

SIR RICHARD JOHN ROBERTS

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PERSONAL

Born on September 6, 1943, Derby, England

EDUCATION

1962-1965 University of Sheffield, Sheffield, England
B.Sc. in Chemistry
1966-1968 University of Sheffield, Sheffield, England
Ph.D. in Organic Chemistry

POSITIONS

2005- Chief Scientific Officer, New England Biolabs
1992-2005 Research Director, New England Biolabs
1986-92 Assistant Director for Research, Cold Spring Harbor
Laboratory
1972-86 Senior Staff Investigator, Cold Spring Harbor
Laboratory
1971-1972 Research Associate in Biochemistry, Harvard
University
1969-1970 Research Fellow, Harvard University

OUTSIDE ACTIVITIES

1974-1992 Consultant and Chairman of Scientific Advisory Board
New England Biolabs
1977-1985 Scientific Advisory Board, Genex Corp.
1977-1987 Editorial Board: Nucleic Acids Research
1979-1984 Editorial Board: Journal of Biological Chemistry
1982-1989 Member: National Advisory Committee of GENBANK
1984-1986 Member: National Advisory Committee of BIONET
1985-1988 Panel member: NIH Study Section in Biochemistry.
1985-2002 Editorial Board: Bioinformatics (formerly CABIOS)
1987-1990 Chairman: National Advisory Committee of BIONET
1987-2009 Senior Executive Editor: Nucleic Acids Research
1990-1992 Panel member: NCI Cancer Centers Support
Grant Review Committee
1993-1995 Panel member: NLM Study Section/Comp. Biol.
1994-2000 Scientific Advisory Board, Molecular Tool
1994- Patron of the Oxford International Biomedical Center
1996-1998 Visiting Professor, University of Bath, UK.
1996-2000 Chairman, NCBI Board of Scientific Counselors
1996-1999 Scientific Advisory Board, Oxford Molecular Group
1997-2001 Editorial Board: Current Opinion Chem. Biol.
1998-2001 Chairman, Steering Committee on Genetics and
Biotechnology, ICSU

1998-2002	Chairman, Scientific Advisory Board, Celera
1998-	Sci. Advisory Board, Conservation Law Foundation
1998-2004	Chairman, Scientific Advisory Board, Lynkeus Biotech
1998-2003	Board Member, Albert Schweitzer Academy of Medicine
2000-2003	Scientific Advisory Board, PubMed Central
2000-2003	Scientific Advisory Board, Orchid Biosciences
2000-	Advisor to the Director, NASA Astrobiology Program
2002-	Scientific Advisory Board, Center for Functional Genomics, SUNY, Albany
2002-2004	Trustee, Ocean Genome Legacy
2002-2004	Scientific Advisor to CIAR, Evolutionary Biology
2002-2006	Scientific Advisory Committee Member, IMBB, Greece
2003-	Chairman of the Board, University of Sheffield in America
2003-	Honorary Member, The International Raoul Wallenberg Foundation
2003-	Vice-President, Albert Schweitzer Academy of Medicine
2003-2005	Scientific Advisory Board, Diversa Corporation
2003-	Vice-Chairman, Int. Science Adv. Bd. JDW Institute of Genome Sciences, Hangzhou, China
2003-	Distinguished Scientist and Research Scholar, Boston University
2004-	Scientific Advisory Board, PubChem
2004-	Scientific Advisory Board, RainDance Technologies
2004-	President, Ocean Genome Legacy Board of Trustees
2005-2014	Scientific Advisory Board, ICGEB
2006-2012	Board Member, Friends of the National Library of Medicine
2007-	Scientific Advisory Board, InVivo Therapeutics
2007-	Member, NRF Singapore International Evaluation Panel
2008	Knight Bachelor (UK)
2009-2011	Trustee of the Gaddafi International Charity and Development Foundation
2009-	InVivo Therapeutics, Director
2009	Fellow of the Science Museum (London, UK)
2009-	Scientific Advisory Board, Orwik
2010-	President's Council, New York Academy of Sciences.
2011-	National Park System Advisory Board
2011-	JGI Microbial Genomics & Metagenomics Advisory Board
2011-	Council Member, STS Forum
2012-2013	Advisor to the city of Yixing, China
2012-	Honorary Citizen, Wuxi, China
2012-	Honorary President, Richard J. Roberts Institute of Biotechnology, Yixing, China
2013-	Scientific Advisory Board, Empiriko Corporation
2013-	Distinguished University Professor, Northeastern University
2015-	Elysium Health, Scientific Advisory Board

RESEARCH INTERESTS

Restriction endonucleases, DNA methylases,

Computational molecular biology.

HONORARY DEGREES AND PROFESSORSHIPS

Honorary Doctor of Medicine, University of Uppsala (1992)
Honorary Doctor of Medicine, Bath University (1994)
Honorary Doctor of Science, Sheffield University (1994)
Honorary Doctor of Science, Derby University (1995)
Hon. Prof. 4th Military Medical University, Xian (2002)
Hon. Prof. Dalian Institute of Chemical Physics (2002)
Honorary Doctor of Science, Chinese University of Hong Kong (2005)
Honorary Professor, Chinese University of Hong Kong (2006)
Honorary Professor, Nankai University (2006)
Doctor Honoris Causa, University of Athens (2009)
Honorary Professor, Astana Medical University, Kazakhstan (2012)
Honorary Professor, Eurasian Economic Club of Scientists (2012)
Honorary Professor, Wuhan University, China (2012)
Honorary Professor, Jiang-Nan University, Wuxi, China (2012)
Doctor Honoris Causa, University of Lisbon (2012)
Doctor Honoris Causa, Universidad Andrés Bello, Santiago, Chile (2014)
Doctor Honoris Causa, University of Ljubljana, Slovenia (2015)

SOCIETY MEMBERSHIPS AND AWARDS

American Society for Microbiology
John Simon Guggenheim Fellow (1979-1980)
ASM Foundation Lecturer (1988-1989)
Miller Professor at UC Berkeley (1991)
Nobel Prize in Physiology or Medicine (1993)
Bourke Lecturer, Boston University (1994)
Dakin Lecturer, Adelphi University (1994)
Golden Plate Award, American Academy of Achievement (1994)
Convocation Award, Sheffield University (1994)
Faye Robiner Award, Ross University (1994)
Fellow of the Royal Society (1995)
Associate Member of EMBO (1995)
Foreign Fellow, Nat'l Academy of Medical Sciences, Pakistan (1996)
Ada Doisy Lecturer, Univ. Illinois, Urbana (1996)
Wei Lun Visiting Professor, Chinese University, Hong Kong (1996)
William Ferdinand Memorial Lecturer, Sheffield University (1997)
Proctor & Gamble Distinguished Lecturer, Purdue University (1997)
Fellow of the American Society of Arts and Sciences (1997)
Fellow of the American Academy of Microbiology (1997)
Steinberg/Wylie Lecture, University of Maryland (1997)
Knudson Lecture, Oregon State University (1997)
Medicus Magnus of the Polish Academy of Medicine (1998)
Robert Church Lecture in Biotechnology, Univ. Calgary (1998)
Albert Einstein Memorial Lecturer, Princeton (2000)

Sutton Lecture, U. Kansas Medical Center (2002)
Barry Berkowitz Lecture, Northeastern University (2003)
Robert Harris Lecture, MIT (2004)
Dan Nathans Lecture, Johns Hopkins (2006)
The Gabor Medal of the Royal Society (2007)
Knight Bachelor (UK) (2008)
Lester O. Krampitz Lecture, Case Western Reserve University (2009)
Corresponding Member, Nicaraguan Academy of Sciences (2009)
TIE Boston Legends and Leaders Award (2011)
Fellow of the AACR Academy (2013)
T.T. Tchen Memorial Lecture, Wayne State University (2014)

The Hans Krebs Medal of FEBS (2013)

PUBLICATIONS

1. Gregson, M., Kurosawa, K., Ollis, W.D., Redman, B.T., Roberts, R.J. and Sutherland, I.O. (1968) The natural occurrence of cis- and trans-cinnamylphenols. *Chemical Communications* **22**: 1390-1392.
2. Ollis, W.D., Redman, B.T., Roberts, R.J. and Sutherland, I.O. (1968) New neoflavanoids from *Machaerium kuhlmanii* and *Machaerium nictitans* and the recognition of a new neoflavanoid type, the neoflavenes. *Chemical Communications* **22**: 1392-1393.
3. Mageswaran, S., Ollis, W.D., Roberts, R.J. and Sutherland, I.O. (1969) Biogenetic models for the formation of natural cinnamylphenols and neoflavanoids. *Tetrahedron Letters* **10**: 2897-2900.
4. Ollis, W.D., Ormand, K.L., Redman, B.T., Roberts, R.J. and Sutherland, I.O. (1970) The oxidative rearrangement of olefins by thallium (III) acetate. Part II. Synthesis of isoflavones. *J. Chem. Soc. (C)*, 125-128.
5. Gottlieb, O.R., Mageswaran, S., Ollis, W.D., Roberts, R.J. and Sutherland, I.O. (1970) Recent developments in neoflavanoid chemistry. *Ann. Acad. Brasil. Cienc.* **42**: 417-423, Suppl.
6. Stewart, T.S., Roberts, R.J. and Strominger, J.L. (1971) Novel species of tRNA. *Nature* **230**: 36-38.
7. Lovinger, G.G. and Roberts, R.J. (1971) A comparison of two glycyl- tRNAs from *Staphylococcus epidermidis*. *Fed. Proc.* **30**: 1217.
8. Roberts, R.J. (1972) Comparative studies of the staphylococcal glycyl- tRNAs which are non-functional in protein synthesis. *Fed. Proc.* **31**: 422.
9. Roberts, R.J. (1972) Structures of two glycyl-tRNAs from *Staphylococcus epidermidis*. *Nature New Biol.* **237**: 44-45.

10. Linnett, P.E., Roberts, R.J. and Strominger, J.L. (1974) Biosynthesis and cross-linking of the gamma-glutamyl glycine containing peptidoglycan of vegetative cells of *Sporosarcina ureae*. J. Biol. Chem. **249**: 2497-2506.
11. Allet, B., Roberts, R.J., Gesteland, R.F. and Solem, R. (1974) Class of promoter sites for *Escherichia coli* DNA-dependent RNA polymerase. Nature **249**: 217-221.
12. Roberts, R.J., Lovinger, G.G., Tamura, T. and Strominger, J.L. (1974) Staphylococcal transfer ribonucleic acids. I. Isolation and purification of the isoaccepting glycine transfer ribonucleic acids from *Staphylococcus epidermidis* Texas 26. J. Biol. Chem. **249**: 4781-4786.
13. Roberts, R.J. (1974) Staphylococcal transfer ribonucleic acids. II. Sequence analysis of tRNAGly/IA and tRNAGly/IB from *Staphylococcus epidermidis* Texas 26. J. Biol. Chem. **249**: 4787-4796.
14. Roberts, R.J., Arrand, J.R. and Keller, W. (1974) The length of the terminal repetition in adenovirus 2 DNA. Proc. Natl. Acad. Sci. USA **71**: 3829-3833. PMID: PMC434277
15. Mulder, C., Arrand, J.R., Delius, H., Keller, W., Pettersson, U., Roberts, R.J. and Sharp, P.A. (1974) Cleavage maps of DNA from adenovirus types 2 and 5 by restriction endonuclease *EcoRI* and *HpaI*. Cold Spring Harbor Symp. Quant. Biol. **39**: 397-400.
16. Arrand, J.R., Keller, W. and Roberts, R.J. (1974) Extent of terminal repetition in adenovirus-2 DNA. Cold Spring Harbor Symp. Quant. Biol. **39**: 401-407.
17. Roberts, R.J., Breitmeyer, J.B., Tabachnik, N.F. and Myers, P.A. (1975) A second specific endonuclease from *Haemophilus aegyptius*. J. Mol. Biol. **91**: 121-123.
18. Steenbergh, P.H., Sussenbach, J.S., Roberts, R.J. and Jansz, H.S. (1975) The 3'-terminal nucleotide sequences of adenovirus types 2 and 5 DNA. J. Virol. **15**: 268-272.
19. Sugden, B., DeTroy, B., Roberts, R.J. and Sambrook, J. (1975) Agarose slab gel electrophoresis equipment. Anal. Biochem. **68**: 36-46. PMID: PMC354449
20. Roberts, R.J., Myers, P.A., Morrison, A. and Murray, K. (1976) A specific endonuclease from *Arthrobacter luteus*. J. Mol. Biol. **102**: 157-165.
21. Roberts, R.J., Myers, P.A., Morrison, A. and Murray, K. (1976) A specific endonuclease from *Haemophilus haemolyticus*. J. Mol. Biol. **103**: 199-208.
22. Godson, G.N. and Roberts, R.J. (1976) A catalogue of cleavages of Φ X174, S13, G4 and ST1 DNA by 26 different restriction endonucleases. Virology **73**: 561-567.
23. Roberts, R.J. (1976) Restriction and modification enzymes and their recognition sequences. In Handbook of Biochemistry and Molecular Biology, 3rd Edition, Nucleic Acids. Vol. II. 532-535.
24. Roberts, R.J. and Murray, K. (1976) Restriction endonucleases. CRC Critical Reviews in Biochemistry, **4**: 123-164.

25. Burton, W.G., Roberts, R.J., Myers, P.A. and Sager, R. (1976) A eukaryotic endonuclease with non-random cleavage specificity. *Fed. Proc.* **35**: 1588.
26. Roberts, R.J., Wilson, G.A. and Young, F.E. (1977) Recognition sequence of specific endonuclease *Bam*HI from *Bacillus amyloliquefaciens* H. *Nature* **265**: 82-84.
27. Roberts, R.J. (1977) The role of restriction endonucleases in genetic engineering. In, *Recombinant Molecules: Impact on Science and Society*: (eds. R.F. Beers, Jr. and E.G. Barrett). Raven Press, New York, pp. 21-32.
28. Wu, M., Roberts, R.J. and Davidson, N. (1977) Structure of the inverted terminal repetition of adenovirus-2 DNA. *J. Virol.* **21**: 766-777. PMID: PMC353878
29. Subramanian, K.N., Zain, B.S., Roberts, R.J. and Weissman, S.M. (1977) Mapping of the *Hha*I and *Hinfl* cleavage sites on simian virus 40 DNA. *J. Mol. Biol.* **110**: 297-318.
30. Endow, S.A. and Roberts, R.J. (1977) Two restriction-like enzymes from *Xanthomonas malvacearum*. *J. Mol. Biol.* **112**: 521-529.
31. Gelinas, R.E., Myers, P.A. and Roberts, R.J. (1977) Two sequence-specific endonucleases from *Moraxella bovis*. *J. Mol. Biol.* **114**: 169-179.
32. Gelinas, R.E., Myers, P.A., Weiss, G.A., Roberts, R.J. and Murray, K. (1977) A specific endonuclease from *Brevibacterium albidum*. *J. Mol. Biol.* **114**: 433-440.
33. Zain, B.S. and Roberts, R.J. (1977) A new specific endonuclease from *Xanthomonas badrii*. *J. Mol. Biol.* **115**: 249-255.
34. Gelinas, R.E. and Roberts, R.J. (1977) One predominant 5'-undecanucleotide in adenovirus 2 late messenger RNAs. *Cell* **11**: 533-544.
35. Gelinas, R.E., Chow, L.T., Roberts, R.J., Broker, T.R. and Klessig, D.F. (1977) The structure of late adenovirus type 2 messenger RNA's. In *Brookhaven Symposium in Genetic Interaction and Gene Transfer*, Brookhaven Symposium in Biology **29**: 345-347.
36. Kamp, D., Kahmann, R., Zipser, D. and Roberts, R.J. (1977) Mapping of restriction sites in the attachment site region of bacteriophage lambda. *Mol. Gen. Genet.* **154**: 231-248.
37. Burton, W.G., Roberts, R.J., Myers, P.A. and Sager, R. (1977) A site-specific single strand endonuclease from the eukaryote *Chlamydomonas*. *Proc. Natl. Acad. Sci. USA* **74**: 2687-2691. PMID: PMC431246
38. Chow, L.T., Gelinas, R.E., Broker, T.R. and Roberts, R.J. (1977) An amazing sequence arrangement at the 5' ends of adenovirus 2 messenger RNA. *Cell* **12**: 1-8.
39. Roberts, R.J. (1977) Restriction and modification enzymes and their recognition sequences. In *DNA Insertion Elements, Plasmids and Episomes*, (eds. A.I. Bukhari, J.A. Shapiro and S.L. Adhya), Cold Spring Harbor Laboratory, pp. 757-768.

40. Gingeras, T.R., Myers, P.A., Olson, J.A., Hanberg, F.A. and Roberts, R.J. (1978) A new specific endonuclease present in *Xanthomonas holcicola*, *Xanthomonas papavericola* and *Brevibacterium luteum*. J. Mol. Biol. **118**: 113-122.
41. Arrand, J.R., Myers, P.A. and Roberts, R.J. (1978) A new restriction endonuclease from *Streptomyces albus* G. J. Mol. Biol. **118**: 127-135.
42. Zain, B.S. and Roberts, R.J. (1978) Characterization and sequence analysis of a recombination site in the hybrid virus Ad2+ND1. J. Mol. Biol. **120**: 13-31.
43. Broker, T.R., Chow, L.T., Dunn, A.R., Gelinas, R.E., Hassell, J.A., Klessig, D.F., Lewis, J.B., Roberts, R.J. and Zain, B.S. (1977) Adenovirus-2 messengers--an example of baroque molecular architecture. Cold Spring Harbor Symp. Quant. Biol. **42**: 531-553.
44. Roberts, R.J. (1978) Restriction endonucleases. In, Microbiology, (D. Schlessinger, Ed.), American Society for Microbiology, Washington. p. 5-9.
45. Bingham, A.H.A., Atkinson, T., Sciaky, D. and Roberts, R.J. (1978) A specific endonuclease from *Bacillus caldolyticus*. Nucl. Acids Res. **5**: 3457-3467. PMID: PMC342687
46. Tomassini, J., Roychoudhury, R., Wu, R. and Roberts, R.J. (1978) Recognition sequence of restriction endonuclease *KpnI* from *Klebsiella pneumoniae*. Nucl. Acids Res. **5**: 4055-4064. PMID: PMC342733
47. Gingeras, T.R., Milazzo, J.P. and Roberts, R.J. (1978) A computer assisted method for the determination of restriction enzyme recognition sites. Nucl. Acids Res. **5**: 4105-4127. PMID: PMC342737
48. Roberts, R.J. (1978) Restriction and modification enzymes and their recognition sequences. Gene **4**: 183-193.
49. Roberts, R.J., Klessig, D.F., Manley, J. and Zain, B.S. (1978) The spliced messenger RNA's of adenovirus-2. FEBS Symposium **51**: 245-253.
50. Roberts, R.J. (1978) Restriction endonucleases: A new role in vivo? Nature **271**: 502.
51. Roberts, R.J. (1978) Intervening sequences excised in vitro. Nature **274**: 530.
52. Roberts, R.J. (1978) The Nobel Prizewinners, 1978, in Medicine. Nature **275**: 689-690.
53. Ito, J. and Roberts, R.J. (1979) Unusual base sequence arrangement in Φ 29 DNA. Gene **5**: 1-7.
54. Arrand, J.R. and Roberts, R.J. (1979) The nucleotide sequences at the termini of adenovirus-2 DNA. J. Mol. Biol. **128**: 577-594.
55. Zain, B.S. and Roberts, R.J. (1979) Sequences from the beginning of the fiber mRNA of adenovirus-2. J. Mol. Biol. **131**: 341-352.

56. Zain, B.S., Sambrook, J., Roberts, R.J., Keller, W., Fried, M. and Dunn, A.R. (1979) Nucleotide sequence analysis of the leader segments in cloned copy adenovirus-2 fiber mRNA. *Cell* **16**: 851-861.
57. Zabeau, M. and Roberts, R.J. (1979) The role of restriction endonucleases in molecular genetics. In *Molecular Genetics*, ed. J.H. Taylor, III, 1-63.
58. Baumstark, B.R., Roberts, R.J. and RajBhandary, U.L. (1979) Use of short synthetic DNA duplexes as substrates for the restriction endonucleases *Hpa*II and *Mno*I. *J. Biol. Chem.* **254**: 8943-8950.
59. Rosenberg, A.H., Simon, M.N., Studier, F.W. and Roberts, R.J. (1979) Survey and mapping of restriction endonuclease cleavage sites in bacteriophage T7 DNA. *J. Mol. Biol.* **135**: 907-915.
60. Gingeras, T.R., Milazzo, J.P., Sciaky, D. and Roberts, R.J. (1979) Computer programs for the assembly of DNA sequences. *Nucl. Acids Res.* **7**: 529-545. PMID: PMC328034
61. Roberts, R.J. (1980) A directory of restriction endonucleases. "Methods in Enzymology", (Grossman, L. and Moldave, K. Eds.), Academic Press, Vol. 65, p. 1-15.
62. Roberts, R.J. (1979) Directory of Restriction Endonucleases. *Meth. Enzymol.* **68**: 27-41.
63. Roberts, R.J. (1980) Small RNA's and splicing. *Nature* **283**: 132-133.
64. Roberts, R.J. (1980) Restriction and modification enzymes and their recognition sequences. *Nucl. Acids Res.* **8**: r63-r80. PMID: PMC327257
65. Roberts, R.J. (1980) Restriction and modification enzymes and their recognition sequences. *Gene* **8**: 329-343.
66. Gingeras, T.R. and Roberts, R.J. (1980) Steps towards a programmed analysis of nucleic acid sequences. *Science* **209**: 1322-1328.
67. Gingeras, T.R., Greenough, L., Schildkraut, I. and Roberts, R.J. (1981) Two new restriction endonucleases from *Proteus vulgaris*. *Nucl. Acids Res.* **9**: 4525-4536. PMID: PMC327455
68. Roberts, R.J. (1981) Restriction and modification enzymes and their recognition sequences. *Nucl. Acids Res.* **9**: r75-r96. PMID: PMC326683
69. Roberts, R.J. (1981) Restriction endonucleases, DNA sequencing and Computers. In, *Developmental biology using purified genes*, (ed. D.D. Brown), Academic Press, New York. 621-634.
70. Gingeras, T.R. and Roberts, R.J. (1981) Computer assisted methods for nucleic acid sequencing. In, *Genetic Engineering, Principles and Methods*, Vol. III, (ed. J.K. Setlow and A. Hollaender) Plenum Press, New York. 319-338.
71. Blumenthal, R.M., Rice, P.R. and Roberts, R.J. (1982) Computer programs for nucleic acid sequence manipulation. *Nucl. Acids Res.* **10**: 91-101. PMID: PMC326117

72. Gingeras, T.R., Rice, P.I. and Roberts, R.J. (1982) A semi-automated method for the reading of nucleic acid sequencing gels. *Nucl. Acids Res.* **10**: 103-114. PMID: PMC326118
73. Brooks, J.E. and Roberts, R.J. (1982) Modification profiles of bacterial genomes. *Nucl. Acids Res.* **10**: 913-934. PMID: PMC326211
74. Gingeras, T.R., Sciaky, D., Gelinis, R.E., Bing-Dong, J., Yen, C., Kelly, M.M., Bullock, P.A., Parsons, B.L., O'Neill, K.E. and Roberts, R.J. (1982) Nucleotide sequences from the adenovirus-2 genome. *J. Biol. Chem.* **257**: 13475-13491.
75. Roberts, R.J. (1982) Restriction and modification enzymes and their recognition sequences. *Nucl. Acids Res.* **10**: r117-r144. PMID: PMC320569
76. *The Applications of Computers to Research on Nucleic Acids.* (Soll, D. and Roberts, R.J., Eds.). IRL Press Oxford and Washington, D.C. (1982).
77. *Nucleases.* (Linn, S.M. and Roberts, R.J., Eds.). Cold Spring Harbor Laboratory, New York (1982) and (1985).
78. Gingeras, T.R., Blumenthal, R.M., Roberts, R.J. and Brooks, J.E. (1982) The isolation and characterization of the *E. coli* dam methylase gene. In, *Metabolism and Enzymology of Nucleic Acids*, (eds. J. Zelinka and J. Balan), Publishing House of the Slovak Academy of Sciences. p329-340.
79. Modrich, P. and Roberts, R.J. (1982) Type II restriction and modification enzymes. In, *Nucleases*, (Linn, S.M. and Roberts, R.J., Eds.), p. 109-154. Cold Spring Harbor Laboratory.
80. Roberts, R.J. (1982) Restriction Endonucleases. In, *Nucleases*, (ed. S.A. Linn and R.J. Roberts), p. 311-340. Cold Spring Harbor Laboratory.
81. Roberts, R.J., Gingeras, T.R., Sciaky, D., Gelinis, R.E., Bing-Dong, J., Yen, C., Kelly, M.M., Bullock, P.A., Parsons, B.L., O'Neill, K.E. (1982) Information Content of the Adenovirus-2 Genome. *Cold Spring Harbor Symp. Quant. Biol.* **47**: 1025-1037.
82. Roberts, R.J. (1983) Restriction and modification enzymes and their recognition sequences. *Nucl. Acids Res.* **11**: r135-r167. PMID: PMC325705
83. Keller, C., Corcoran, M. and Roberts, R.J. (1984) Computer programs for handling nucleic acid sequences. *Nucl. Acids Res.* **12**: 379-386. PMID: PMC321011
84. Freyer, G.A., Kato, Y. and Roberts, R.J. (1984) Characterization of the major mRNAs from Adenovirus 2 early region 4 by cDNA cloning and sequencing. *Nucl. Acids Res.* **12**: 3503-3519. PMID: PMC318765
85. Roberts, R.J. (1984) Restriction and modification enzymes and their recognition sequences. *Nucl. Acids Res.* **12**: r167-r204. PMID: PMC320008

86. Roberts, R.J. Restriction endonucleases, DNA sequencing and Computers. In, Physics and Contemporary Needs, (eds. A.M. Khan, S. Riazuddin, A. Qadir and M.N. Qazi), Plenum, New York. Volume 6, 305-316 (1984).
87. Broker, T.R., Keller, C.O. and Roberts, R.J. (1984) Human adenovirus serotypes 2, 4 and 8 and adenovirus-simian virus 40 hybrids. Maps of RNA transcripts, Protein-coding regions, restriction endonuclease cleavage sites and DNA structures. in Genetic Maps: A compilation of linkage and restriction maps of genetically studied organisms (O'Brian, S.J., Ed.) Cold Spring Harbor, Vol. 3, pp. 99-110.
88. Roberts, R.J. (1985) Restriction enzymes. In: Nucleic Acid Hybridization - A Practical Approach, (Hames, B.D. and Higgins, S.J., Eds.) IRL Press. pp203-210.
89. Roberts, R.J., O'Neill, K.E. and Yen, C. (1984) DNA sequences from the Adenovirus-2 genome. J. Biol. Chem. **259**: 13968-13975.
90. The Applications of Computers to Research Nucleic Acids II. Part 1 and 2. (eds. D. Soll and R.J. Roberts). 856 pp. IRL Press Oxford and Washington, D.C. (1984).
91. Roberts, R.J. (1985) Restriction and modification enzymes and their recognition sequences. Nucl. Acids Res. **13**: r165-r200. PMID: PMC320508
92. Roberts, R.J. (1986) Restriction endonuclease. McGraw-Hill Encyclopaedia of Science and Technology.
93. Roberts, R.J., Akusjarvi, G., Alestrom, P., Gelinas, R.E., Gingeras, T.R., Sciaky D. and Pettersson, U. (1986) A consensus sequence for the adenovirus-2 genome. in Adenovirus DNA. The Viral Genome and Its Expression, ed. W. Doerfler, Martinus Nijhoff, Boston, Mass. pp. 1-51.
94. Akusjarvi, G., Pettersson, U. and Roberts, R.J. (1986) Structure and Function of the Adenovirus-2 Genome. In: Adenovirus DNA. The Viral Genome and Its Expression. (Doerfler, W., Nijhoff, M., Eds.), Boston, Mass. pp. 53-95.
95. Kiss, A., Posfai, G., Keller, C.C., Venetianer, P. and Roberts, R.J. (1985) Nucleotide sequence of the *Bsu*RI restriction-modification system. Nucl. Acids Res. **13**: 6403-6421. PMID: PMC321967
96. Moran, E., Grodzicker, T., Roberts, R.J., Mathews, M.B. and Zerler, B. (1986) Lytic and transforming functions of individual products of the adenovirus E1A gene. J. Virol. **57**: 765-775. PMID: PMC252804
97. The applications of computers to research on nucleic acids III. (Soll, D. and Roberts, R.J., Eds.). 619 pp. IRL Press, Oxford and Washington, D.C. (1986).
98. Bhagwat, A.S., Sohail, A. and Roberts, R.J. (1986) Cloning and characterization of the DCM locus of *Escherichia coli* strain K-12. J. Bacteriol. **166**: 751-755. PMID: PMC215190

99. Pettersson, U. and Roberts, R.J. (1986) Adenovirus gene expression and replication. A historic review. In DNA Tumor Virus: Control of Gene Expression and Replication. Cancer Cells **4**. Cold Spring Harbor Laboratory, 37-57.
100. Roberts, R.J. Restriction and modification enzymes and their recognition sequences. In: Gene Amplification and Analysis, Vol. **5**. (Chirikjian, J.G., Ed.), 1-49 (1987).
101. Freyer, G.A., Arenas, J., Perkins, K.K., Furneaux, H.M., Pick, L., Young, B., Roberts, R.J. and Hurwitz, J. (1987) In vitro formation of a lariat structure containing a G2'-5'G linkage. J. Biol. Chem. **262**: 4267-4273.
102. Bhagwat, A.S. and Roberts, R.J. (1987) Genetic analysis of the 5-Azacytidine sensitivity of *Escherichia coli* K-12. J. Bacteriol. **169**: 1537-1546. PMID: PMC211980
103. Zerler, B., Roberts, R.J., Mathews, M.B. and Moran, E. (1987) Different functional domains of the adenovirus E1A gene are involved in the regulation of host cell cycle products. Mol. Cell. Biol. **7**: 821-829. PMID: PMC365140
104. Roberts, R.J. (1987) Restriction enzymes and their isoschizomers. Nucl. Acids Res. **15**: r189-r217. PMID: PMC339886
105. Roberts, R.J. (1989) Factual Databases in Basic Research. Biomolecular Data - A Resource in Transition. Oxford University Press, NY (Colwell, R.R., Ed.), 101-106.
106. Roberts, R.J. (1988) Restriction enzymes and their isoschizomers. Nucl. Acids Res. **16**: r271-r313. PMID: PMC340913
107. Pósfai, J., Bhagwat, A.S. and Roberts, R.J. (1988) Sequence motifs specific for cytosine methyltransferases. Gene **74**: 261-265.
108. Roberts, R.J. (1989) Restriction and modification enzymes and their recognition sequences. CRC Practical Handbook of Biochemistry and Molecular Biology, CRC Press (ed. G.D. Fasman) pp. 470-511.
109. Pósfai, J., Bhagwat, A.S., Pósfai, G. and Roberts, R.J. (1989) Predictive motifs derived from cytosine methyltransferases. Nucleic Acids Res. **17**: 2421-2435. PMID: PMC317633
110. Lin, P.M., Lee, C.H. and Roberts, R.J. (1989) Cloning and characterization of the genes encoding the *MspI* restriction modification system. Nucl. Acids Res. **17**: 3001-3011. PMID: PMC317708
111. Roberts, R.J. (1989) Restriction enzymes and their isoschizomers. Nucl. Acids Res. **17**: r347-r387. PMID: PMC334787
112. Conway, G.C., Krainer, A.R., Spector, D.L. and Roberts, R.J. (1989) Multiple splicing factors are released from endogenous complexes during in vitro pre-mRNA splicing. Mol. Cell. Biol. **9**: 5273-5280. PMID: PMC363691
113. Hamablet, L., Chen, G.C.C., Brown, A. and Roberts, R.J. (1989) *Lpnl*, from *Legionella pneumophila*, is a neoschizomer of *HaeIII*. Nucl. Acids Res. **17**: 6417. PMID: PMC318316

114. Posfai, J. and Roberts, R.J. (1989) Predictive motifs of cytosine methylases. *J. Cell. Biochem.* 41(S13D): 213.
115. Roberts, R.J. Benefits of databases. (1989) *Nature* **342**: 114.
116. Bhagwat, A.S., Johnson, B., Weule, K. and Roberts, R.J. (1990) Primary sequence of the *EcoRII* endonuclease and properties of its fusions with beta-galactosidase. *J. Biol. Chem.* **265**: 767-773.
117. Card, C.O., Wilson, G.G., Weule, K., Hasapes, J., Kiss, A. and Roberts, R.J. (1990) Cloning and characterization of the *HpaII* methylase gene. *Nucl. Acids Res.* **18**: 1377-1383. PMID: PMC330500
118. Nelson, J.M., Miceli, S.M., Lechevalier, M.P. and Roberts, R.J. (1990) *FseI*, a new type II restriction endonuclease that recognizes the octanucleotide sequence 5' GGCCGGCC 3'. *Nucl. Acids Res.* **18**: 2061-2064. PMID: PMC330683
119. Roberts, R.J. (1990) Restriction enzymes and their isoschizomers. *Nucl. Acids Res.* **18**: Suppl., 2331-2365. PMID: PMC331877
120. Harper, J.E., Miceli, S.M., Roberts, R.J. and Manley, J.L. (1990) Sequence specificity of the human mRNA N6-adenosine methylase *in vitro*. *Nucl. Acids Res.* **18**: 5735-5741. PMID: PMC332308
121. Roberts, R.J. (1991) Restriction and Methylation: Restriction Endonucleases. 1.1 Enzymes, isoschizomers and their recognition sequences. *Molecular Biology Labfax*, Academic Press (T.A. Brown, Ed.), 93-138.
122. Roberts, R.J. and Macelis D. (1991) Restriction enzymes and their isoschizomers. *Nucl. Acids Res.* **19** Suppl., 2077-2109. PMID: PMC331348
123. Pósfai, J. and Roberts, R.J. (1992) Finding errors in DNA sequences. *Proc. Natl. Acad. Sci. USA* **89**: 4698-4702. PMID: PMC49150
124. Roberts, R.J. (1992) Restriction endonuclease. *McGraw-Hill Encyclopaedia of Science and Technology* 7th Ed. **15**: 431-432.
125. Roberts, R.J. (1992) The Societal impact of DNA fingerprint data. *Accountability in Research* **2**: 87-92.
126. Klimasauskas, S., Nelson, J.E. and Roberts, R.J. (1991) The sequence specificity domain of cytosine-C5-methylases. *Nucl. Acids Res.* **19**: 6183-6190. PMID: PMC329119
127. Roberts, R.J. (1992) Restriction enzymes. in *Molecular Genetic Analysis of Populations: A Practical Approach*, (Hoelzel, A.R., Ed.) Oxford University Press, NY, 281-296.
128. Dubey, A.K., Mollet, B. and Roberts, R.J. (1992) Purification and characterization of the *MspI* DNA methyltransferase cloned and overexpressed in *E. coli*. *Nucl. Acids Res.* **20**: 1579-1585. PMID: PMC312241

129. Roberts, R.J. and Macelis, D. (1992) Restriction enzymes and their isoschizomers. *Nucl. Acids Res.* **20**: 2167-2180. PMID: PMC333991
130. Dubey, A.K. and Roberts, R.J. (1992) Sequence-specific DNA binding by the *MspI* DNA methyltransferase. *Nucl. Acids Res.* **20**: 3167-3173. PMID: PMC312454
131. Kumar, S., Cheng, X., Pflugrath, J.W. and Roberts, R.J. (1992) Purification, crystallization and preliminary X-ray diffraction analysis of an *M.HhaI*-AdoMet complex. *Biochemistry* **31**: 8648-8653.
132. Mi, S. and Roberts, R.J. (1992) How *M.MspI* and *M.HpaII* decide which base to methylate. *Nucl. Acids Res.* **20**: 4811-4816. PMID: PMC334236
133. Mi, S. and Roberts, R.J. (1993) The DNA binding affinity of *HhaI* methylase is increased by a single amino acid substitution in the catalytic center. *Nucl. Acids Res.* **21**: 2459-2464. PMID: PMC309547
134. Cheng, X., Kumar, S., Posfai, J., Pflugrath, J.W. and Roberts, R.J. (1993) Crystal structure of the *HhaI* methylase complexed with S-adenosyl methionine. *Cell* **74**: 299-307.
135. Roberts, R.J. and Macelis, D. (1993) REBASE—restriction enzymes and methylases. *Nucl. Acids Res.* **21**: 3125-3137. PMID: PMC309742
136. Cheng, X., Kumar, S., Klimasauskas, S. and Roberts, R.J. (1993) Crystal structure of the *HhaI* methyltransferase. *Cold Spring Harbor Symp. Quant. Biol.* **58**: 331-338.
137. Nucleases II. (Linn, S.M., Lloyd, R.S. and Roberts, R.J., Eds.). Cold Spring Harbor Laboratory, New York (1993).
138. Roberts, R.J. and Halford, S.S. (1993) Type II restriction endonucleases. In, *Nucleases*, (S.M. Linn, S.M., Lloyd, R.S. and Roberts, R.J., Eds.), p 35-88. Cold Spring Harbor Press.
139. Roberts, R.J. and Macelis, D. (1993) The restriction enzymes. In, *Nucleases*, (Linn, S.M., Lloyd, R.S. and Roberts, R.J., Eds.), p 439-444. Cold Spring Harbor Press.
140. Cheng, X., Kumar, S., Sha, M. and Roberts, R.J. (1993) Crystal structure of *HhaI* DNA methyltransferase complexed with S-adenosyl-L-methionine. *Acta Crystallogr.* **A49 (Suppl.)**: C61.
141. Klimasauskas, S., Kumar, S., Roberts, R.J. and Cheng, X. (1994) *HhaI* methyltransferase flips its target base out of the DNA helix. *Cell* **76**: 357-369.
142. Kumar, S., Cheng, X., Klimasauskas, S., Mi, S., Posfai, J., Roberts, R.J. and Wilson, G.G. (1994) The DNA (cytosine-5) methyltransferases. *Nucl. Acids Res.* **22**: 1-10. PMID: PMC307737
143. Roberts, R.J. (1994) An amazing distortion in DNA induced by a methyltransferase. *Angew. Chem. Int. Ed. Engl.* **33**: 1222-1228.

144. Kulasauskas, S., Barsomian, J., Lubys, A., Roberts, R.J. and Wilson, G.G. (1994) Organization and sequence of the *HpaII* restriction-modification system and adjacent genes. *Gene* **142**: 9-15.
145. Pósfai, J., Száraz, Z. and Roberts, R.J. (1994) VISA: Visual sequence analysis for the comparison of multiple amino acid sequences. *CABIOS* **10**: 537-544.
146. Roberts, R.J. and Macelis, D. (1994) REBASE - Restriction enzymes and methylases. *Nucl. Acids Res.* **22**: 3628-3639. PMID: PMC308335
147. Roberts, R.J. (1994) An amazing distortion in DNA induced by a methyltransferase. in "Les Prix Nobel, The Nobel Prizes, 1993" pp. 148-161. Almqvist and Wiksell Int.
148. Roberts, R.J. (1994) An amazing distortion in DNA induced by a methyltransferase. *Bioscience Reports* **14**: 103-117.
149. Klimasauskas, S. and Roberts, R.J. (1995) Disruption of the target G-C base-pair by the *HhaI* methyltransferase. *Gene* **157**: 163-164.
150. Mi, S., Alonso, D. and Roberts, R.J. (1995) Functional analysis of Gln-237 mutants of *HhaI* methyltransferase. *Nucl. Acids Res.* **23**: 620-627. PMID: PMC306729
151. Klimasauskas, S. and Roberts, R.J. (1995) M.HhaI binds tightly to substrates containing mismatches at the target base. *Nucl. Acids Res.* **23**: 1388-1395. PMID: PMC306866
152. Roberts, R.J. (1995) On base flipping. *Cell* **82**: 9-12.
153. Roberts, R.J. and Macelis, D. (1996) REBASE - Restriction enzymes and methylases. *Nucl. Acids Res.* **24**: 223-235. PMID: PMC145617
154. O'Gara, M., Klimasauskas, S., Roberts, R.J. and Cheng, X. (1996) Enzymatic C5-cytosine methylation of DNA: mechanistic implications of new crystal structures for *HhaI* methyltransferase-DNA-AdoHcy complexes, *J. Mol. Biol.* **261**: 634-645.
155. O'Gara, M., Roberts, R.J. and Cheng, X. (1996) A structural basis for the preferential binding of hemimethylated DNA by *HhaI* DNA methyltransferase. *J. Mol. Biol.* **263**: 597-606.
156. Roberts, R.J. (1997) Teaching about science. *Accountability in Research* **5**: 45-50.
157. Roberts, R.J. and Macelis, D. (1997) REBASE - Restriction enzymes and methylases. *Nucl. Acids Res.* **25**: 248-262. PMID: PMC146408
158. Conway, G., Margoliath, A., Wong-Madden, S., Roberts, R.J., Gilbert, W. (1997) Jak1 kinase is required for cell migrations and anterior specification in zebrafish embryos. *Proc. Natl. Acad. Sci. USA* **94**: 3082-3087. PMID: PMC20325
159. Kumar, S., Horton, J.R., Jones, G.D., Walker, R.T., Roberts, R.J., Cheng, X. (1997) DNA containing 4'-thio-2'-deoxycytidine inhibits methylation by *HhaI* methyltransferase. *Nucl. Acids Res.* **25**: 2773-2783. PMID: PMC146812

160. Belfort, M. and Roberts, R.J. (1997) Homing endonucleases - keeping the house in order, *Nucl. Acids Res.* **25**: 3379-3388. PMID: PMC146926
161. Roberts, R.J. (1997) Restriction Enzymes. In: *Molecular Genetic Analysis of Populations, a Practical Approach 2/e.* (Hoelzel, A.R., Ed.), Oxford University Press, 379-397.
162. Roberts, R.J. and Macelis, D. (1997) Restriction enzymes and methylases. *Oxford Dictionary of Biochemistry and Molecular Biology.* (Smith, A.D. et al., Eds.) Oxford University Press. pp. 725-738.
163. Roberts, R.J. and Cheng, X. (1998) Base Flipping. *Annual Review of Biochemistry*, **67**: 181-198.
164. Pradhan, S., Talbot, D., Sha, M., Benner, J., Hornstra, L., Li, E., Jaenisch, R., Roberts, R.J. (1997) Baculovirus-mediated expression and characterization of the full-length murine DNA methyltransferase. *Nucl. Acids Res.* **25**: 4666-4673. PMID: PMC147102
165. Roberts, R.J. and Macelis, D. (1998) REBASE - Restriction enzymes and methylases. *Nucl. Acids Res.* **26**: 338-350. PMID: PMC147179
166. Pradhan, S., Cummings, M., Roberts, R.J., Adams, R.L.P. (1998) Isolation, characterization and baculovirus-mediated expression of the cDNA encoding cytosine DNA methyltransferase from *Pisum sativum*. *Nucl. Acids Res.* **26**: 1214-1222. PMID: PMC147397
167. Serva, S., Weinhold, E., Roberts, R.J., Klimasauskas, S. (1998) Chemical display of thymine residues flipped out by DNA methyltransferases. *Nucl. Acids Res.* **26**: 3473-3479. PMID: PMC147733
168. O'Gara, M., Horton, J.R., Roberts, R.J., Cheng, X. (1998) Structures of *HhaI* methyltransferase complexed with substrates containing mismatches at the target base. *Nature Struct. Biol.* **5**: 872-877. PMID: PMC148168
169. Roberts, R.J. and Macelis, D. (1999) REBASE - Restriction enzymes and methylases. *Nucl. Acids Res.* **27**: 312-313. PMID: PMC148168
170. O'Gara, M., Zhang, X., Roberts, R.J., Cheng, X. (1999) Structure of a binary complex of *HhaI* methyltransferase with S-adenosyl-L-methionine formed in the presence of a short nonspecific DNA oligonucleotide. *J. Mol. Biol.* **287**: 201-209.
171. Pradhan, S., Bacolla, A., Wells, R.D., Roberts, R.J. (1999) Recombinant human DNA (cytosine-5) methyltransferase. I. Expression, purification, and comparison of *De novo* and maintenance methylation. *J. Biol. Chem.* **274**: 33002-33010.
172. Bacolla, A., Pradhan, S., Roberts, R.J., Wells, R.D. (1999) Recombinant human DNA (cytosine-5) methyltransferase. II. Steady-state kinetics reveal allosteric activation by methylated DNA. *J. Biol. Chem.* **274**: 33011-33019.
173. Rajski, S.R., Kumar, S., Roberts, R.J., Barton, J.K. (1999) Protein-modulated DNA electron transfer. *J. Amer. Chem. Soc.* **121**: 5615-5616.

174. Roberts, R.J. and Macelis, D. (2000) REBASE-Restriction enzymes and methylases. *Nucl. Acids Res.* **28**: 306-307. PMID: PMC102482
175. Roberts, R.J. (2000) The early days of bioinformatics publishing. *Bioinformatics* **16**: 2-4.
176. Margot, J.B., Aguirre-Arteta, A.M., Di Giacomo, B.V., Pradhan, S., Roberts, R.J., Cardoso, M.C. and Leonhardt, H. (2000) Structure and function of the mouse DNA methyltransferase gene: Dnmt1 shows a tripartite structure. *J. Mol. Biol.* **297**: 293-300.
177. Pradhan, S. and Roberts, R.J. (2000) Hybrid mouse-prokaryotic DNA (cytosine-5) methyltransferases retain the specificity of the parental C-terminal domain. *The EMBO J.* **19**: 2103-2114. PMID: PMC305692
178. Xu, Q., Stickel, S., Roberts, R.J., Blaser, M.J. and Morgan, R.D. (2000) Purification of the novel endonuclease, *Hpy188I*, and cloning of its restriction-modification genes reveal evidence of its horizontal transfer to the *Helicobacter pylori* genome. *J. Biol. Chem.* **275**: 17086-17093.
179. Kong, H., Lin, L.-F., Porter, N., Stickel, S., Byrd, D., Posfai, J. and Roberts, R.J. (2000) Functional analysis of putative restriction-modification system genes in the *Helicobacter pylori* J99 genome. *Nucleic Acids Research* **28**: 3216-3223. PMID: PMC110709
180. Xu, Q., Morgan, R.D., Roberts, R.J. and Blaser, M.J. (2000) Identification of type II restriction and modification systems in *Helicobacter pylori* reveals their substantial diversity among strains. *Proc. Natl. Acad. Sci. USA* **97**: 9671-9676. PMID: PMC16923
181. Roberts, R.J. and Macelis, D. (2001) REBASE-Restriction enzymes and methylases. *Nucl. Acids Res.* **29**: 268-269. PMID: PMC29853
182. Roberts, R.J. (2001) PubMed Central: The GenBank of the Published Literature. *Proc. Natl. Acad. Sci.* **98**: 381-382. PMID: PMC33354
183. Venter, J.C., Adams, M.D., Myers, G., Li, P., Mural, R.J., Sutton, G., Smith, H.O., Yandell, M., Evans, C.A., Holt, R.A., Gocayne, J.D., Amanatides, P., Ballew, R.M., Huson, D.H., Russo Wortman, J., Zhang, Q., Kodira, C., Zheng, X., Chen, L., Skupski, M., Subramanian, G., Thomas, P.D., Zhang, J., Gabor Miklos, G.L., Nelson, C., Broder, S., Clark, A.G., Nadeau, J., McKusick, V., Zinder, N., Levine, A.J., Roberts, R.J., Simon, M., Slayman, C., Hunkapiller, M., Bolanos, R., Delcher, A., Dew, I., Fasulo, D., Flanigan, M., Florea, L., Halpern, A., Hannenhalli, S., Kravitz, Levy, S., Mobarry, C., Reinert, K., Remington, K., Abu-Threideh, J., Beasley, E., Biddick, K., Bonazzi, V., Brandon, R., Cargill, M., Chandramouliswaran, I., Charlab, R., Chaturvedi, K., Deng, Z., Di Francesco, V., Dunn, P., Eilbeck, K., Evangelista, C., Gabrielian, A.E., Gan, W., Ge, W., Gong, F., Gu, Z., Guan, P., Heiman, T.A., . Higgins, M.E., Ji, R.-R., Ke, Z., Ketchum, K.A., Lai, Z., Lei, Y., Li, Z., Li, J., Liang, Y., Lin, X., Lu, F., Merkulov, G., Milshina, N., Moore, H.M., Naik, A.K., Narayan, V.A., Neelam, B., Nuskern, D., Rusch, D.B., Salzberg, S., Shao, W., Shue, B., Sun, J., Wang, Z.Y., Wang, A., Wang, X., Wang, J., Wei, M.-H., Wides, R., Xiao, C., Yan, C., Yao, A., Ye, J., Zhan, M., Zhang, W., Zhang, H., Zhao, Q., Zheng, L., Zhong, F., Zhong, W., Zhu, S.Z., Zhao, S., Gilbert, D., Baumhueter, S., Spier, G., Carter, C., Cravchik, A., Woodage, T., Ali, F., An, H., Awe, A., Baldwin, D., Baden, H., Barnstead, M., Barrow, I., Beeson, K., Busam, D., Carver, A., Center, A., Cheng, M.L., Curry, L., Danaher, S., Davenport, L., Desilets, R., Dietz,

- S., Dodson, K., Doup, L., Ferriera, S., Garg, N., Gluecksmann, A., Hart, B., Haynes, J., Haynes, C., Heiner, C., Hladun, S., Hostin, D., Houck, J., Howland, T., Ibegwam, C., Johnson, J., Kalush, F., Kline, L., Koduru, S., Love, A., Mann, F., May, D., McCawley, S., McIntosh, T., McMullen, I., Moy, M., Moy, L., Murphy, B., Nelson, K., Pfannkoch, C., Pratts, E., Puri, V., Qureshi, H., Reardon, M., Rodriguez, R., Rogers, Y.-H., Romblad, D., Ruhfel, B., Scott, R., Sitter, C., Smallwood, M., Stewart, E., Strong, R., Suh, E., Thomas, R., Tint, N.N., Tse, S., Vech, C., Wang, G., Wetter, J., Williams, S., Williams, M., Windsor, S., Winn-Deen, E., Wolfe, K., Zaveri, J., Zaveri, K., Abril, J.F., Guigo, R., Campbell, M.J., Sjolander, K.V., Karlak, B., Kejariwal, A., Mi, H., Lazareva, B., Hatton, T., Narechania, A., Diemer, K., Muruganujan, A., Guo, N., Sato, S., Bafna, V., Istrail, S., Lippert, R., Schwartz, R., Walenz, B., Yooseph, S., Allen, D., Basu, A., Baxendale, J., Blick, L., Caminha, M., Carnes-Stine, J., Caulk, P., Chiang, Y.-H., Coyne, M., Dahlke, C., Deslattes Mays, A., Dombroski, M., Donnelly, M., Ely, D., Esparham, S., Fosler, C., Gire, H., Glanowski, S., Glasser, K., Glodek, A., Gorokhov, M., Graham, K., Gropman, B., Harris, M., Heil, J., Henderson, S., Hoover, J., Jennings, D., Jordan, C., Jordan, J., Kasha, J., Kagan, L., Kraft, C., Levitsky, A., Lewis, M., Liu, X., Lopez, J., Ma, D., Majoros, A., McDaniel, J., Murphy, S., Newman, M., Nguyen, T., Nguyen, N., Nodell, M., Pan, S., Peck, J., Rowe, W., Sanders, R., Scott, J., Simpson, M., Smith, T., Sprague, A., Stockwell, T., Turner, R., Venter, E., Wang, M., Wen, M., Wu, D., Wu, M., Xia, A., Zandieh, A., Zhu, X. (2001) The sequence of the human genome. *Science* **291**: 1304-1351.
184. Roberts, R.J., Varmus, H.E., Ashburner, M., Brown, P.O., Eisen, M.B., Khosla, C., Kirschner, M., Nusse, R., Scott, M., Wold, B. (2001) Building a "GenBank" of the published literature. *Science* **291**: 2318-2319.
185. Lin, L.-F., Posfai, J., Roberts, R.J., Kong, H. (2001) Comparative genomics of the restriction-modification systems in *Helicobacter pylori*. *Proc. Natl. Acad. Sci. USA* **98**: 2740-2745.
186. Bacolla, A., Pradhan, S., Larson, J.E., Roberts, R.J., Wells, R.D. (2001) Recombinant human DNA (cytosine-5) methyltransferase. III. Allosteric control, reaction order, and influence of plasmid topology and triplet repeat length on methylation of the fragile X CGG•CCG sequence. *J. Biol. Chem.* **276**: 18605-18613.
187. Cheng, X. and Roberts, R.J. (2001) AdoMet-dependent methylation, DNA methyltransferases and base flipping. *Nucl. Acids Res.*, **29**: 3784-3795. PMID: PMC55914
188. Cheng, X. and Roberts, R.J. (2001) Base Flipping. *Encyclopedia of Life Sciences*, Nature Publishing Group. www.els.net
189. Kim, G.-D., Ni, J., Kelesoglu, N., Roberts, R.J., Pradhan, S. (2002) Cooperation and communication between human maintenance and *de novo* DNA (cytosine-5) methyltransferases. *EMBO J.* **21**: 4183-4195. PMID: PMC126147
190. Zheng, Y., Szustakowski, J.D., Fortnow, L., Roberts, R.J., Kasif, S. (2002) Computational identification of operons in microbial genomes. *Genome Research* **12**: 1221-1230. PMID: PMC186635
191. Xu, Q., Morgan, R.D., Roberts, R.J., Xu, S.Y., van Doorn, L.J., Donahue, J.P., Miller, G.G., Blaser, M.J. (2002) Functional analysis of *iceA1*, a CATG-recognizing restriction

- endonuclease gene in *Helicobacter pylori*. *Nucl. Acids Res.* **30**: 3839-3847. PMID: PMC137426
192. Zheng, Y., Roberts, R.J. and Kasif, S. (2002) Genomic functional annotation using co-evolution profiles of gene clusters. *Genome Biology.* **3**: RESEARCH0060. PMID: PMC133444
193. Roberts, R.J., Vincze, T., Posfai, J., Macelis, D. (2003) REBASE – Restriction enzymes and methyltransferases. *Nucl. Acids Res.* **31**: 418-420. PMID: PMC165516
194. Roberts, R.J., Belfort, M., Bestor, T., Bhagwat, A.S., Bickle, T.A., Bitinaite J., Blumenthal, R.M., Degtyarev, S.Kh., Dryden, D.T.F., Dybvig, K., Firman, K., Gromova, E.S., Gumpport, R.I., Halford, S.E., Hattman, S., Heitman, J., Hornby, D.P., Janulaitis, A., Jeltsch, A., Josephsen, J., Kiss, A., Klaenhammer, T.R., Kobayashi, I., Kong, H., Kruger, D.H. Lacks, S. Marinus, M.G., Miyahara, M., Morgan, R.D., Murray, N.E., Nagaraj, V., Piekarowicz, A., Pingoud, A., Raleigh, E., Rao, D.N., Reich, N., Repin, V.E., Selker, E.U., Shaw, P.-C., Stein, D.C., Stoddard, B.L., Szybalski W., Trautner, T.A. Van Etten, J.L., Vitor, J.M.B., Wilson, G.G., Xu, S.-y. (2003) A nomenclature for restriction enzymes, DNA methyltransferases, homing endonucleases and their genes. *Nucl. Acids Res.* **31**: 1805-1812. PMID: PMC152790
195. Vincze, T., Posfai, J., Roberts, R.J. (2003) NEBcutter: A program to cleave DNA with restriction enzymes. *Nucl. Acids Res.* **31**: 3688-3691. PMID: PMC168933
196. Roberts, R.J. (2004) Identifying protein function – a call for community action. *PLoS Biology.* **2**: 293-294. PMID: PMC368155
197. Roberts, R.J., Belfort, M., Bestor, T., Bhagwat, A.S., Bickle, T.A., Bitinaite, J., Blumenthal, R.M., Degtyarev, S.K., Dryden, D.T.F., Dybvig, K., Firman, K., Gromova, E.S., Gumpport, R.I., Halford, S.E., Hattman, S., Heitman, J., Hornby, D.P., Janulaitis, A., Jeltsch, A., Josephsen, J., Kiss, A., Klaenhammer, T.R., Kobayashi, I., Kong, H., Krueger, D.H., Lacks, S., Marinus, M.G., Miyahara, M., Morgan, R.D., Murray, N.E., Nagaraja, V., Piekarowicz, A., Pingoud, A., Raleigh, E., Rao, D.N., Reich, N., Repin, V.E., Selker, E.U., Shaw, P.-C., Sein, D.C., Stoddard, B.L., Szybalski, W., Trautner, T.A., Van Etten, J.L., Vitor, J.M.B., Wilson, G.G., Xu, S.-Y. (2004) A nomenclature for restriction enzymes, DNA methyltransferases, homing endonucleases, and their genes. *Nucleic Acids and Molecular Biology*, Vol. **14**, Alfred Pingoud (Ed.) *Restriction Endonucleases*, Springer-Verlag Berlin Heidelberg.
198. Zheng, Y., Roberts, R.J., Kasif, S. (2004) Segmentally Variable Genes: A new perspective on adaptation, *PLoS Biology* **2**: 452-464. PMID: PMC387263
199. Dong, A., Zhou, L., Zhang, X., Stickel, S., Roberts, R.J. and Cheng, X. (2004) Structure of the Q237W mutant of HhaI DNA methyltransferase: An insight into protein-protein interactions, *Biol. Chem.* **385**: 373-379.
200. Yang, Z., Shipman, L., Zhang, M., Anton, B., Roberts, R.J., Cheng, X. (2004) Structural characterization and comparative phylogenetic analysis of *E. coli* HemK, a protein (N5)-glutamine methyltransferase. *J. Mol. Biol.* **340**: 695-706. PMID: PMC2713863

201. Xu, Q.S., Kucera, R.B., Roberts R.J. and Guo H-C. (2004) An asymmetric complex of restriction endonuclease MspI on its palindromic DNA recognition site. *Structure* **12**: 1741-1747.
202. Zheng, Y., Roberts, R.J., Kasif, S. (2004) Identification of genes with fast-evolving regions in microbial genomes. *Nucl. Acids Res.* **32**: 6347-6357. PMID: PMC535660
203. Roberts, R.J., Vincze, T., Posfai, J., Macelis, D. (2005) REBASE – Restriction enzymes and DNA methyltransferases. *Nucl. Acids Res.* **33**: D230-D232. PMID: PMC539983
204. Posfai, J., Roberts, R.J., Vincze, T. (2005) NEBcutter—A program to cleave DNA with restriction enzymes. *Encyclopedia of Diagnostic Genomics and Proteomics*, pp. 896-900.
205. Roberts, R.J. (2005) How restriction enzymes became the workhorses of molecular biology. *Proc. Natl. Acad. Sci.* **102**: 5905-5908. PMID: PMC1087929
206. Xu, Q.S., Roberts, R.J., Guo, H.-C. (2005) Two crystal forms of the restriction enzyme MspI-DNA complex show the same novel structure. *Protein Science* **14**: 2590-2600. PMID: PMC2253285
207. Zheng, Y., Anton, B., Roberts, R.J., Kasif, S. (2005) Phylogenetic detection of conserved gene clusters in microbial genomes. *BMC Bioinformatics* **6**: 243. PMID: PMC1266350
208. Yang, Z., Horton, J.R., Maunus, R., Wilson, G.G., Roberts, R.J., Cheng, X. (2005) Structure of HinP1I endonuclease reveals a striking similarity to the monomeric restriction enzyme MspI. *Nucl. Acids Res.* **33**: 1892-1901. PMID: PMC1074309
209. Zheng, Y., Roberts, R.J., Kasif, S., Guan, C. (2005) Characterization of two new aminopeptidases in *Escherichia coli*. *J. Bacteriol.* **187**: 3671-3677. PMID: PMC1112042
210. Horton, J.R., Zhang, X., Maunus, R., Yang, Z., Wilson, G.G., Roberts, R.J., Cheng, X. (2006) DNA nicking by HinP1I endonuclease: Bending, base flipping, and minor groove expansion. *Nucl. Acids Res.* **34**: 939-948. PMID: PMC1363774
211. O'Driscoll, J., Heiter, D.F., Wilson, G.G., Fitzgerald, G.F., Roberts, R.J., van Sinderen, D. (2006) A genetic dissection of the LlaJI restriction cassette reveals insights on a novel bacteriophage resistance system, *BMC Microbiology* **6**: 40. PMID: PMC1459862
212. Roberts, R.J., Vincze, T., Posfai, J., Macelis, D. (2007) REBASE -- Restriction enzymes and DNA methylases. *Nucl. Acids Res.*, **35**: D269-D270. PMID: PMC1899104
213. Engelward, B.P., Roberts, R.J. (2007) Open access to research is in the public interest. *PLoS Biology* **5**: e48. PMID: PMC1796937
214. Zheng, Y., Roberts, R.J. (2007) Selection of restriction endonucleases using artificial cells. *Nucl. Acids Res.* **35**: e83. PMID: PMC1920265
215. Anton, B.P., Saleh, L., Benner, J.S., Raleigh, E.A., Kasif, S., Roberts, R.J. (2008) RimO, a MiaB-like enzyme, methylthiolates the universally conserved Asp88 residue of ribosomal

- protein S12 in *Escherichia coli*. Proc. Natl. Acad. Sci. USA, **105**: 1826-1831. PMID: PMC2538847
216. Niv, M.Y., Skrabanek, L., Roberts, R.J., Scheraga, H.A., Weinstein, H. (2008) Identification of GATC- and CCGG-recognizing Type II REases and their putative specificity-determining positions using Scan2S--a novel motif scan algorithm with optional secondary structure constraints. *Proteins*. 71: 631-640. PMID: PMC2465807
 217. Roberts, R.J. (2008) Restriction and modification enzymes and their recognition sequences. In *Life Illuminated*. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY. pp. 215-216.
 218. Roberts, R.J. (2008) HhaI methyltransferase flips its target base out of the DNA helix. In *Life Illuminated*. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY. pp. 51-53.
 219. Neely, R.K., Roberts, R.J. (2008) The BsaHI restriction-modification system: Cloning, sequencing and characterisation of DNA recognising motifs. *BMC Molecular Biology* 9: 48. PMID: PMC2413257
 220. Zheng, Y., Posfai, J., Morgan, R.D., Vincze, T. and Roberts, R.J. (2009) Using Shotgun Sequence Data to find Active Restriction Enzyme Genes. *Nucleic Acids Research* 37: e1. PMID: PMC2615612
 221. Lee, K.H., Saleh, L., Anton, B.P., Madinger, C.L., Benner, J.S., Iwig, D.F., Roberts, R.J., Krebs, C., Booker, S.J. (2009) Characterization of RimO, a new member of the methylthiotransferase subclass of the radical SAM superfamily. *Biochemistry* 48: 10162-10174. PMID: PMC2952840
 222. Roberts, R.J., Vincze, T., Posfai, J., Macelis, D. (2010) REBASE – a database for DNA restriction and modification: enzymes, genes and genomes. *Nucleic Acids Research* 38: D234-D236. PMID: PMC2808884
 223. Cheng, X. and Roberts, R.J. (2010) Base Flipping. In: *Encyclopedia of Life Sciences (ELS)*. John Wiley & Sons, Ltd: Chichester.
 224. Zheng, Y., Cohen-Karni, D., Xu, D., Chin, H.G., Wilson, G. Pradhan, S., Roberts, R.J. (2010) A unique family of Mrr-like modification-dependent restriction endonucleases. *Nucleic Acids Research* 38: 5527-5534. DOI: 10.1093/nar/gkq327. PMID: PMC2938202
 225. Anton, B.P., Russell, S., Vertrees, J., Kasif, S., Raleigh, E.A., Limbach, P.A., Roberts, R.J. (2010) Functional characterization of the YmcB and YqeV tRNA methylthiotransferases of *Bacillus subtilis*. *Nucl. Acids Res.* 38: 6195-6205. doi: 10.1093/nar/gkq364 PMID: PMC2952846
 226. Rasko, T., Der, A., Klement, E., Slaska-Kiss, K., Posfai, E., Medzihradsky, K.F., Marshak, D.R., Roberts, R.J., Kiss, A. (2010) BspRI restriction endonuclease: cloning, expression in *E. coli* and sequential cleavage mechanism. *Nucl. Acids Res.* 7155–7166 doi: 10.1093/nar/gkq567. PMID: PMC2978348

227. Laget, S., Joulie, M., Le Masson, F., Sasai, N., Christians, E., Pradhan, S., Roberts, R.J., Defossez, P.-A. (2010) The human proteins MBD5 and MBD6 associate with heterochromatin but they do not bind methylated DNA. *PLoS One* 5: e11982. PMID: PMC2917364
228. Murray, I.A, Stickel, S.K. and Roberts, R.J. (2010) Sequence-specific cleavage of RNA by Type II restriction enzymes, *Nucl. Acids Res.* 38: 8257-8268. doi: 10.1093/nar/gkq702. PMID: PMC3001074
229. Roberts, R.J., Chang, Y.-C., Hu, Z., Rachlin, J.N., Anton, B.P., Pokrzywa, R.M., Choi, H.-P., Faller, L.L., Guleria, J., Housman, G., Klitgord, N., Mazumdar, V., McGettrick, M.G., Osmani, L., Swaminathan, R., Tao, K.R., Letovsky, S., Vitkup, D., Segré, D., Salzberg, S.L., Delisi, C., Steffen, M., Kasif, S. (2010) COMBREX: a project to accelerate the functional annotation of prokaryotic genomes. *Nucl. Acids Res.* 39: D11-D14. doi: 10.1093/nar/gkq1168. PMID: PMC3013729
230. Cohen-Karni, D., Xu, D., Apone, L., Formenkov, A., Sun, Z., Davis, P.J., Morey Kinney, S.R., Yamada-Mabuchi, M., Xu, S.-y., Davis, T., Pradhan, S. Roberts, R.J., Zheng, Y. (2011) The MspJI family of modification-dependent restriction endonucleases for epigenetic studies. *Proc. Natl. Acad. Sci.* 108: 11040-11045. doi: 10.1073/pnas.1018448108. PMID: PMC3131316
231. Wang, H., Guan, S., Quimby, A., Cohen-Karni, D., Pradhan, S., Wilson, G.G., Roberts, R.J., Zhu, Z. and Zheng, Y. (2011) Comparative characterization of the PvuRts1I family of restriction enzymes and their application in mapping genomic 5-hydroxymethylcytosine. *Nucl. Acids Res.* 39: 9294-9305. doi: 10.1093/nar/gkr607. PMID: PMC3241641
232. Roberts, R.J. (2011) COMBREX – COMputational BRIdges to EXperiments. *Biochem. Soc. Trans.* 39: 581-582. PMID: PMC3064401
233. Callahan, S.J., Morgan, R.D., Jain, R., Townson, S.A., Wilson, G.,G. Roberts, R.J., Aggarwal, A.K. (2011) Crystallization and preliminary crystallographic analysis of the Type III restriction enzyme Mmel in complex with DNA. *Acta Crystallographica Section F: Structural biology and crystallization communications* F67: 1262-1265. PMID: PMC3212378
234. Clark, T.A., Murray, I.A., Morgan, R.D., Kislyuk, A.O., Spittle, K.E., Boitano, M., Fomenkov, A., Roberts, R.J., Korlach, J. (2012) Characterization of DNA methyltransferase specificities using single-molecule, real-time DNA sequencing. *Nucl. Acids Res.* 40: e29. doi: 10.1093/nar/gkr1146. PMID: PMC3287169
235. Huete-Perez, J.A., Roberts, R.J., Quezada, F. (2012) Marine genome resource sustainability in Central America. *Electronic Journal of Biotechnology* 15: 14. <http://dx.doi.org/10.2225/vol15-issue5-fulltext-14>.
236. Horton, J.R., Mabuchi, M., Cohen-Karni, D., Zhang, X., Griggs, R., Samaranayake, M., Roberts, R.J., Zheng, Y., Cheng, X. (2012) Structure and cleavage activity of the tetrameric MspJI DNA modification-dependent restriction endonuclease. *Nucleic Acids Research*, 40: 9763-9773. Doi: 10.1093/nar/gks719. PMID: PMC3479186

237. Murray, I.A., Clark, T.A., Morgan, R.D., Boitano, M., Anton, B.P., Luong, K., Fomenkov, A., Turner, S.W., Korfach, J., Roberts, R.J. (2012) The methylomes of six bacteria. *Nucleic Acids Research*, 40: 11450-11462. Doi: 10.1093/nar/gks891. PMID: PMC3526280
238. Fang, G., Munera, D., Friedman, D.I., Mandlik, A., Chao, M.C., Banerjee, O., Feng, Z., Losic, B., Mahajan, M.C., Jabado, O.J., Deikus, G., Clark, T.A., Luong, K., Murray, I.A., Davis, B.M., Keren-Paz, A., Chess, A., Roberts, R.J., Korfach, J., Turner, S.W., Kumar, V., Waldor, M.K., Schadt, E.E. (2012) Genome-wide mapping of methylated adenine residues in pathogenic *Escherichia coli* using single-molecule real-time sequencing. *Nature Biotech.* 30:1232–1239. Doi: 10.1038/nbt.2432. PMID: PMC3526280
239. Allard, M.W., Muruvanda, T., Strain, E., Timme, R., Luo, Y., Wang, C., Keys, C.E., Payne, J., Cooper, T., Luong, K., Song, Y., Chin, C.-S., Korfach, J., Roberts, R.J., Evans, P., Musser, S.M., Brown, E.W. (2013) Fully assembled genome sequence for *Salmonella enterica* subsp. *Enterica* serovar Javiana CFSAN001992. *Genome Announcements*. 1: e00081-13. doi:10.1128/genomeA.00081-13. PMID: PMC3622996. *Author correction*: Allard, M.W., Muruvanda, T., Strain, E., Timme, R., Luo, Y., Wang, C., Keys, C.E., Payne, J., Cooper, T., Luong, K., Song, Y., Chin, C.-S., Korfach, J., Roberts, R.J., Evans, P., Musser, S.M., Brown, E.W. (2014) Fully assembled genome sequence for *Salmonella enterica* subsp. *Enterica* serovar Javiana CFSAN001992. *Genome Announcements* 2:e00293-14. Doi:10.1128/genomeA.00293-14.
240. Roberts, R.J., Carneiro, M.O. and Schatz, M. (2013) The advantages of SMRT™ sequencing. *Genome Biology* 14: 405. PMID: PMC3953343
241. Anton, B.P., Chang, Y.-C., Brown, P., Choi, H.-P., Faller, L.L., Guleria, J., Hu, Z., Klitgord, N., Levy-Moonshine, A., Maksad, A., Mazumdar, V., McGettrick, M., Osmani, L., Pokrzywa, R., Rachlin, J., Swaminathan, R., Allen, B., Housman, G., Monahan, C., Rochussen, K., Tao, K., Bhagwat, A., Brenner, S., Columbus, L., de Crecy-Lagard, V., Ferguson, D., Fomenkov, A., Gadda, G., Morgan, R.D., Osterman, A.L., Rodionov, D.A., Rodionova, I.A., Rudd, K.E., Soll, D., Spain, J., Xu, S.-y., Bateman, A., Blumenthal, R.M., Bollinger, J.M., Chang, W.-S., Ferrer, M., Friedberg, I., Galperin, M., Gobeill, J., Haft, D., Hunt, J., Karp, P., Klimke, W., Krebs, C., Macelis, D., Madupu, R., Martin, M.J., Miller, J.H., O'Donovan, C., Palsson, B., Ruch, P., Setterdahl, A., Sutton, G., Tate, J., Yakunin, A., Tchigvintsev, D., Plata, G., Hu, J., Greiner, R., Horn, D., Sjolander, K., Salzberg, S.L., Vitkup, D., Letovsky, S., Segre, D., DeLisi, C., Roberts, R.J., Steffen, M., Kasif, S. (2013) The COMBREX Project: Design, Methodology, and Initial Results. *PLoS Biology* 11: e1001638. PMID: PMC3754883
242. Garrity, G.M., Banfield, J., Eisen, J., van der Lelie, N., McMahon, T., Rusch, D., DeLong, E., Moran, M.A., Currie, C., Furhman, J., Hallam, S., Hugenholtz, P., Moran, N., Nelson, K., Roberts, R., Stepanauskas, R. (2013) *Stand Genomic Sci.* 8: 561–570. Doi: 10.4056/signs.4638348. PMID: PMC3910701
243. Hoffmann, M., Muruvanda, T., Allard, M., Korfach, J., Roberts, R., Timme, R., Payne, J., McDermott, P., Evans, P., Meng, J., Brown, E., Zhao, S. (2013) Complete genome sequence of a multidrug-resistant *Salmonella enterica* serovar Typhimurium var. 5-strain isolated from chicken breast. *Genome Announcements* 1: e01068-13. Doi:10.1128/genomeA.01068.13. PMID: PMC24699967. *Author correction*: Hoffmann, M., Muruvanda, T., Allard, M., Korfach, J., Roberts, R., Timme, R., Payne, J., McDermott, P., Evans, P., Meng, J., Brown, E., Zhao, S. *Genome Announcements* (2014) Complete genome sequence of a multidrug-

- resistant *Salmonella enterica* serovar Typhimurium var. 5-strain isolated from chicken breast. *Genome Announcements* 2:e00294-14. Doi:10.1128/genomeA.00294-14.
244. Krebes, J., Morgan, R.D., Bunk, B., Spröer, C., Luong, K., Parusel, R., Anton, B.P., König, C., Josenhans, C., Overmann, J., Roberts, R.J., Korfach, J., Suerbaum, S. (2014) The complex methylome of the human gastric pathogen *Helicobacter pylori*. *Nucleic Acids Res.* 42: 2415-2432. Doi:10.1093/nar/gkt1201. PMID: PMC3936762
245. Laget, S., Miotto, B., Chin, H.-G., Esteve, P.-O., Roberts, R.J., Pradhan, S., Defossez, P.-A. (2014) MBD4 cooperates with DNMT1 to mediate methyl-DNA repression and protects mammalian cells from oxidative stress. *Epigenetics* 9: 546-556. PMID: PMC4121365
246. O'Connell Motherway, M., Watson, D., Bottacini, F., Clark, T.A., Roberts, R.J., Korfach, J., Garault, P., Chervaux, C., van Hylckama Vlieg, J.E.T., Smokvina, T., van Sinderen, D. (2014) Identification of restriction-modification systems of *Bifidobacterium animalis* subsp. lactis CNCM I-2494 by SMRT sequencing and associated Methylome analysis. *PLoS One* 9: e94875. PMID: PMC3990576
247. Anton, B.P., Kasif, S., Roberts, R.J., Steffen, M. (2014) Objective: Biochemical Function. *Frontiers in Genetics* 5: 210. PMID: PMC4085566
248. Cheng, X. and Roberts, R.J. (2014) Base Flipping. In: eLS 2014, John Wiley & Sons Ltd: Chichester <http://www.els.net/>. Doi: 10.1002/9780470015902.a0002714.pub3
249. Horton, J.R., Wang, H., Mabuchi, M.Y., Zhang, X., Roberts, R.J., Zheng, Y., Wilson, G.G., Cheng, X. (2014) Modification-dependent restriction endonuclease, MspJI, flips 5-methylcytosine out of the DNA helix. *Nucleic Acids Research* 42: 12092-12101. PMID: PMC4231741.
250. Roberts, R.J. (2014) A crime against humanity. *China Policy Review* 10: 110-113.
251. Roberts, R.J., Vincze, T., Posfai, J., Macelis, D. (2015) REBASE – A database for DNA restriction and modification: enzymes, genes and genomes. *Nucleic Acids Research* 43: D298-D299.
252. Roberts, R.J. (2015) Ten Simple Rules to win a Nobel Prize. *PLoS Comput Biol* 11(4): e1004084. Doi:10.1371/journal.pcbi.1004084.
253. Fomenkov, A., Lunnen, K.D., Zhu, Z., Wilson, G.G., Vincze, T., Roberts, R.J. (2015) Complete genome sequence and methylome analysis of *Bacillus* strain X1. *Genome Announcements*, 3: e01593-14. Doi:10.1128/genomeA.01593-14.
254. Pais, J.E., Dai, N., Tamanaha, E., Vaisvilila, R., Fomenkov, A., Bitinaite, J., Sun, Z., Guan, S., Correa, I.R., Jr., Noren, C.J., Cheng, X., Roberts, R.J., Zheng, Y., Saleh, L. (2015) Biochemical characterization of a *Naegleria* TET-like oxygenase and its application in single molecule sequencing of 5-methylcytosine. *Proc. Natl. Acad. Sci. U S A* 112: 4316-4321.
255. Pirone-Davies, C., Hoffmann, M., Roberts, R.J., Muruvanda, T., Timme, R., Strain, E., Luo, Y., Payne, J, Luong, K., Song, Y., Tsai, Y.-C., Boitano, M., Clark, T.A., Korfach, J., Evans, P.,

- Allard, M.W. (2015) Genome-wide methylation patterns in *Salmonella enterica* subsp. *Enterica* serovars, PLOS ONE 10: e0123639. Doi:10.1371/journal.pone.0123639.
256. Seib, K.L., Jen, F.E.-C., Tan, A., Scott, A.L., Kumar, R., Power, P.M., Chen, L.-T., Wu, H.-J., Wang, A.H.-J., Hill, D.M.C., Luyten, Y.A., Morgan, R.D., Roberts, R.J., Maiden, M.C.J., Boitano, M., Clark, T.A., Korch, J., Rao, D.N., Jennings, M.P. (2015) Specificity of the ModA11, ModA12 and ModD1 epigenetic regulator N6-adenine DNA methyltransferases of *Neisseria meningitidis*, Nucleic Acids Research 43: 4150-4162. Doi:10.1093/nar/gkv219.
257. Anton, B.P., Mongodin, E.F., Agrawal, S., Fomenkov, A., Byrd, D.R., Roberts, R.J., Raleigh, E.A. (2015) Complete genome sequence of ER2796, a DNA methyltransferase-deficient strain of *Escherichia coli* K-12. PLoS ONE 10(5): e0127446. Doi:10.1371/journal.pone.0127446.
258. Xu, S.-y., Boitano, M., Clark, T.A., Vincze, T., Fomenkov, A., Kumar, S., Too, P.H.-M., Gonchar, D., Degtyarev, S.K., Roberts, R.J. (2015) Complete genome sequence analysis of *Bacillus subtilis* T30. Genome Announcements 3: e00395-15. Doi:10.1128/genomeA.00395-15.
259. Pettengill, E., Hoffman, M., Binet, R., Roberts, R.J., Payne, J., Allard, M., Michelacci, V., Minelli, F., Morabito, S. (2015) Complete genome sequence of Enteroinvasive *Escherichia coli* O96:H19 associated with a severe foodborne outbreak. Genome Announcements 3: e00883-15. Doi:10.1128/genomeA.00883-15.
260. Hoffmann, M., Payne, J., Roberts, R.J., Allard, M.W., Brown, E.W., Pettengill, J.B. (2015) Complete genome sequence of *Salmonella enterica* Serovar Agona 460004 2-1, associated with a multistate outbreak in the United States. Genome Announcements 3: e00690-15. Doi:10.1128/genomeA.00690-15.
261. Lee, W.C., Anton, B.P., Roberts, R.J., Wang, S., Baybayan, P., Singh, S., Ashby, M., Chua, E.G., Tay, C.Y., Thirriot, F., Loke, M.F., Goh, K.L., Marshall, B.J., Roberts, R.J., Vadivelu, J. (2015) The complete methylome of *Helicobacter pylori* UM032. BMC Genomics 16: 424.
262. Fomenkov, A., Vincze, T., Grabovich, M.Y., Dubinina, G., Orlova, M., Belousova, E., Roberts, R.J. (2015) Complete genome sequence of the freshwater colorless sulfur bacterium *Beggiatoa leptomitiformis* neotype strain D-402. Genome Announcements 3:e01436-15. Doi: 10.1128/genomeA.01436-15.
263. Chang, Y.-C., Hu, Z., Rachlin, J., Anton, B.P., Kasif, S., Roberts, R.J., Steffen, M. (2016) COMBEX-DB: An experiment centered database of protein function: knowledge, predictions and knowledge gaps. Nucl. Acids Res., Doi: 10.1093/nar/gkv1324.
264. Fomenkov, A., Vincze, T., Grabovich, M., Anton, B.P., Dubinina, G., Orlova, M., Belousova, E., Roberts, R.J. (2016) Complete genome sequence of a strain of *Azospirillum thiophilum* isolated from a sulfide spring. Genome Announcements 4:e01521-15. Doi:10.1128/genomeA.01521-15.
265. Yao, K., Muruvanda, T., Roberts, R.J., Payne, J., Allard, M.W., Hoffmann, M. (2015) Complete genome and methylome sequences of two *Salmonella enterica* species. Genome Announcements, In press.

266. Huete-Perez, J.A., and Roberts, R.J. (2015) Genetically modified (GM) technology for sustainable agriculture in Central America. In: Greening value chains through Biotechnology Innovations: Case studies from developing and emerging economies, Submitted.
267. Skunca, N., Roberts, R.J., Steffen, M. (2016) Evaluating computational gene ontology annotations. In: Gene Ontology, Submitted.
268. Blow, M.J., Clark, T.A., Daum, C.G., Deutschbauer, A.M., Fomenkov, A., Fries, R., Froula, J., Kang, D.D., Malmstrom, R.R., Morgan, R.D., Posfai, J., Singh, K., Visel, A., Wetmore, K., Zhao, Z., Rubin, E.M., Korfach, J., Pennacchio, L.A., Roberts, R.J. (2016) The Epigenetic Landscape of Prokaryotes. PLoS Genetics, In Press.
269. Pettengill, E., Hoffman, M., Binet, R., Roberts, R.J., Payne, J. and Allard, M. (2016) Complete genome sequence of *Shigella sonnei* strain with increased stable invasion plasmid. Submitted.
270. Pettengill, E., Hoffman, M., Binet, R., Roberts, R.J., Payne, J., Allard, M., Michelacci, V., Minelli, F., Morabito, S. (2016) Complete Genome Sequence of Enteroinvasive *Escherichia coli* O96:H16 Associated with a Severe Food-borne Outbreak. Submitted.
271. Mariita, R.M., Bhatnagar, S., Hanselmann, K., Hossain, M.J., Korfach, J., Boitano, M., Roberts, R.J., Liles, M.R., Moss, A.G., Leadbetter, J.R., Newman, D.K., Dawson, S.C. (2016) Complete genome sequence of *Curtobacterium* sp. strain MR_MD2014 isolated from top soil in Woods Hole, MA. Genome Announcements, Submitted.
272. Mariita, R.M., Bhatnagar, S., Hanselmann, K., Hossain, M.J., Korfach, J., Boitano, M., Roberts, R.J., Liles, M.R., Moss, A.G., Leadbetter, J.R., Newman, D.K., Dawson, S.C. (2016) Complete genome sequence of *Streptomyces* sp. strain CCM_MD2014 isolated from top soil in Woods Hole, MA. Genome Announcements, Submitted.
273. Callahan, S.J., Luyten, Y.A., Gupta, Y.K., Wilson, G.G., Roberts, R.J., Morgan, R.D., Aggarwal, A.K. (2016) Structure of Type III_L restriction enzyme Mmel in complex with DNA has implications for engineering new specificities, Submitted.
274. Agre, P., Bertozzi, C., Bissell, M., Campbell, K., Cummings, R., Desai, U., Estes, M., Flotte, T., Fogleman, G., Gage, F., Ginsburg, D., Gordon, J.I., Hart, G., Hascall, V., Kiessling, L., Kornfeld, S., Lowe, J., Magnani, J., Mahal, L.K., Medzhitov, R., Roberts, R., Sackstein, R., Sarkar, R., Schnaar, R., Schwartz, N., Varki, A., Walt, D., Weissman, I. (2016) Training the Next Generation of Biomedical Investigators in Glycosciences. J. Clinical Research, Submitted.
275. Yao, K., Muruvanda, T., Roberts, R.J., Payne, J., Allard, M.W., Hoffmann, M. (2016) Complete genome and methylome sequences of *Salmonella* Panama ATCC®7378™ and *Salmonella* Sloterdijk ATCC®15791™. Genome Announcements, In press.

PATENTS (Issued).

1. Wong-Madden, S., Roberts, R.J. (1998) Method for cloning and expression of phosphorylation-dependent protein kinase. US 5763244 B1.

2. Roberts, R.J., Byrd, D.R., Morgan, R.D., Patti, J., Noren, C.J. (2002) Method for screening restriction endonucleases. US 6383770 B1.
3. Roberts, R.J., Byrd, D.R., Morgan, R.D., Patti, J., Noren, C.J. (2004) Method for screening restriction endonucleases. US 6689573 B1.
4. Roberts, R.J., Byrd, D.R. Morgan, R.D., Patti, J., Noren, C.J. (2005) Method for screening restriction endonucleases. US 6905837 B2.
5. Roberts, R.J., Zheng, Y. (2010) Selection and enrichment of proteins using in vitro compartmentalization. EP2118280 B1.
6. Zheng, Y., Roberts, R.J. (2012) Selection and enrichment of proteins using in vitro compartmentalization. US 8153358 B2.
7. Morgan, R.D., Roberts, R.J. (2012) Restriction endonucleases, DNA encoding these endonucleases and methods for identifying new endonucleases with the same or varied specificity. US 8227231 B2.
8. Zheng, Y., Roberts, R.J. (2013) Selection and enrichment of proteins using in vitro compartmentalization. US 8551734 B2.
9. Zheng, Y., Roberts, R.J. (2014) Compositions, methods and related uses for cleaving modified DNA. US 8653007 B2.
10. Morgan, R.D. and Roberts, R.J. (2014) Restriction endonucleases, DNA encoding these endonucleases and methods for identifying new endonucleases with the same or varied specificity. US 8685689 B2.
11. Zheng, Y. and Roberts, R.J. (2014) Selection and enrichment of proteins using in vitro compartmentalization. US 8753847 B2.
12. Bitinaite, J., Vaisvila, R., Pradhan, S., Zheng, Y., Roberts, R.J., Cohen-Karni, D., Noren, C., Raleigh, E.A., Wilson, G., China, H.-G. (2015) Detection and quantification of hydroxymethylated nucleotides in a polynucleotide preparation. US 9034597 B2.
13. Zheng, Y., Saleh, L., Pais, J., Dai, N., Roberts, R.J., Correa, I.R., Jr., Mabuchi, M., Viasvila, R. (2015) Composition and methods of oxygenation of nucleic acids containing 5-methylpyrimidine. US 9040239 B2.

PATENTS (Pending).

Morgan, R.D., Roberts, R.J. (2008) Novel restriction endonucleases, DNA encoding these endonucleases and methods for identifying new endonucleases with the same or varied specificity (Acil). EP, Filed 03/03/2008 (EP1919937).

Roberts, R.J., Zheng, Y. (2009) Selection and enrichment of proteins using in vitro compartmentalization. IN, Filed 07/15/2009.

- Zheng, Y., Roberts, R.J. (2009) Compositions, methods and related uses for cleaving modified DNA. US, Filed 12/22/2009 (US2010/0167942).
- Zheng, Y., Roberts, R.J. (2011) Compositions and methods for cleaving DNA using methylation-specific restriction endonucleases. IN, Filed 06/10/2011.
- Zheng, Y., Roberts, R.J. (2011) Compositions and methods for cleaving DNA using methylation-specific restriction endonucleases. JP, Filed 06/22/2011.
- Zheng, Y., Roberts, R.J. (2011) Compositions and methods for cleaving DNA using methylation-specific restriction endonucleases. CN, Filed 06/23/2011 (CN102264900A).
- Zheng, Y., Roberts, R.J. (2011) Compositions and methods for cleaving DNA using methylation-specific restriction endonucleases. EP, Filed 07/07/2011 (EP2376632).
- Bitinaite, J., Vaisvila, R., Pradhan, S., Zheng, Y., Roberts, R.J., Chin, H.-G., Cohen-Karni, D., Noren, C., Raleigh, E., Wilson, G. (2012) Detection and quantification of hydroxymethylated nucleotides in a polynucleotide preparation. EP, Filed 03/21/2012 (EP2470675).
- Morgan, R.D., Roberts, R.J. (2012) Novel restriction endonucleases, DNA encoding these endonucleases and methods for identifying new endonucleases with the same or varied specificity (PmeI). EP, Filed 06/28/2012 (EP2537925).
- Morgan, R.D., Roberts, R.J. (2012) Novel restriction endonucleases, DNA encoding these endonucleases and methods for identifying new endonucleases with the same or varied specificity (PacI). EP, Filed 06/28/2012 (EP2540823).

MISCELLANEOUS PUBLICATIONS.

1. Beynon, R., Modelevsky, J., Roberts, R., Soll, D. (1988) Editorial. CABIOS 4: 1.
2. Roberts, R.J. (1994) Protein Modification. The NEB Transcript 6: 3-5.
3. Roberts, R.J. (1995) On the early evolution of proteins. Genesis (Univ. Derby).
4. Wong-Madden, S. and Roberts, R.J. (1996) In vivo activation of recombinant MAPK. The NEB Transcript 8: 10.
5. Roberts, R.J. (1996) Foreword to "Nucleic Acids in Chemistry and Biology" Blackburn, G.M., Gait, M.J. (Eds.) Oxford University Press, Oxford, 2nd Edition.
6. Roberts, R.J. (1996) Foreword to "Laboratory DNA Science" by Bloom, M.V., Freyer, G.A., Micklos, D.A., The Benjamin/Cummings Publishing Company, Inc.
7. Barshevsky, T., Roberts, R.J., (1997) In vivo, in vitro, in coli. The NEB Transcript. 8: 14.
8. Morgan, R., Polisson, C., Posfai, J., Roberts, R.J. (1997) The World of Restriction Enzymes. The NEB Transcript 8: 6-7.

9. Roberts, R.J., Botstein, D., Brenner, S., Detmer, D., Neidhardt, F., Olsen, G., Rubin, G. (1997) Molecular Biological Databases: A Report. Prepared for the Regents of the National Library of Medicine.
10. Roberts, R.J. (1997) International Aspects of Molecular Biology Databases. Prepared for the National Library of Medicine Long-Range Planning Committee.
11. Roberts, R.J. (1997) Definition of "isoschizomer" in the Oxford Dictionary of Biochemistry and Molecular Biology, Smith, A.D., Datta, S.P., Smith, G.H., Campbell, P.N., Bentley, R., McKenzie, H.A. (Eds.) Oxford University Press, Oxford.
12. Roberts, R.J. (1998) Letter to the Editor. *The Nucleus*. LXXVI: 8.
13. Roberts, R.J. (January, 1998) *The New Biology*. In: A Global Vision for the National Library of Medicine. Report of the Board of Regents, National Library of Medicine Long Range Plan, p. 15-16.
14. Roberts, R.J. (September, 1998) *The New Biology*. In: A Global Vision for the National Library of Medicine. Report of the Board of Regents, National Library of Medicine Long Range Plan, p. 21.
15. Roberts, R.J. (1999) Supplemental Report of Civil Action No. C-93-1748-VRW, Hoffmann-La Roche, Inc. v. Promega Corporation.
16. Roberts, R.J. (1999) Introduction and commentary for "Specific cleavage in Simian Virus 40 DNA by restriction endonuclease of *Hemophilus Influenzae*" by K. Danna and D. Nathans. *Reviews in Medical Virology* 9: 75-81.
17. Roberts, R.J. (1999) Commentary on back of book "Essentials of Glycobiology" A. Barki, R., Cummings, J. Esko, H. Freeze, G. Hart, J. Marth (Eds.) Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY.
18. Posfai, J. and Roberts, R.J. (1999) Prospecting for new restriction enzymes: Guilt by association. Abstract, RECOM99.
19. Roberts, R.J. (2000) The discovery of split genes and RNA splicing. Web site "Great Experiments".
20. Roberts, R.J. (2001) The sensitivity of restriction enzymes to methylated DNA. *The NEB Transcript* 11: 12-15.
21. Roberts, R.J. (2002) Foreword. *Current Protocols in Bioinformatics*, John Wiley & Sons, Inc. i-ii.
22. Roberts, R.J. (2002) *Nucleic Acids*. *Encyclopaedia Britannica*.
23. Roberts, R.J. (2003) Trailblazer Michael Smith. *Time (Canadian Edition)* May 26, 2003, p. 60.
24. Roberts, R.J. (2003) Why can't I live on French fries? (Bettina Stielke, Ed.) *The Nobel Book of Answers*, p. 11-23.

25. Roberts, R.J. (2003) Biochemistry 24/7 (Enhanced). *Annals of Improbable Research* 9: 26.
26. Roberts, R.J. (2004) On Purpose: Towards a Meaningful Life. Selections by Margaret Gee (Glenda Downing, Ed.) New Holland Publishers (Australia), p. 79.
27. Roberts, R.J., Karp, P., Kasif, S., Linn, S., Buckley, M.R. (2004) An experimental approach to genome annotation. *A Report from the American Academy of Microbiology*. 1-12.
28. Roberts, R.J. (2004) Identifying Protein Function – A call for community action. *PLoS Biology* 2: 0293.
29. Roberts, R.J. (2004) Commentary on the “Call for an enzyme genomics initiative” by Peter D. Karp. *Genome Biology*, 2004, 5: 401.
30. Zinder, N. and Roberts, R.J. (2005) Preserving an important collection. *Science* 307: 515.
31. Roberts, R.J. (2005) Point-Counterpoint: Open Access. Roberts and Banks debate publishing policies for online scientific literature. *Chemical & Engineering News* 83: 37-41.
32. Roberts, R.J. (2005) Foreword to “Nucleic Acids in Chemistry and Biology, Third Edition by Mike Blackburn, Mike Gait, David Loakes and David Williams”.
33. Roberts, R.J. and 113 fellow Nobel Laureates (2006) An open letter to Colonel Muammar al-Gaddafi. *Nature* 444: 146.
34. Buckley, M. and Roberts, R.J. (2006) Reconciling microbial systematics & genomics. A report from the American Academy of Microbiology (based on a colloquium sponsored by the American Academy of Microbiology, convened September 27-28, 2006, Washington, DC).
35. Engelward, B.P. and Roberts, R.J. (2007) Open access to research is in the public interest. *PLoS Biology*. 5: e48.
36. Brenner, S., Roberts, R.J. (2007) Save your notes, drafts and printouts: today's work is tomorrow's history. *Nature* 446: 725.
37. Colizzi, V., de Oliveira, T., Roberts, R.J. (2007) Libya should stop denying scientific evidence on HIV. *Nature* 448: 992.
38. Roberts, R.J. (2007) Message to the Congress of Richard J. Roberts, In: *Proceedings of the World Congress for Freedom of Scientific Research*, Rome, February 16-18, 2006, p. 28.
39. Roberts, R.J. (2008) Restriction enzymes at NEB: Over 30 years of innovation. *NEB Expressions* 2.4: 1-3.
40. Roberts, R.J. (2008) Foreword to *Health and Sports in Africa. A challenge for development.* (F.-X. Mbopi-Keou, Ed.). John Libbey Eurotext, Montrouge, France.

41. Lenz, T., Poot, P., Anton, B.P., Hueben, M., Dalhoff, C., Baessler, O., Glinski, M., Roberts, R.J., Weinhold, E., Dreger, M., Koester, H. (2009) Proteomic Forum 2009 Freie Universitat Berlin (oral presentation).
42. Roberts, R.J. (2009) Protect our access to medical research. *The Boston Globe*. March 23, 2009.
43. Collins, J.J., Endy, D., Hutchison, C.A. III, Roberts, R.J. (2010) Editorial – Synthetic Biology. *Nucl. Acids Res.* 38: 2513.
44. Lunnen, K., O'Driscoll, J., Heiter, D., Roberts, R., Wilson, G. (2010) Unusual new restriction-modification systems. 6th New England Biolabs Meeting on Restriction/Modification, Jacobs University, Bremen, August 1-6, 2010.
45. Letter to the Editor of *The Times* from Donald W. Braben and others (2010).
46. Fomenkov, A., Benner, J., Chan, S.-H., Roberts, R.J., Morgan, R.D. (2011) DrdVI: a new ATP-dependent, multi-subunit restriction-modification system that uses a split methyltransferase for host protection. Abstract for the Nankai meeting.
47. Chang, Y.-C., Hu, Z., Rachlin, J.N., Anton, B.P., Pokrzywa, R., Choi, H.-P., Faller, L.L., Guleria, J., Housman, G., Klitgord, N., Mazumdar, V., McGettrick, M.G., Osmani, L., Swaminathan, R., Tao, K., Letovsky, S., Vitkuip, D., Sergre, D., Salzberg, S.L., Celisi, C., Steffen, M., Roberts, R.J., Kasif, S. (2011) COMBEX: Accelerating the functional annotation of prokaryotic genomes. Abstract for the IWBSB (International Workshop on Bioinformatics and Systems Biology), Berlin.
48. Anton, B.P., Clark, T.A., Boitano, M., Korfach, J., Roberts, R.J. (2012) Determination of DNA Methyltransferase Specificity by Single Molecule Real Time (SMRT) Sequencing. Poster, 19th Annual Internal Meeting on Microbial Genomics, Lake Arrowhead, CA. September 16-29, 2012.
49. Colwell, R., Avery, S., Berger, J., Davis, G.E., Hamilton, H., Lovejoy, T., Malcom, S., McMullen, A., Novacek, M., Roberts, R.J., Tapia, R., Machlis, G. (2012) Revisiting Leopold: Resource Stewardship in the National Parks. A Report of the National Park System Advisory Board Science Committee.
50. Harhay, G.P., McVey, D.S., Korfach, J., Roberts, R., Anton, B.P., Chitko-McKown, C.G., Clawson, M.L., Heaton, M.P., Harhay, D., Smith, T.P.L. (2012) Application of SMRT genome sequencing to reveal the methylomes of bacteria associated with respiratory disease outbreaks in beef cattle. (Abstract)
51. Roberts, R. (2012) *Nucleic Acids Research and Open Access*. <http://blog.oup.com/2012/10/nucleic-acids-research-and-openaccess/>
52. Roberts, R.J. (2012) TOPIC: Arsenic-based Life. Complete technical description in TWENTY-FOUR (24) SECONDS. *Annals of Improbable Research* 18: 20-21.
53. Posfai, J., Pedamallu, C., Roberts, R.J. (2012) Domain fusions in restriction-modification system enzymes and genomic contexts of fusions. Abstract, 4th ICDDT, Proteomics and Bioinformatics track.

54. Posfai, J., Vincze, T., Roberts, R.J. (2013) Mapping functional details to restriction-modification system specificity subunits. Abstract, ISMB/ECCB Berlin, July 19-23.
55. Golomb, B.A., Brenner, S., Chalfie, M., Glashow, S.L., Glauber, R.J., Hubel, D.H., Maskin, E.S., Greengard, P., Gross, D.J., Roberts, R., Tonegawa, S., Wilczek, F.A., Brown, E.M., Sejnowski, T.J. (2013) Chocolate habits of Nobel prizewinners. *Nature* 499: 409.
56. Roberts, R.J. (2010) Statement before the Subcommittee on Information Policy, the Census and National Archives Committee on Oversight and Government Reform regarding public access to publicly funded research.
57. Allard, M.W., Pirone, C., Muruvanda, T., Hoffman, M., Soler-Garcia, A.A., Wang, C., Strain, E., Timme, R., Payne, J., Luo, Y., Keys, C.E., Cooper, T., Chin, C.-S., Korfach, J., Musser, S.M., Zhao, S., Stones, R., Roberts, R.J., Evans, P., Brown, E.W. (2013) Poster for ASM Salmonella Conference.
58. Muruvanda, T., Pirone, C., Hoffmann, M., Allard, M.W., Wang, C., Strain, E., Timme, R., Luo, Y., Keys, C.E., Payne, J., Luong, K., Song, Y., Chin, C.-S., Korfach, J., Roberts, R.J., Musser, S.M., Evans, P.S., Brown, E.W. (2014) New discoveries in Salmonella genome closure. ASM Meeting Poster.
59. Fomenkov, A., Galina, D.A., Margarita, G.Y., Vincze, T., Roberts, R., Vladimir, A.N. (2014) The genomic analysis of *Spirochaeta perfilievii* sp. Isolated from a sulfur 'Thiodendron' mat in the mineral springs of Northern Russia. Abstract for meeting of the RuSciTech Forum USA, Tempe, AZ, March 10-11, 2014.
60. DebRoy, C., Korfach, J., Kieu, A., Boitano, M., Hegde, N., Clark, T.A., Roberts, R., Gao, Y., Kapur, V. (2014) Comparative methylome analysis of extraintestinal pathogenic *Escherichia coli* strains causing urinary tract infection in humans with those causing fatal pneumonia in animals. Abstract for meeting of the American Society for Microbiology.
61. Roberts, R.J. (2013) Bacterial methylomes. Hans Krebs Lecture, *The FEBS Journal* 280 (Suppl. 1): 1.
62. Fomenkov, A., Clark, T., Spittle, K., Anton, B.M., Vincze, T., Korfach, J., Roberts, R.J. (2013) Molecular dissection of the methylome of *Burkholderia cenocepacia* J2315. *FEBS Journal* 280 (Suppl. 1): 72.
63. Mille, C., Pouseele, H., Baybayan, P., Marceau, M., Harting, J., Roberts, R., Brosch, R., Korfach, J., Philip, S. (2014) On top of conserved genomes: diverse DNA methylomes of the *Mycobacterium tuberculosis* complex. EMBO Conference "Genomes 2014", Paris.
64. Shell, S.S., Fomenkov, A., Chase, M.R., Roberts, R.J., Fortune, S.M. (2014) Strain-based differences in DNA methyltransferase activities in *Mycobacterium tuberculosis*. Abstract for meeting of the American Society for Microbiology.
65. Mariita, R.M., Bhatnagar, S., Hanselmann, K., Hossain, M.J., Dawson, S., Korfach, J., Boitano, M., Roberts, R.J., Liles, M.R., Moss, A.G., Leadbetter, J.R., Newman, D.K. (2015) Genome mining for secondary metabolites and epigenomics for two soil actinomycetales co-isolates. Abstract for meeting of the American Society for Microbiology.

66. Roberts, R.J. (2015) Networking at the STS forum. STS forum Newsletter, The 12th Annual Meeting of STS forum Spring, No. 1.
67. Xu, S.-Y., Klein, P., Degtyarev, S.Kh., Roberts, R.J. (2015) Characterization of methylation-dependent restriction enzyme Bsl and its close relatives. The 7th NEB Meeting on DNA Restriction and Modification. August 24-29, 2015, University of Gdansk, Poland.
68. Roberts, R.J. (2015) Guest Blog: Rich Roberts urges Scientists to 'Think Methylation' in Microbial Sequencing. <http://www.pacb.com/blog/guest-blog-rich-roberts-urges-scientists-to-think-methylation-in-microbial-sequencing/>

Dr. Richard J. Roberts is the Chief Scientific Officer at New England Biolabs, Ipswich, Massachusetts. He was educated in England, attending St. Stephen's School and the City of Bath Boys' School in Bath before moving to the University of Sheffield where he obtained a B.Sc. in Chemistry in 1965 and a Ph.D. in Organic Chemistry in 1968. His postdoctoral research was carried out in Professor J.L. Strominger's laboratory at Harvard, where he studied the tRNAs that are involved in the biosynthesis of bacterial cell walls. From 1972 to 1992, he worked at Cold Spring Harbor Laboratory, reaching the position of Assistant Director for Research under Dr. J.D. Watson. He began work on the newly discovered Type II restriction enzymes in 1972 and in the next few years more than 100 such enzymes were discovered and characterized in Dr. Roberts' laboratory. His laboratory has cloned the genes for several restriction enzymes and their cognate methylases and studies of these enzymes has been a major research theme. Dr. Roberts has also been involved in studies of Adenovirus-2 beginning with studies of transcription that led to the discovery of split genes and mRNA splicing in 1977. This was followed by efforts to deduce the DNA sequence of the Adenovirus-2 genome and a complete sequence of 35,937 nucleotides was obtained. This latter project required the extensive use of computer methods, both for the assembly of the sequence and its subsequent analysis. His laboratory pioneered the application of computers in this area and the further development of computer methods of protein and nucleic acid sequence analysis continues to be a major research focus. The field of DNA methyltransferases is also an area of active research interest and crystal structures for the *HhaI* methyltransferase both alone and in complex with DNA have been obtained in collaboration with Dr. X. Cheng. The latter complex is quite remarkable as the protein causes the target cytosine base to flip completely out of the helix so that it is accessible for chemical reaction. This extreme, but elegant, distortion of the double helix had not been seen previously. A major interest at present is the semi-automatic identification of restriction enzyme and methylase genes within the GenBank database and the development of rapid methods to assay function. Already several new specificities have been found and it is clear that there are many more restriction enzyme genes in Nature than had been previously suspected. Most recently, he is one of the leaders of the COMBREX project that is concerned with the functional annotation of prokaryotic genomes.