngui, K., Fisher, C., Lopez, P. and **Dyall-Smith**, M. 2002. HF2: a double-stranded DNA tailed haloarchaeal virus with a mosaic genome. Mol Microbiol 44:283-296. [cited 24 times]

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69. **Dyall-Smith**, M., S. L. Tang, and C. Bath. 2003. Haloarchaeal viruses: how diverse are they? Res. Microbiol. 154:309-313. [cited 23 times]

70. Tang, S., Nuttall and **Dyall-Smith**, M. 2004. Haloviruses HF1 and HF2: evidence for a recent and large recombination event. J. Bacteriol. 186: 2810-2817. [cited 11 times]

71. Burns, D. G., Camakaris, H. M., Janssen, P. H., and **Dyall-Smith**, M. L. (2004) Combined use of cultivation-dependent and cultivation-independent methods indicates that members of most haloarchaeal groups in an Australian crystalliser pond are cultivable. Appl Environ Microbiol. 2004 Sep;70(9):5258-65 [cited 22 times]

72. Burns, D. G., Camakaris, H. M., Janssen, P. H., and **Dyall-Smith**, M. L. (2004) Cultivation of Walsby's square haloarchaeon. FEMS Microbiol Lett. 2004 Sep 15;238(2):469-73 (online Aug 21, 2004) [cited 21 times]
[**Faculty of 1000**: evaluations for Burns DG et al FEMS Microbiol Lett 2004 Sep 15 238 (2) :469-73 http://www.f1000biology.com/article/15358434/evaluation]
[**Nature News**: http://www.nature.com/news/2004/041011/full/041011-3.html]

73. Porter, K., Kukkaro, P., Bamford, J.K.H., Bath, C., Kivelä, H.M., **Dyall-Smith**, M.L. and Bamford, D.H. (2005) SH1: a novel, spherical halovirus isolated from an Australian hypersaline lake. Virology 335: 22-33. [cited 18 times]

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76. **Dyall-Smith**, ML and Oren, A. (2006) Lake Chaka culture-dependent study of microbial diversity – comments on the paper by Jiang *et al*., Appl. Environ. Microbiol. 72:7427.

77. Burns, D. G., P. H. Janssen, T. Itoh, M. Kamekura, Z., Li, G. Jensen, F. E. Rodríguez-Valera, H. Bolhuis and M. L. **Dyall-Smith** (2007) *Haloquadratum walsbyi* gen. nov., sp. nov., the square haloarchaeon of Walsby, isolated from saltern crystallizers in Australia and Spain. Int J Syst Evol Microbiol. 57:387-392. 78. [cited 6 times]

78. Kate Porter, Brendan E. Russ and Michael L. **Dyall-Smith** (2007) Virus – host interactions in salt lakes. Curr Opin. Microbiol. 10:418-424.

79. Kate Porter, Brendan E. Russ, Yang Ji, Michael L. **Dyall-Smith**. (2008) The transcription program of the protein-primed halovirus SH1. Microbiology 154: 3599 – 3608

80. Porter, K and **Dyall-Smith**, ML (2008) Transfection of haloarchaea by the DNAs of spindle and round haloviruses and the use of transposon mutagenesis to identify non-essential regions. Mol Microbiol **70:**1236-45.

81. David G. Burns, Peter H. Janssen, Takashi Itoh, Masahiro Kamekura, and Mike L. **Dyall-Smith**. *Natronomonas moolapensis* sp. nov., two non-alkaliphilic isolates recovered from a solar saltern crystallizer pond. IJSEM (2009) *accepted for publication.*

82. David G. Burns, Peter H. Janssen, Takashi Itoh, Masahiro Kamekura, Akinobu Echigo and Mike L. **Dyall-Smith**. *Halonotius pteroides* gen. nov., sp. nov., an extremely halophilic archaeon recovered from a saltern crystallizer in southern Australia. IJSEM (2009) (*accepted*)

**Submitted:**

Kenneth M. Stedman, Kate Porter, Mike L. **Dyall-Smith**. The isolation of viruses infecting *Archaea.* (2009) Limnology and Oceanography: Methods. (*passed review, awaiting final acceptance*)

**BOOK CHAPTERS (Peer-Reviewed)**

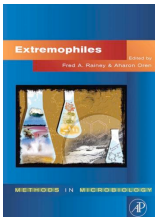
1. Danson, M.J., K.A. Jolley, D.G. Maddocks, M.L. **Dyall-Smith**, D.W. Hough. (1998) New insights into the molecular enzymology of pyruvate metabolism in the halophilic Archaea . Chpt. 19, p239-248. In A. Oren (Ed.): Microbiology and Biogeochemistry of hypersaline environments., CRC Press, Boca Raton.

2. Holmes, M. and **Dyall-Smith**, M. (1998) Cloning, sequence and heterolgous expression of *bgaH*, a beta-galactosidase gene of "*Haloferax alicantei*". Chpt. 21, p265-271. In A. Oren (Ed.): Microbiology and Biogeochemistry of hypersaline environments., CRC Press, Boca Raton.

3. Danson, M.J., Morgan, D.J., Jeffries, A.C., Hough, D.W. and **Dyall-Smith**, M.L. (2003). Multienzyme complexes in the Archaea: Predictions from genome sequences. *In*, Halophilic Microorganisms, A. Ventosa (ed.), chpt 11, p177-191. Springer, Berlin.

4. Tang, S-L, Fisher, C., Ngui, K., Nuttall, S.D. and **Dyall-Smith**, M.L. (2003). Genome sequences of the head-tail haloviruses HF1 and HF2. *In*, Halophilic Microorganisms, A. Ventosa (ed.), chpt 17, p255-262. Springer, Berlin.

5. M. L. **Dyall-Smith**, D. G. Burns, H. M. Camakaris, P. H. Janssen, B. E. Russ and K. Porter. Haloviruses and their hosts. In, Adaptation To Life at High Salt Concentrations in Archaea, Bacteria, and Eukarya. Series: Cellular Origin, Life in Extreme Habitats and Astrobiology , Vol. 9. (ed. Nina Gunde-Cimerman, Aharon Oren and Ana Plemenitaš), Springer-Dordrecht. Section VII: Viruses, p555-563 (2005). ISBN: 978-1-4020-3632-3.




6. Burns, DG and **Dyall-Smith**, ML. Cultivation of Haloarchaea. In, Extremophiles (series, Methods in Microbiology) Vol 35, p 535-552. (ed. A. Oren, F. Rainey). Academic Press / Elsevier (2006). ISBN 0125215363

7. Porter, K and **Dyall-Smith**, ML. Methods for the isolation and study of viruses of halophilic microorganisms. In, Extremophiles (series, Methods in Microbiology). Academic Press / Elsevier. Vol 35, p 681- 702. (2006). ISBN 0125215363

8. Porter, K, Russ, B., Thorburn, A. and **Dyall-Smith**, M.L. Viruses infecting *Euryarchaeota*. *In*, Encyclopedia of Virology (3rd ed.). Elsevier. (*in press*, 2007)

**PUBLICATIONS FROM CONFERENCE PRESENTATIONS**

1. **Dyall-Smith**,M.L., Lazdins,I., Sonza,S., Tregear,G.W. and Holmes,I.H. (1985) Antigenic determinants coded by rotavirus genes. In, "Infectious diarrhoea in the young" S.Tzipori et al., eds. Elsevier.

2. **Dyall-Smith**, M.L., Holmes, M.L., Kamekura, M., and Doolittle, W.F. (1992) Halobacterial vector development and the opportunities for gene expression and analysis. In, Structures and Functions of Retinal Proteins, Ed. J.L. Rigaud. Coll. INSERM/J. Libby Eurotext Ltd. Vol. 221, pp. 89-92.

3. Forterre, P., A. Bergerat., D. Gadelle, B. Labedan, M. Holmes, and M. **Dyall-Smith**. 1993. Archaebacteria and evolution of type II DNA topoisomerases. Biochem. and

Molec. Biol. Supp117C: 170.

**Unrefereed publications, Public presentations, Meeting reports, Newspaper Articles, Radio Interviews, Web Reports/News, etc.**

1. **Dyall-Smith**,M.L. (1986) What are archaebacteria? Aust. Microbiologist 7:378-380.

2. **Dyall-Smith**, M.L. and Dyall-Smith, D.J. (1988) Histoblots: new life for old tissues. Molecular Biology Reports 6:1-2.

3. Holmes, I. and **Dyall-Smith**, M. (1988) Intracellular development of rotavirus. Journal of the Electron Microscopy Society of Thailand. 2:2-7.

4. Herald Sun, Thursday Oct. 19, 2000, p26. Cited as part of an **interview** with Vanessa Williams on halobacteria surviving in 250 million year old salt.

5. **Interview** with Peter Clarke, 3LO, evening show, Thursday 26th October, 2000, on bacteria isolated from 250 Myr salt deposits.

6. **Dyall-Smith**, ML and Danson, M. (2001) Life of Brine: halophiles in 2001. (meeting report of the 'Halophiles 2001' conference). Genome Biology 2(12):reports 4033.1-4033.3 [on-line at: http://genomebiology.com/2001/2/12/reports/4033].

7. The Halohandbook: Protocols for halobacterial genetics. (2000-) Compiled and edited by M. **Dyall-Smith**. Available on-line at: www.microbiol.unimelb.edu.au/staff/mds/HaloHandbook

8. Killer viruses curb strange organisms in Australia's pink lakes. M. **Dyall-Smith** and Sen-Lin Tang. *Uni News*. May 20, Vol 11, No 11, p5, 2002. [University of Melbourne News broadsheet]. The same article was reprinted in the *Melbourne Research Annual Review* published by the University of Melbourne, 2002.

9. Killer viruses curb strange organisms in Australia's pink lakes. M. **Dyall-Smith**. University of the Third Age, Hawthorn. May 31, 2003. Invited by Mr. Derek Readman Coordinator, Saturday Series, University of the Third Age, Hawthorn.

10. Submission to Senate Inquiry 'Inquiry into the coordination of the science to combat the nation's salinity problem. Submission #77, 29 Nov, 2003
http://www.aph.gov.au/house/committee/scin/salinity/

11. Square bacteria grown in the laboratory. *Uni News*. Thur 14 October, 2004. http://uninews.unimelb.edu.au/articleid_1855.html

12. Square bacteria grown in the lab for the first time. *Nature News*. October 11, 2004 http://www.nature.com/news/2004/041011/full/041011-3.html

13. Square microbe grown in the laboratory. ABC News in Science. Fri 8 October, 2004 http://www.abc.net.au/science/news/stories/s1215940.htm

14. ABC science Online (Sept, 2007). Interview for an expert opinion on a PNAS article on survival of permafrost bacteria. See: http://www.abc.net.au/science/news/stories/2007/2014066.htm?enviro [this was

syndicated/reported to Discovery Channel:
http://dsc.discovery.com/news/2007/08/28/bugdna_pla_02.html?category=earth&guid=20070828093030]

## PATENTS (COMPLETE SPECIFICATIONS) LODGED

1. WO/1985/005122) ROTAVIRUS. University of Melbourne (I.Holmes and M. Dyall-Smith) Aust. Pat. No. 42970/85 (lodged worldwide). Deed of letters patent no. 591058, 29th Apr., 1985. DNA sequence and amino acid sequence encoding the human rotavirus major outer capsid glycoprotein. Inventors: I.H.Holmes, M.L.Dyall-Smith. United States patent no. 5,395,759 (valid from 7/3/95).

*Publication No.: WO/1985/005122*
*Publication Date: 21.11.1985 Priority Data: PG 4733 27.04.1984 AU*
*International Application No. PCT/AU1985/000096*
*International Filing Date: 29.04.1985*

2. (WO/1989/001514) MOLECULAR CLONING OF HUMAN ROTAVIRUS SEROTYPE 4 GENE 9 ENCODING VP7, THE MAJOR OUTER CAPSID NEUTRALISATION SPECIFIC GLYCOPROTEIN AND EXPRESSION OF VP7 AND FRAGMENTS THEREOF FOR USE IN A VACCINE. Universities of Melbourne and Sydney (I.Holmes, M.Dyall-Smith, C.Hum, P. Reeves and M. Johnson). Australian Letters Patent No. 621065, 10th Aug., 1988. Lodged worldwide.

*License fees totaling about $40,000.*
*Publication No.: WO/1989/001514*
*Publication Date: 23.02.1989 Priority: PI 3643 100.8.1987 AU*
*International Application No. PCT/AU1988/000298*
*International Filing Date: 10.08.1988*

## PRESENTATIONS AT AUSTRALIAN UNIVERSITIES

**1999** Seminar. Life of Brine. Genetics Department, University of Melbourne

**2000** Seminar. Archaeal viruses. How different are they? Microbiology Dept., LaTrobe University

**2004** i) Extremely halophilic archaea and the unknown microbial diversity in our vast salt lakes. Dept. Microbiology, 25 August, LaTrobe University, Bundoora.

ii) Extremely halophilic Archaea (haloarchaea) and their viruses. 4 October, Dept. Microbiology and Immunology, University of Melbourne.

iii) Participant at a mini-symposium "Environmental Microbiology in Victoria". Nov 5, 2004, La Trobe University, Bendigo campus, Victoria. Oral presentations were by my students (D. Burns and K. Porter):

D. Burns, 'Cultivation of Walsby's square haloarchaeon.'
K. Porter, 'Haloviruses in salt lakes'

**2007** Seminar: 'Archaea: weird cells and strange viruses.' Genetics Dept., University of Melbourne. April 17th, 12.30 pm.

**PRESENTATIONS AT NATIONAL AND INTERNATIONAL SYMPOSIA AND CONFERENCES**

1. **Dyall-Smith**,M.L. and Holmes,I.H. (1984) Gene sequence of the serotype-specific glycoprotein of a type 2 human rotavirus, and its use in identifying antigenic regions. Presented at the Sixth International Congress of Virology, September 1-7, Sendai, Japan.

2. **Dyall-Smith**, M.L., Lazdins, I. and Holmes, I.H. (1988) Following antibodies to epitopes. Antigenic determinants of rotavirus glycoprotein VP7. Presented at the 1988 meeting of the Australian Society for Microbiology, May 9-13, Canberra.

3. Holmes, M.H. and **Dyall-Smith**, M.L. (1988) A shuttle vector for Haloferax spp. Presented at the `International Conference on the molecular biology of archaebacteria' University of Victoria, Canada, 31/7/88-5/8/88.

4. Holmes, M.L. and **Dyall-Smith**, M.L. (1989). Shuttle constructs for plasmid transfer in Haloferax. American Society for Microbiology Annual Scientific Meeting, New Orleans.

5. **Dyall-Smith**, M.L. and Holmes, M.L. (1989). Resistance markers for cloning vectors in halobacteria. Presented at the International Conference on General and Applied Aspects of Halophilic Microorganisms, held in Alicante, Spain, 17-22 Sept.

6. Trowell, H Dyall-Smith, M.L. and **Dyall-Smith**, D.J. (1990) Is HPV involved in cutaneous SCC? Presented at the International Papillomavirus Workshop, Heidelberg, Germany.

7. Holmes, M.L., Kamekura, M. and **Dyall-Smith**, M.L. (1991) The development of eubacterial-plasmid shuttle vectors and the cloning of a halobacterial extracellular protease as a first application. Australian Society for Microbiology, Annual Scientific Meeting, Gold Coast, June 30-July 5.

8. Holmes, M.L., C. Englert, M.L. **Dyall-Smith**, and F. Pfeifer. 1992. Plasmid vectors for use in halophilic archaea. Danish Society for Molecular Biology, annual meeting. Copenhagen, Denmark.

9. Holmes, M.L., M.L. **Dyall-Smith**, and F. Pfeifer. 1992. Construction of plasmid vectors for halophilic archaea. Society for General and Applied Microbiology, annual meeting. Düsseldorf, Germany.

10. Holmes, M.L. and **Dyall-Smith**, M.L. (1993) Reporter genes for archaeal plasmids. Australian Society for Microbiology, Annual Scientific Meeting, Perth, Sept.27 Oct.1.

11. Kamekura, M., M.L. Holmes and M.L. **Dyall-Smith**. A gene coding for halolysin R4, a serine protease from an extreme halophile *Haloferax mediterranei*, and expression with a vector pMDS30. The 7th meeting of the Japan Association for Archaebacteriology, 1994.

12. Woods, W.G. and **Dyall-Smith**, M.L. (1994) Transposons for the generation and analysis of insertional mutants of halophilic Archaea. Australian Society for Microbiology, Annual Scientific Meeting, Melbourne, 26-30 Sept.

13. Holmes, M.L., C. Englert, R. Scopes, P. Hansen, F. Pfeifer, R. Moritz, R. Simpson,

and M. **Dyall-Smith**. 1995. An archaeal ß-galactosidase with extreme halophilicity. Lorne Conference on protein structure and function.
Feb.6-10, Lorne, Australia.

14. Holmes, M.L., R. Scopes, R. Moritz, R. Simpson, and M. **Dyall-Smith**. 1995. *Haloferax alicantei* beta-galactosidase as a reporter gene for halophilic archaea. Federation of Asian Oceanian Biochemists and Molecular Biologists. Sydney, Australia.

15. Kamekura, M. and M.L. **Dyall-Smith**. 1995. Manipulation of the gene encoding halolysing R4 and alteration of enzyme activity. The 8th meeting of Japan Association for Archaebacteriology, Sendai.

16. Bath, C. and M. **Dyall-Smith**. 1996. Two new archaeal bacteriophages (His1 and His2) of Haloarcula hispanica: new members of the Fusellovifidae family. Aust. Soc. Biochem. and Mol. Biol. annual meeting, Canberra, Sept. 29, 1996. [POS-121-01]

17. **Dyall-Smith**, M. Oral presentation at 'Microbiology and Biogeochemistry of hypersaline environments.' June 22-26, 1997, Jerusalem, Israel.

18. Hough, D., Maddocks, D.G., **Dyall-Smith**, M.L. and Danson, M.J. New Insights into the Molecular Enzymology of Pyruvate Metabolism in the Halophilic Archaea. (Poster) Extremophiles '98, Japan.

19. C. Bath, Sen-Lin Tang, Katrina Ngui and Mike **Dyall-Smith**, 1999, Molecular Biology of New Haloarchaeal viruses, X I th International Congress of Virology, p15

20. Tang, S-L., Fisher, C., Ngui, K., Nuttall, S.D. and **Dyall-Smith**, M.L. (2000). HF2, a 77kb dsDNA virus of haloarchaea. Poster session P126. 3rd International Congress on Extremophiles, Hamburg, Germany. Sept 3-7, 2000.

21. Sen-Lin Tang, Stewart Nuttall, Katrina Ngui, Clare Fischer and **Mike Dyall-Smith.** The genome sequences of two closely related haloviruses (HF1, HF2) show a remarkable recombination pattern. Gordon Research conference, USA. Archaea; ecology, metabolism and molecular biology. Proctor Academy, 5-10 August, 2001.

22. Multienzyme Complexes in the Archaea: Predictions from Genome Sequences. Danson, M.J., Morgan, D.J., Hough, D.W. and **Dyall-Smith**, M.L. Gordon Research conference, USA. Archaea; ecology, metabolism and molecular biology. Proctor Academy, 5-10 August, 2001.

23. The viruses and microbes of Australian salt lakes and salterns. **Dyall-Smith**, M.L., Burns, D.G., Porter, K., Bath, C.R. & Russ, B. 9th International Society for Salt Lake Research (ISSLR) Conference, Curtin University, Perth, Australia. September 26-30, 2005.

**<u>Invitations</u> to conferences, seminars & symposia**

1. **Dyall-Smith**, M. *Plasmid constructions and DNA gyrase genes*. 1991. Canadian Institute for Advanced Research, Program in Evolutionary Biology, Annual Meeting. Quebec, August 10 -13.

2. **Dyall-Smith**, M. *Halobacterial vector development and the opportunities for gene expression and analysis*. Vth International Conference of Retinal Proteins, Dourdan, France, June 28-July 3, 1992.

3. **Dyall-Smith**, M. Arch*aebacteria and molecular genetics. A progress report from the third kingdom*. Fenner Lecture. Australian Society for Microbiology Annual Scientific Meeting, Sydney, 13-17 July, 1992. Symposium S34.1.

4. **Dyall-Smith**, M.L. Presentation of recent research, and chairperson of the session 'Archaea as just prokaryotes'. The Canadian Institute for Advanced Research, Program in Evolutionary Biology, Annual Meeting, Lunenburg, Nova Scotia, Canada, 1992.

5. **Dyall-Smith**, M. *A tale of two phages*. International Workshop on Molecular Biology and Biotechnology of Extremophiles and Archaebacteria, Riken Institute, Tokyo, Japan, August 1-6, 1993.

6. **Dyall-Smith,** M.L. and Holmes, M.L.. 1995. *A halobacterial beta-galactosidase gene for use as a reporter*. UKEN '95 (3rd meeting of the UK Extremophile Network), University College, London, Sept 30 - Oct 1.

7. Holmes, M.L., Scopes, R.K., Moritz, R.L., Simpson, R.J., Englert, C., Pfeifer, F., **Dyall-Smith**, M.L. *Isolation of a beta-galactosidase gene for use in halobacteial genetics*. Poster Session C, 55. Gordon Research Conference on Archaea:Ecology, metabolism and molecular biology, July 14-18, 1996. Plymouth State, New Hampshire, USA.

8. Holmes, M. and **Dyall-Smith,** M. *Cloning, sequence and heterologous expression of bgaH, a beta-galactosidase gene of Haloferax alicantei*. Microbiology and Biogeochemistry of hypersaline environments. June 22-26, 1997, Jerusalem, Israel.

9. **Dyall-Smith,** M. *Molecular biology of new haloarchaeal viruses*. 11th International Congress of Virology, Sydney, Australia, 9-13th August, 1999. Workshop 59, VW59.04.

10. **Dyall-Smith,** M. *Halobacterial viruses isolated from Australian hypersaline waters*. Gordon Conference "Archaea: ecology, metabolism and molecular biology." Andover, New Hampshire, USA, August 1-6, 1999.

11. **Dyall-Smith,** M., Bath, C., and Tang, S-L. Fondation des Treilles. *'Origins, diversity and evolution of viruses'*. July 24-30, 2000. France. Haloarchaeal viruses.

12. Tang, S-L. Fisher, C., Ngui, K., Nuttall, S. D., and **Dyall-Smith**, M.L. *Genome sequences of the head-tail haloviruses HF1 and HF2*. Halophiles 2001 - International conference on halophilic microorganisms, Seville, Spain, 23-27 Sept.

13. Invited to **chair** two sessions at the Australian Society for Microbiology, Annual Scientific Meeting, Melbourne, Sept 29 - Oct 3, 2002. a) PP20, More Microbial Ecology. Tues 1st Oct. b) SY17, Physiology and Ecology SIG. Microbial and Molecular Ecology. Wed 2nd Oct.

14. Invited to **chair** the session: "*Genetic systems, viruses and Archaeoglobus.*" at the Gordon Research conference, USA. Archaea; ecology, metabolism and molecular biology. Proctor Academy, 3-8 August, 2003.

15. Invited speaker at 'Halophiles 2004', Slovenia, Sept 4-8, 2004. Talk entitled, '*Haloviruses and their hosts'*. [included the first public presentation of the isolation of the square haloarchaeon of Walsby, *Hqr. walsbyi*]

16. Invited to **organise**, **chair** and **speak** at the session, 'Halophilic microorganisms' at the Aust. Soc. Micro. (ASM) annual scientific congress, Canberra, 2005. My topic: *Salt Lake Microbiology: the weird world of haloarchaea and their viruses*. SY38/PP38.02, Thur 29th Sept, 2005. My

students, David Burns and Kate Porter, gave oral presentations at two other sessions at this conference: PP02 and PP03.

17. Invited **chair**. 'Australian Frontiers of Science, 2005'. Australian Academy of Sciences. Session 5: *Sex and drugs – the bad habits of bacteria*. 12-13 April, 2005. WEHI, Melbourne

18. Invited speaker at 'Archaea: the first generation', Munich, June 2-4, 2005. Talk: '*Haloarchaeal viruses'*.

19. Member of the organising committee and invited speaker at Extremophiles, 2006, Brest, France. Oral presentation: Title: *Haloviruses; spindles and spheres.*

20. Invited to attend and speak at a Les Treilles meeting, 'The evolution, diversity and ecology of the dark matter of the biosphere: bacteriophages', in France, March 26-30, 2007. (attendance was by invitation only. There were only 22 attendees). I gave two talks:
    i. 'What does it mean when the gene for the major capsid protein of a lytic halovirus has closely similar sequences in the genomes of haloarchaea?'
    ii. Halovirus diversity and molecular biology: a prelude to metagenomic surveys.

21. Invited seminar speaker: CSIRO, Melbourne, Parkville division (CMHT), 30th Sept., 2007. Title: *Extremophiles in Australian salt lakes: our unexplored biodiversity.* (invited by Stewart Nuttall).

22. Invited speaker at the ISME conference, Cairns, Australia, August 18, 2008. Title: *Wild and weird haloviruses of Archaea*. (Session PS04: Viral Ecology. Convenors: Forest Rohwer and Curtis Suttle).

23. Invited seminar speaker. Darmstadt TU. April 24, 2008. Title: *Hypersaline Archaea and their viruses*. (invited by F. Pfeifer).

24. Invited seminar speaker, UNSW, Sydney, Australia, 27th August, 2008. Title: *Haloarchaea and their viruses*. (invited by Rick Cavicchioli)

25. Invited speaker at a German conference on Archaea. Frankfurt, Sept. 2008. (invited by Joerg Soppa, Univ. Frankfurt).

26. Invited to give a seminar at the University of Helsinki, Biocenter 2: 'The biology of haloarchaeal viruses', 9th October, 2008. (invited by Sarah Butcher)

**Manuscripts, Grant proposals, and Theses reviewed** (since 2003)

**2008:** IJSEM (2), Archaea (1), NSF grant (1), J. Bacteriol. (1)
**2007**. IJSEM (2), AEM (1), J. Virol. (1), PLoS ONE (1), FEMS Micro Letts (1), Ph.D. Theses (5), M.Sc. project report (Netherlands), Grant Applns: NSF of USA (1)
**2006**. Virology (2), Grant proposal from Israel Research Fund (1), FEMS Microbiol. Rev. (1), Grant proposal from UK BBSRC (1), Extremophiles (1), J.Proteome Res. (1).
**2005**. Virology (1), J. Bacteriol. (2), FEMS Microbiol. Rev. (2), Molecular Microbiology (1), IJSEM (1). Leverhulme Trust (Appln by Dr. P. Lund, UK foundation), US-NSF grant (via Prof. P. Dennis).

**2004**. USA Dept of Energy/Office of Basic Energy Sciences (BES) grant appln (1)
J. Bacteriol. (1), Appl. Env. Micro. (1), ARC Discovery grant applns. (2)
FEMS Microbiol. Reviews (3), Extremophiles (3).

Trends in Microbiology (Walsby ‘Square cells around the globe’) (1), B.Sc.(hons) thesis (1).

**2003.** Molec. Microbiol. (2), USA NSF grants (2), Extremophiles (1), M.Sc. thesis (C. Aass, Univ. Bath, UK). B.Sc. hons thesis (2)

**Grants and Royalties**

- $911,000 worth of competitive research grants, mainly from the ARC.

This excludes the substantial funding (several hundred thousand dollars) received from a private company (Wallace International) for a rotavirus vaccine project conducted in the 1980s. I was part of a team that included laboratories in Sydney and Melbourne.

Also a royalty payment of around $9000 to the department of Microbiology and Immunology, and about $3000 to myself (which I normally donated to Melbourne University). This was paid for 12 years (up to 2007).