
CURRICULUM VITAE

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QUALIFICATIONS: 1977, Biochemistry Honours Degree (Upper-second), University of London.
1982, Ph.D., Biochemistry
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BRIEF CAREER DETAILS:

1982-84 Research Fellow, Department of Biochemistry, St. Mary's Hospital Medical School, London.

1984-88 Research Fellow. Department of Surgery, St. George's Hospital Medical School, London.

1988-94 Lecturer, School of Biological Sciences, University of Surrey.

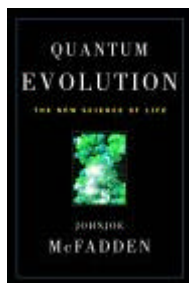
'94 – 2001 Reader, School of Biological Sciences, University of Surrey.

2001-present, **Professor of Molecular Genetics,**
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PUBLICATIONS

Books

- Johnjoe McFadden. *Quantum Evolution*.



Hardback edition published by HarperCollins, London, February, 2000;

paperback published October 2000; Hardback USA edition published by WW

Norton in 2001, paperback in 2002.

Reviews:

"McFadden's bold hypothesis that quantum physics plays a key role in the origin and evolution of life looks increasingly plausible. The weird behaviour of matter and information at the quantum level could be just what is needed to explain life's astonishing properties. If these ideas are right, they will transform our understanding of the relationship between physics and biology." Paul Davies, author of *The Ghost in the Atom*, *The Fifth Miracle*, etc.

"A highly enjoyable read with clear explanations of molecular biology and quantum physics ... For sure we need quantum ideas to understand in detail how enzymes work. Maybe we need them too for those two great puzzles of evolution: the origin of life, and the physical roots of conscious experience." Graham Cairns-Smith, author of *Seven Clues to the Origin of Life*, *Evolving the Mind*, etc.

"stunning metaphors and analogies that illuminate some of the darkest corners of his theory. ... He takes aboard a miniature submarine (as in *Fantastic Voyage*) and leads inside an *E. coli* bacterium to observe the cell operating by quantum principles. ... Mcfadden succeeds most admirably in his explanations of the paradoxes inherent in the quantum world... Challenging but invariably eloquent and answers the most fundamental questions of all: What is Life What is mind?" *Kirkus Reviews*

If you want a short course in the greatest scientific insights of the last two centuries - evolution in the 19th and quantum mechanics in the 20th - Johnjoe McFadden's *Quantum Evolution* is an ideal primer ... a masterful job ... a wild and amazing trip. *David Brown, The Washington Post*

"How did life begin? What catalysed the birth of consciousness? His startling answers reflect a revolutionary conceptualisation of quantum measurement as the basis of life, ... this rare and lucid synthesis of the physical and life sciences - leavened with anecdote and humor - invites general readers to peer into the deepest mysteries of nature. *Bryce Christensen, Booklist*

- Johnjoe McFadden (editor) *Molecular Biology of The Mycobacteria*. Published by Surrey University Press, 1990.

Newspaper articles

Quantum Biology and the origin of all life: The Guardian, February 10th, 2000.

Very strange but true: The Guardian, January 8th, 2001.

Our genes are doomed: The Guardian, February 5th, 2001.

Bravo! We're decoded, but a mystery still: The Washington Post, February 18th, 2001.

Your, mine and Eire's: The Washington Post, March 18th, 2001.

Those bogus British genes. The Guardian, April 4th, 2001.

How to live longer. The Guardian, April 9th, 2001.

The proteome. The Guardian, May 10, 2001.

Feeding prejudice. The Guardian, August 29th, 2001

Injecting some sense. The Guardian, January 21, 2002.

Book Chapters

1. **Sheridan, G. and McFadden, J.** (2002) Molecular biology of *Mycobacterium tuberculosis*. In: *Mycobacteria and TB*. Ed. Stefan Kaufmann and Helmut Hahn. Karger AG, Basel.
2. **Stewart GS and McFadden, J.** (1999) Recombination (in mycobacteria). *Mycobacteria: Molecular Biology and Virulence*. Edited by C. Ratledge and J W. Dale, Oxford:Blackwell, 1999, p. 1-16.
3. **Fidler, H. and McFadden, J.** (1997). *Mycobacteria and Crohn's disease*. In *Inflammatory Bowel Disease*. R. Allen, J.Jm. Rhodes, and S.B. Hanauer, eds. (London: Churchill Livingstone), pp. 125-131.
4. **McFadden, J. and Stoker, N.G.** (1996). *Mycobacteria*. In *Encyclopedia of Molecular Biology and Molecular Medicine*. R.A. Meyers, ed. (Weinheim: VCH), pp. 156-165.
5. **McFadden, J. and Stoker, N.** (1995). *Mycobacteria*. In *Molecular Biology and Biotechnology. A comprehensive Desk Manual*. R.A. Meyers, ed. (New York: VCH Publishers, Inc.), pp. 582-585.
6. **McFadden, J. and Fidler, H.** (1995). *Mycobacteria and Crohn's disease*. In *Inflammatory Bowel Disease*. G.N.J. Tytgat, J.F.W.M. Bartelsman, and S.J.H. van Deventer, eds. (Dordrecht: Kluwer Academic Publishers), pp. 451-458.
7. **Dale, J.W., Dellagostin, O.A., Norman, E., Barrett, A.D.T., and McFadden, J.** (1993). Multivalent BCG vaccines. In *Novel delivery systems for oral vaccines*. D.T. O'Hagan, ed. (Boca Raton: CRC Press),
8. **McFadden, J.J.** (1992). *Mycobacteria*. In *Encyclopedia of Microbiology*. J. Lederberg, ed. (San Diego: Academic Press),
9. **McFadden, J.J. and Seechurn, P.** (1992). *Mycobacteria and Crohn's disease. Molecular approaches*. In *Inflammatory Bowel Disease*. R. Macdermott and W. Stenson, eds. (New York: Elsevier Press), pp. 259-271.
10. **McFadden, J.J.** (1991). Principles of nucleic acid hybridization. In *Methods in Gene Technology*. P.G. Sanders and J.W. Dale, eds. (London: JAI Press), pp. 1-14.
11. **McFadden, J.J. and Knight, A.** (1991). DNA probes for the detection and identification of bacteria. In *Genetic Manipulation. Techniques and Applications*. J.M. Grange, A. Fox, and N.L. Morgan, eds. (Oxford: Blackwell Scientific), pp. 97-111.
12. **McFadden, J.J., Kunze, Z., and Seechurn, P.** (1990). DNA probes for detection and identification. In *Molecular Biology of the Mycobacteria*. J.J. McFadden, ed. (Surrey University Press), pp. 139-172.

13. **McFadden, J.J., Thompson, J., Hull, E., Hampson, S., Stanford, J., and Hermon-Taylor, J.** (1988). The use of cloned DNA probes to examine organisms isolated from Crohn's disease tissue. In *Inflammatory Bowel Disease*: R.P. MacDermott, ed. (Elsevier), pp. 515-520.

Reviews

1. **McFadden, J. (1996)**. Recombination in mycobacteria. *Molecular Microbiology* **21**, 205-211.
2. **McFadden, J. and Sajduda, A. (1996)**. Application of molecular methods to the epidemiology of tuberculosis and other mycobacterioses. *Medical Microbiology Letters* **5**, 394-399.
3. **McFadden, J.J. (1993)**. Molecular Biology of the Mycobacteria. *Annal.Biol.Clin.* **51**, 3-5.
4. **McFadden, J.J., Kunze, Z.M., Portaels, F., Labrousse, V., and Rastogi, N. (1992)**. Epidemiological and genetic markers, virulence factors and intracellulare growth of Mycobacterium avium in AIDS. *Research Microbiol.* **143**, 423-436.
5. **Rastogi, N., McFadden, J.J., Ottenhoff, T.H.M., and van Eden, W. (1992)**. First international conference on the pathogenesis of mycobacterial infections: A summary. *Clin.Infec.Dis.* **14**, 308-312.
6. **Green, E.P., Moss, M.T., Hermon-Taylor, J., and McFadden, J.J. (1989)**. Insertion elements in Mycobacteria. *Acta Leprologica* **7**, 239-242.

Research Papers

1. **F. W. da Cruz, A. J. A. McBride, F. R. Conceicao, J. McFadden, and O. A. Dellagostin (2002).** Expression of the B-cell and T-cell epitopes of the rabies virus nucleoprotein in *Mycobacterium bovis* BCG and induction of a humoral response in mice. *Vaccine* 20:731-736.
2. **M. Boruä, A. Sajduda, I. Pawéowska, J. J. McFadden, and J. Dziadek (2001).** Detection of *Mycobacterium tuberculosis* in clinical samples using insertion sequences IS 6110 and IS 990. *Tuberculosis (Edinb)* 81 (4):271-278, 2001.
3. **Johnson, C.R., Newcombe, J., Borde, H.A., Gorringe, A.R., Funnell, S.G.P., and McFadden, J. (2001).** Characterisation of a *phoP* mutant of *Neisseria meningitidis*. *Mol.Microbiol.* 39: 1345-1355.
4. **McFadden, J. and Al-Khalili, J. (2001)** Comment on Book Review of 'Quantum Evolution' (Johnjoe McFadden) by Mathew J. Donald. Quantum Physics, archive: The Quantum Physics e-print Archive at <http://xxx.lanl.gov/archive/quant-ph:quant-ph/0110083>.
5. **Stewart, G.S., Ehrt, S., Riley, L.W., Dale, J.W., and McFadden, J. (2000).** Allelic replacement of the antioxidant gene *noxR1* in *M. bovis* BCG. *Tubercle and Lung Disease*, 80: 237-242.
6. **Ghanekar, K., McBride, A., Dellagostin, O.A., Mooney, R., and McFadden, J.J. (1999).** Stimulation of transposition of the *Mycobacterium tuberculosis* insertion sequence IS 6110 by exposure to a microaerobic environment. *Mol.Microbiol.* 33, 982-993.
7. **McFadden, J. and Al-Khalili, J. (1999).** A quantum mechanical model of adaptive mutation. *Biosystems* 50, 203-211.
8. **Wall, S., Ghanekar, K., McFadden, J., and Dale, J.W. (1999).** Context-sensitive transposition of IS 6110 in mycobacteria. *Microbiology* 145, 3169-3176.
9. **Dziadek, J., Sajduda, A., Dale, J.W., and McFadden, J. (1998).** IS990, a new species - specific IS - related element of the *Mycobacterium tuberculosis* complex. *Microb* 144, 3407-3412.
10. **Hernandez-Perez, Kunze, Z.M., Brown, S., Yakrus, M.A., McFadden, J., and Dale, J.W. (1998).** Strain variation in *Mycobacterium avium*: polymorphisms of IS 1110-related sequences. *International Journal of Infectious Diseases* 1, 192-198.
11. **Newcombe, J., Cartwright, K., Dyer, D.W., and McFadden, J. (1998).** Naturally occurring insertional inactivation of the *porA* gene of *Neisseria meningitidis* by integration of IS 1301. *Molecular*

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12. **O'Donohue, M.O., Fidler, H., Garcia-Barcello, M., Norri-Aria, K., Williams R, and McFadden, J. (1998).** Mycobacterial DNA not detected in liver sections from patients with primary biliary cirrhosis. *Journal of Hepatology* **28**, 433-438.
13. **Sajduda, A., Dziadek, J., Dela, A., Zalewska-Schonthaler, N., Zwolska, Z., and McFadden, J. (1998).** DNA fingerprinting indicate active transmission of of MDR TB in Poland. *International Journal of Infectious Diseases* **3**, 12-17.
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15. **Newcombe, J., Dyer, S., Cartwright, K., Palmer, W.H., Blackman, L., and McFadden, J. (1997).** PCR-SSCP for non-culture-based sub-typing of the meningococcus in clinical specimens. *J.Clin.Microbiol.* **35**, 1809-1812.
16. **Docherty, L., Adams, M.R., Patel, P., and McFadden, J. (1996).** The magnetic immuno-polymerase chain-reaction assay for the detection of campylobacter in milk and poultry. *Letts.Appl.Microbiol.* **22**, 288-292.
17. **Newcombe, J., Palmer, W.H., Cartwright, K., and McFadden, J.J. (1996).** PCR of blood specimens for the diagnosis of meningococcal disease. *J.Clin.Microbiol.* **34**, 1637-1640.
18. **Anthony, A., Dhillon, A.P., Fidler, H., McFadden, J.J., Billington, O., Nygard, G., Pounder, R.E., and Wakefield, A.J. (1995).** Mycobacterial granulomatous inflammation in the ulcerated caecum of indomethacin-treated rats. *Int.J.Exp.Path.* **76**, 149-155.
19. **Dellagostin, O.A., Esposito, G., Eales, L., Dale, J.W., and McFadden, J. (1995).** Intracellular expression and regulation of mycobacterial promoters. *Microbiology* **141**, 1785-1792.
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22. **De Wit, M.Y., Douglas, J.T., McFadden, J., and Klatser, P.R. (1993).** Polymerase chain reaction for detection of *Mycobacterium leprae* in nasal swab specimens. *J.Clin.Microbiol.* **31**, 502-506.

23. **Dellagostin, O.A., Wall, S., Norman, E., O'Shaughnessy, T., Dale, J.W., and McFadden, J. (1993).** Construction and use of integrative vectors to express foreign genes in mycobacteria. *Mol.Microbiol.* **10**, 983-993.
24. **Fidler, H., Rook, G.A., Johnson, N.M., and McFadden, J.J. (1993).** Specificity of primers based on IS6110 to Mycobacterium tuberculosis complex DNA [letter]. *Tuber.Lung Dis.* **74**, 414-415.
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28. **McFadden, J., Collins, J., Beaman, B., Arthur, M., and Gitnick, G. (1993).** Mycobacteria in Crohn's disease: DNA probes identify the wood-pigeon strain of Mycobacterium avium in Crohn's disease tissue. *J.Clin.Microbiol.* **30**, 3070-3073.
29. **McFadden, J.J. (1993).** Abolish Mycobacterium paratuberculosis strain 18 [letter] *J.Clin.Microbiol.* **31**, 1958.
30. **Wall, S., Kunze, Z.M., Saboor, S., Soufleri, I., Seechurn, P., Chiodini, R., and McFadden, J.J. (1993).** Identification of spheroplast-like agents isolated from tissues of patients with Crohn's disease and control tissues by polymerase chain reaction. *J.Clin.Microbiol.* **31**, 1241-1245.
31. **Knight, A.I., Ni, H., Cartwright, K.A.V., and McFadden, J.J. (1992).** Isolation and characterization of a novel insertion sequence, IS1106, downstream of the porA gene in B15 Neisseria meningitidis. *Mol.Microbiol.* **6**, 1565-1573.
32. **Kunze, Z.M., Portaels, F., and McFadden, J.J. (1992).** Biologically distinct subtypes of Mycobacterium avium differ in possession of insertion sequence IS901. *J.Clin.Microbiol.* **30**, 2366-2372.
33. **Ni, H., Knight, A.I., Cartwright, K.A.V., and McFadden, J.J. (1992).** Phylogenetic and epidemiological analysis of Neisseria meningitidis using DNA probes. *Epidem.Infect.* **109**, 227-239.
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- (1992). PCR in the diagnosis of meningococcal meningitis. *Lancet* **340**, 1432-1434.
35. **Saboor, S., Johnson, N.J., and McFadden, J.J. (1992)**. Detection of mycobacteria in sarcoidosis and tuberculosis with polymerase chain reaction. *Lancet* **339**, 1012-1015.
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37. **Kunze, Z.M., Wall, S., Appelberg, R., Silva, M.T., Portaels, F., and McFadden, J.J. (1991)**. IS901, a new member of a widespread class of atypical insertion sequences, is associated with pathogenicity in *Mycobacterium avium*. *Molecular Microbiology* **5**, 2265-2272.
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40. **Portaels, F., Kunze, Z.M., McFadden, J.J., Fonteyne, P.A., and Carpels, G. (1990)**. Mycobacterial disease in AIDS patients from developing and developed countries. *Tagen de Tuberculose* **2**, 67-71.
41. **Vary, P.H., Andersen, P.R., Green, E., Hermon-Taylor, J., and McFadden, J.J. (1990)**. Use of highly specific DNA probes and the polymerase chain reaction to detect *Mycobacterium paratuberculosis* in Johne's disease. *J.Clin.Microbiol.* **28**, 933-937.
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43. **Green, E.P., Tizard, M.L.V., Moss, M.T., Thompson, J., Winterbourne, D.J., McFadden, J.J., and Hermon-Taylor, J. (1989)**. Sequence and characteristics of IS900, and insertion element identified in a human Crohn's disease isolate of *Mycobacterium paratuberculosis*. *Nucl.Acids Res.* **17**, 9063-9073.
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