RESUME OF DR. MICHAEL MCCONNELL June, 2020

NAME: Michael Raymond McConnell

DATE AND PLACE OF BIRTH: March 8, 1949, Porterville, California

ADDRESS: Department of Biology
Point Loma Nazarene University
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EDUCATION

1976-78 Postdoctoral Fellow, Department of Pharmacology, Harvard Medical School, Boston, MA. Laboratory of Dr. Peter M. Blumberg, Effects of transformation by Rous sarcoma virus on cell surface structure in chick embryo fibroblasts (involved extensive work with ^{35}S and ^{125}I radioisotopes).
1971-76 Ph.D., Department of Molecular Biology and Microbiology, Tufts University, Boston, MA. Laboratory of Dr. Andrew Wright, Initial Interactions between Bacteriophage E15 and its Host Cell, *Salmonella anatum* (involved extensive work with ^{35}S, ^{14}C, ^{32}P and ^{3}H radioisotopes)
1967-71 B.A., Department of Chemistry, (cum laude), Pasadena/Point Loma Nazarene College; (included two years of fulltime summer research with Dr. Victor Heasley on addition of acylhypohalites to alkenes with resulting publications in **Tetrahedron Letters** and the **Journal of Organic Chemistry**)

SABBATICAL EXPERIENCES:

2016 Visiting Scholar, Centro Nacional de Biotecnologia, Madrid, Spain. Laboratory of Dr. Mark van Raaij
2008-2014 Visiting Scholar, Department of Molecular Biology, The Scripps Research Institute, La Jolla, CA. Laboratory of Dr. Jack Johnson
2007 Visiting Scholar, Laboratory for Foodborne Zoonoses, Public Health Agency of Canada, Guelph, Ontario, Laboratory of Dr. Andrew Kropinski, Annotation of the genome of Salmonella bacteriophage g341.
2007 Visiting Scholar, Sydney Kimmel Cancer Center, La Jolla, CA. Laboratory of Dr. Michael McClelland, Characterization of the genome of Group E Salmonellae bacteria
2001 Visiting Scholar, Department of Medicine, U.C. San Diego, CA. Laboratory of Dr. Donald Guiney, O-Polysaccharide Polymerase Enzymes in Group E Salmonella enterica bacteria
1994 Visiting Scholar, Department of Molecular Biology, The Scripps Research Institute, La Jolla, CA, Laboratory of Dr. Gerald Joyce, Research dealing with molecular evolution of ribozymes (involved extensive use of ^{32}P and a brief refresher course on proper use of radioisotopes)
1994 Visiting Scholar, Department of Microbiology, The University of Sydney, New South Wales, Australia. Laboratory of Dr. Peter Reeves, Research on evolutionary relationships between lipopolysaccharide biosynthesis gene clusters found in enteric bacteria and their phages
1985-86 Visiting Scholar, Laboratory of Dr. Masaki Hayashi, U.C. San Diego, CA. Factors determining messenger RNA stability (extensive work with ^{35}S)
1983 Visiting Scholar, Laboratory of Dr. Ivor Royston (co-founder of Hybritech), U.C. San Diego Medical Center, San Diego, CA. Monoclonal antibodies to immunoglobulin idiotypic antigens

EMPLOYMENT EXPERIENCES:

2014- present Liaison for PLNU with BIOCOM and CONNECT
2014 - present Professor Emeritus of Biology, Point Loma Nazarene University, San Diego, CA
1987-2014 Professor of Biology, Point Loma Nazarene University, San Diego, CA
1987-92 Chair, Department of Biology, Point Loma Nazarene University, San Diego, CA
1981-86 Associate Professor of Biology and Chemistry, Point Loma Nazarene University, San Diego, CA
1978-81 Assistant Professor of Biology and Chemistry, Point Loma Nazarene College, San Diego, CA.
1975-76 Instructor in genetics and cell physiology, Eastern Nazarene College, Quincy, MA

OTHER PROFESSIONAL SERVICES AND ACCOMPLISHMENTS

2022 Co-Organizer (with Kris Koudelka and LeAnne Elizondo) of the 45th Annual West Coast Biological Sciences Undergraduate Research Conference (Point Loma Nazarene University, April 9, 2022)
2021-2022 Co-Organizer (with LeAnne Elizondo) of the 23rd Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2019-2020 Co-Organizer (with LeAnne Elizondo) of the 22nd Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2018-2019 Co-Organizer (with LeAnne Elizondo) of the 21st Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2017-2018 Co-Organizer (with LeAnne Elizondo) of the 20th Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2016-2017 Co-Organizer (with LeAnne Elizondo) of the 19th Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2016 Co-Organizer (with LeAnne Elizondo) of the 41st Annual West Coast Biological Sciences Undergraduate Research Conference (Point Loma Nazarene University, April 9, 2016)
2015-2016 Co-Organizer (with LeAnne Elizondo) of the 18th Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2015 Principle Organizer of the 40th Annual West Coast Biological Sciences Undergraduate Research Conference (Point Loma Nazarene University, April 25, 2015)
2014-2015 Co-Organizer (with LeAnne Elizondo) of the 17th Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2013 Journal Article Referee *World Journal of Gastr*oenterology, Baisheding Publishing, China
2013-2014 Co-Organizer (with LeAnne Elizondo) of the 16th Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2013 Principle Organizer of the 38th Annual West Coast Biological Sciences Undergraduate Research Conference (Point Loma Nazarene University, April 20, 2013)
2012-2013 Co-Organizer (with LeAnne Elizondo) of the 15th Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2012 Co-Organizer (with LeAnne Elizondo) of the 67th Annual Meeting of the American Scientific Affiliation, Point Loma Nazarene University, San Diego, CA (July 20-July 23, 2012)
2012 to 2018 Editorial Board Member, *World Journal of Virology*, Baishideng Publishing Group, Hong Kong and Beijing, China
2011-2012 Co-Organizer (with LeAnne Elizondo) of the 14th Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2010-2011 Co-Organizer (with LeAnne Elizondo, Darrel Falk and Dawne Page) of the 13th Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2009-2010 Co-Organizer (with Darrel Falk and Dawne Page) of the 12th Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2009 Principle Organizer of the 34th Annual West Coast Biological Sciences Undergraduate Research Conference (Point Loma Nazarene University, April 20, 2009)
2008-2009 Co-Organizer (with Darrel Falk and Dawne Page) of the Eleventh Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University

2008 Principle Organizer of the 33rd Annual West Coast Biological Sciences Undergraduate Research Conference (Point Loma Nazarene University, April 12, 2008)
2007-2008 Co-Organizer (with Darrel Falk and Dawne Page) of the Tenth Annual "Perspectives on Science" Seminar Series for San Diego County Community College, High School, Middle School and Elementary School Science Teachers, Point Loma Nazarene University
2006-2007 Co-Organizer (with Darrel Falk and Dawne Page) of the Ninth Annual "Perspectives on Science" Seminar Series for San Diego County High School and Middle School Science Teachers, Point Loma Nazarene University
2006 Principle Organizer of the 31st Annual West Coast Biological Sciences Undergraduate Research Conference (Point Loma Nazarene University, April 29, 2006)
2005-2006 Co-Organizer (with Darrel Falk and Dawne Page) of the Eighth Annual "Perspectives on Science" Seminar Series for San Diego County High School and Middle School Science Teachers, Point Loma Nazarene University
2004-2005 Co-Organizer (with Darrel Falk and Dawne Page) of the Seventh Annual "Perspectives on Science" Seminar Series for San Diego County High School and Middle School Science Teachers, Point Loma Nazarene University
2004 Principle Organizer of the 29th Annual West Coast Biological Sciences Undergraduate Research Conference (Point Loma Nazarene University, April 24, 2004)
2003-2004 Co-Organizer (with Darrel Falk and Dawne Page) of the Sixth Annual "Perspectives on Science" Seminar Series for San Diego County High School and Middle School Science Teachers, Point Loma Nazarene University
2003-present Faculty Representative for the Biology Department to the Board of Research Associates of PLNU http://www.pointloma.edu/experience/academics/schools-departments/department-chemistry/alumni/research-associates
2002-2003 Co-Organizer (with Darrel Falk) of the Fifth Annual "Perspectives on Science" Seminar Series for San Diego County High School and Middle School Science Teachers, Point Loma Nazarene University
2001-2002 Co-Organizer (with Darrel Falk) of the Fourth Annual "Perspectives on Science" Seminar Series for San Diego County High School Science Teachers, Point Loma Nazarene University
2000-2001 Co-Organizer (with Darrel Falk) of the Third Annual "Perspectives on Science" Seminar Series for San Diego County High School Science Teachers, Point Loma Nazarene University
2000 Principle Organizer of the 25th Annual West Coast Biological Sciences Undergraduate Research Conference (Point Loma Nazarene University, April 29, 2000)
1999-2000 Co-Organizer (with Darrel Falk) of the Second Annual "Perspectives on Science" Seminar Series for San Diego County High School Science Teachers, Point Loma Nazarene University
1998-99 Co-Organizer (with Darrel Falk) of the First Annual "Perspectives on Science" Seminar Series for San Diego County High School Science Teachers, Point Loma Nazarene University
1999 Convener for Section on Cell Biology, Endocrinology and Genetics, 24th Annual West Coast Biological Sciences Undergraduate Research Conference, U.C. Irvine, Irvine, CA
1997 Convener for Section on Biochemistry and Enzymology, 22nd Annual West Coast Biological Sciences Undergraduate Research Conference, Loyola Marymount University, Los Angeles, CA
1996 Principle Organizer of the 21st Annual West Coast Biological Sciences Undergraduate Research Conference (Point Loma Nazarene College, April 27, 1996)
1992 Journal article referee, **Canadian Journal of Microbiology**.
1992 Principle Organizer of the 17th Annual West Coast Biological Sciences Undergraduate Research Conference (Point Loma Nazarene College, May 2, 1992)
1986 Convener of the Molecular Biology Section for the Eleventh Annual West Coast Biological Sciences Undergraduate Research Conference, held at Occidental College, CA
1985 Convener of Microbiology Section, Tenth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA
1983 Chair of Genetics Section, Eighth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA;

HONORS AND GRANTS

2014 Distinguished Achievement Award (Point Loma Nazarene University Alumni Association) (November 22, 2014)

2014 Elected Professor Emeritus of Biology by the PLNU Board of Trustees
2010 Alumnus of Point Loma (APL) Award (November 19, 2010)
2010 PLNU Alumni Grant ($2,000)
2008 Co-recipient (with Darrel Falk, Dawne Page and Dianne Anderson) of the "Sustainable Program Partnership Award", presented by the San Diego Science Alliance (June, 2008), in recognition of the POS Program.
2003 Co-Recipient (with Darrel Falk) of the award for "University Service to the San Diego K-12 Educational Community", presented by San Diego Science Educators' Association, June 4th, 2003, in recognition of the POS Program
1994-98 NIH AREA Grant ($85,430); "Lipopolysaccharide Modification by Phage Epsilon 15"
1990 PLNC Alumni Association Teaching Development Award ($1,500)
1988 NSF Research in Undergraduate Institutions REU Supplement Grant ($7,425); "Cell Surface Conversion Mechanism of Bacteriophage El5"
1987 NSF Research in Undergraduate Institutions REU Supplement Grant ($6,000); "Cell Surface Conversion Mechanism of Bacteriophage El5"
1986-89 NSF Research in Undergraduate Institutions Grant ($87,395); "Cell Surface Conversion Mechanism of Bacteriophage E15"
1986 Research Corporation Grant ($8,500), "Cloning and Characterization of the Cell Surface Conversion Genes of Bacteriophage E15";
1985 NSF College Science Instrumentation Program ($14,783); NSF Research Instrumentation Grant (coauthor) ($43,000);
1984 PLNC Research and Special Projects Fund (RASP), ($1,000); Research Corporation/Cottrell College Science Grant ($7,400)
1983 NSF Two-Year and Four-Year College Research Instrumentation Program (Coauthor) ($23,000)
1983 Voted "Most Inspirational Professor" by Point Loma College graduating seniors (Class of '83)
1982-83 Research Corporation/Cottrell College Science Grant ($12,300)
1982 Research Corporation Research Instrumentation Grant (Coauthor) ($6,000)
1981 PLC Alumni Association Teaching Development Award ($1,000)
1980-81 Research Corporation/Cottrell College Science Grant ($10,600)
1980 NSF Research Instrumentation Grant (Coauthor) ($22,000)
1979 (RASP) PLC Research and Special Projects Fund (S1,300); NSF Instructional Scientific Equipment Program (Coauthor) ($7,100); Cystic Fibrosis Foundation Undergraduate Traineeship Grant ($1,500)
1976 Recipient of Alumnus of Point Loma (APL) Award (June 5, 1976)

PROFESSIONAL MEMBERSHIPS:

American Society for Microbiology, 1973-2014
Council on Undergraduate Research, 2010-2014

PUBLICATIONS:

A. DOCTORAL DISSERTATION McConnell, M.R., (1976), "Multiple steps are involved in the irreversible attachment of bacteriophage E15 to its host cell, Salmonella anatum," Ph.D. Thesis, Tufts University, Boston, MA

B. BACTERIOPHAGE GENOMES SEQUENCED:

1. Bacteriophage Epsilon 15: **http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=215158**
2. Bacteriophage g341c: **http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=590739**

C. BOOK CHAPTERS

1. Wright, A., M. McConnell and S. Kanegasaki (1980), "Lipopolysaccharide as phage receptor", in Virus Receptors (L. Randall and L. Phillipson, ads.), London: Chapman and Hall, Ltd., pp. 27-58

2. Los, Marcin, John Kuzio, Michael McConnell, Andrew Kropinski, Grzegorz Wegrzyn and Gail Christie (2010). Lysogenic conversion of bacteria of importance to the food industry, pp 157-198. In Parviz Sabour

and Mansel Griffiths (ed.), *Bacteriophages in the control of food- and waterborne pathogens,* ASM Press, Washington, D.C.

D. JOURNAL ARTICLES (asterisks denote PLNU undergraduate coauthors)

1. Heasley, V., G. Heasley, M. McConnell, K. Martin, D. Ingel, and P. Davis (1971), "The reactions of hypochlorites with olefins in nitromethane", ***Tetrahedron Letters*** 50:4819-4822

2. Heasley, V., G. Heasley, R. Loghry and M. McConnell (1972), "Comparisons of the reactions of butadiene with chlorine, bromine, acetyl hypochlorite and acetyl hypobromite", ***Journal of Organic Chemistry*** 37:2228-2231

3. McConnell M., and A. Wright (1975), "An anaerobic technique for increasing bacteriophage plaque size", ***Virology*** 65:588-590

4. McConnell, M. R., and P.M. Blumberg (1978), "Subunit structure of surface and shed large, external, transformatian-sensitive protein of chick embryo fibroblasts", ***Annals of the New York Academy of Sciences*** 312:418-419

5. McConnell, M.R., P.M. Blumbeerg and P.W. Rossow (1978), "The oligomeric structure of the large external transformation-sensitive protein (LETS) of chick embryo fibroblasts", ***Journal of Biological Chemistry*** 253:7522-7530

6. McConnell, M.R., A. Reznik and A. Wright, (1979), "Studies on the initial interaction of bacteriophage E15 with its host cell, Salmonella anatum", ***Virology*** 94:10-29

7. McConnell, M.R., and A. Wright, (1979), 'Changes in the phage-inactivating capacity of Salmonella anatum lipopolysaccharide due to growth temperature and mutation". ***Journal of Bacteriology*** 137:746-751

8. McConnell, M.R., D.D. McAbee*, L.E. Heasley* J.E. Schoelz*, D. Reel Harlow* and D.R. Starn* (1982), "Bacteriophage E15 is released intact from the surface of its host cell, Salmonella anatum, at acidic pH". ***Virology***, 116:650-653

9. McConnell, M.R. and P.M. Blumberg (1982) "Transformation of chick embryo fibroblasts by Rous Sarcoma Virus does not inhibit the assembly of fibronectin into reduction-sensitive dimer and high molecular weight complex". ***Cytobios*** 33:89-102

10. McConnell, M.R. and J.E. Schoelz* (1983). "Evidence for shorter average O-polysaccharide chainlength in the lipopolysaccharide of a bacteriophage Felix Ol-sensitive variant of Salmonella anatum Al***." J. Gen. Microbiol.*** 129:3177-3184.

11. McConnell, M.R., B.D. Foster*, D.P. Davis*, B. Kat*, J.G. Blair*, R.A. Long* and M.M. Steed* (1986). "A spontaneous1y-produced lipopolysaccharide biosynthetic defect that causes both pleiotropic phage resistance and mucoid colony morphology in Salmonella anatum, ***Microbios*** 48:135-158

12. Hayashi, Marie N., Reza Yaghmai, Michael McConnell and Masaki Hayashi (1989). "mRNA stabilizing signals encoded in the genome of the bacteriophage PhiX174," ***Molec. and Gen. Genetics*** 216:364-371

13. McConnell, M.R., B. Walker*, P. Middleton*, J. Chase*, J. Owen*, D. Hyatt*, H. Gutierrez*, M. Williams*, D. Hambright*, M. Barry, Jr.*, S. Sage*, G. Fuller*, M. Birdwell*, M. Rydelski*, S. Risley* and B. Kat* (1992). "Restriction Endonuclease and Genetic Mapping Studies Indicate that the Vegetative Genome of the Temperate Salmonella-Specific Bacteriophage, Epsilon 15, is Circularly-Permuted", ***Archives of Virology*** 123:215-221

14. McConnell, M.R., Oakes*, K.R., Patrick*, A. N. and Mills*, D.M. (2001). "Two functional O-polysaccharide polymerase wzy (rfc) genes are present in the rfb gene cluster of Group E1 Salmonella enterica serovar Anatum". ***FEMS Microbiology Letters*** 199(2), 235-240

15. Andrew M. Kropinski, Irina V. Kovalyova, Stephen J. Billington, Aaron N. Patrick*, Brent D. Butts*, Jared A. Guichard*, Trevor J. Pitcher*, Carly C. Guthrie*, Anya D. Sydlaske*, Lisa M. Barnhill*, Kyle A. Havens*, Kenneth R. Day*, Darrel R. Falk and Michael R. McConnell (2007). "The Genome of ε15, a Serotype-Converting, Group E1 Salmonella enterica-Specific Bacteriophage". ***Virology*** 369, 234-244

16. Guichard*, J.A., Middleton*, P.C. and McConnell,M.R. (2013) Genetic analysis of structural proteins in the adsorption apparatus of bacteriophage epsilon 15. ***World Journal of Virology*** 12; 2(4): 152-159; doi:10.5501/wjv.v2.i4.152

17. Victoria Chavez, Leia Laughlin, Courtney Rundio, Yuendie Guridi, Alexander Earle, Taylor Steele, Brianna Jones, Noah Schultz, Maryn Wunderly, Camille Rodriguez, Brandon Park, Hayden Sanders, Brianne Camarena, Sarah Pratt, Hannah Rodarte, Michaela Cain, Ryan Botts and Michael R. McConnell (2021). "Characterization of P22virB-3: a mutant derivative of bacteriophage P22 that can infect Salmonella serogroups A, B, D1, D2 and E1", to be submitted for publication in 2022

18. McConnell, Michael R., Barry Walker, Anya D. Sydlaske and Kay Jacobs Navarette. "Mechanism of Serotype-Conversion by g341, a Group E1 Salmonella-specific Bacteriophage", ms in preparation

19. McConnell, M.R., M.D. Burns*, T.P.Gary*, B. Kat*, D.A. DeRiemer*, M. Quinn*, L. E. Heasley*, M.J. Rydelski*, P. C. Middleton*, B. Waters*, W.W. Sanford*, D.R. Hyatt* and G.A. Fuller*. "Intragenic suppression of a DNA ejection defect in bacteriophage E15", ms in preparation.

20. Berryman, Elizabeth M., Chasen J. Greig, Christina M. Metzler, Bernardo Hurtado, Katherine D. Schostag, Nina Broeker, Mateo Blanco and Michael R. McConnell. "A Single Amino Acid Change in its Tail Spike Protein Enables Bacteriophage ε15 to Overcome both Structural and Immunological Barriers Presented by *Salmonella newington* (*Salmonella anatum* that has been lysogenized by E15", ms in preparation

21. a paper describing the bullying nature of the E15 beta polymerase? Sean Heavey, Megan Evilsizor and Amelia Krouse would be authors.

22. a paper describing the mechanism whereby E15 promotes cold suspension even in the absence of O-polysaccharide? Chloe Soremekun would be a major author

E. PUBLISHED ABSTRACTS (asterisks denote PLNU undergraduate coauthors)

1. McConnell, M., and A. Wright (1975). "Multiple steps in the absorption of bacteriophage E15 to its host cell, Salmonella anatum", Abstract, Phage Meetings, Cold Spring Harbor, N.Y.

2. Rossow, P.W., M.R. McConnell, and P.M. Blumberg (1977), "The subunit structure of LETS protein on the surface of chick embryo fibroblasts", Federation Proceedings 36:358, A472

3. McConnell, M.R., and J.E. Schoelz* (1981), "Laboratory strains of Salmonella anatum that are sensitive to bacteriophages Felix 01 and E15". Ann. Meeting of the Amer. Soc. for Microbial. (Dallas, Texas), Abstract H99, p. 130

4. McAbee*, D., M. McConnell, L. Heasley*, D. Starn*, D. Reel*, and J. Schoelz* (1981), "Bacteriophage E15 binds reversibly to its host cell, Salmonella anatum, at acidic pH". Fifth International Congress of Virology (Strasbourg, France) p.274, Abstract pp. 28/10

5. Burns*, M.D., T.P. Gary*, D.A. DeRiemer*, and M.R. McConnell (1983). “Mutational suppression of a DNA ejection defect in bacteriophage E15", Abstract, Eighth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA

6. Guthrie*, J.E., R.A. Long*, and M.R. McConnell (1983). “Transformation of Salmonella anatum Al by plasmid pBR322 DNA", Abstract, Eighth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA

7. Jensen*, R.A., N.D. Bravo*, D.A. Brown*, D.D. Brown, S.H. Gilkey*, S.B. Oliver* and M.R. McConnell (1983), "Isolation and preliminary characterization of a Pseudomonas aeruginosa-specific bacteriophage”, Eighth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA

8. Gary*, T., M. Burns*, B. Waters*, L. Heasley*, and M. McConnell (1984), "Intragenic suppression of a DNA ejection defect caused by a mutation in the tail gene of bacteriophage E15", Abstract, Ninth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA

9. Birdwell*, M., D. Pospisil*, N. Kemalyan*, B. Foster*, and M. McConnell (1984), "Properties of a transformable strain of Salmonella anatum". Abstract, Ninth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA

10. Steed*, M., R. Jensen*, K. Heaney*, T. Lithgow* and M. McConnell (1985), "Characterization of the cell surface receptor recognized by NB4, a Pseudomonas aeruginosa-specific bacteriophage", Abstract, Tenth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA

11. Pospisil-Davis*, D. and M. McConnell (1985), "Characterization of the restriction/modification phenotypes of Group E1 Salmonellae stains", Abstract, Tenth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA

12. Gutierrez*, H. and M. McConnell (1986), "Linear ordering of the fragments generated by digestion of the Bacteriophage E15 chromosome with restriction endonucleases Bam HI and Pst I”, Abstract, Eleventh Annual West Coast Biological Sciences Undergraduate Research Conference, Occidental College, CA

13. Steed*, M.M. and M.R. McConnell (1986), "Bacteriophage NB4 interacts with both cell surface proteins and carbohydrate antigens during adsorption to Pseudomonas aeruginosa”, Abstract, Eleventh Annual West Coast Biological Sciences Undergraduate Research Conference, Occidental College, CA

14. McConnell, M.R., M.D. Burns*, D.A. DeRiemer*, T.P. Gary*, L.E. Heasley* and B. Kat* (1986), “The role of the tail protein in the DNA ejection mechanism of bacteriophage E15”, Abstract, Tenth Biennial Meeting on Bacteriophage Assembly, MacDonald College of McGill University, Montreal, Quebec

15. McConnell, M.R., D.P. Davis* and H.G. Gutierrez* (1986), "Cloning of the cell surface conversion genes of bacteriophage E15 - A preliminary report", Abstract, Tenth Biennial Meeting on Bacteriophage Assembly, MacDonald College of McGill University, Montreal, Quebec

16. Middleton*, P.C., M.J. Rydelski* and M.R. McConnell (1987), "Characterization of the cell surface conversion genes of E15, a Salmonella-specific bacteriophage", Abstract, Twelfth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA

17. McConnell, M.R., P.C. Middleton*, M.J. Rydelski*, H.G. Gutierrez* J.D. Owens*, S.L. Risley* and W.W. Sanford* (1987), "Screening of cloned E15 DNA fragments for the genes that govern cell surface conversion upon infection of Salmonella anatum, A126, **1987 Meeting on Molecular Genetics of Bacteria and Phage,** Cold Spring Harbor laboratory, N.Y.

18. Owens*, J.D., P.C. Middleton*, W.W. Sanford*, G.A. Fuller* and M.R. McConnell (1988) "Identification of the chromosomal location of the cell surface conversion genes of E15, a Salmonella anatum-specific bacteriophage" Abstract, Thirteenth Annual West Coast Biological Sciences Undergraduate Research Conference, Occidental College, CA

19. McConnell, M.R. and P.C. Middleton* (1988), "Characterization of the DNA Ejection Mechanism of Bacteriophage E15: Evidence Implicating the 109,000, the 93,000, and the 85,000 Dalton Virion Polypeptides as Components of the E15 DNA Ejection Apparatus". Eleventh Biennial Meeting on Bacteriophage Assembly Asilomar, CA

20. Walker*, B., J. Chase*, J. Fuller*, W. Sanford* and M. McConnell (1989), "Chromosomal Endonuclease Restriction Mapping and DNA Packaging Mechanism for the Salmonella anatum-specific Bacteriophage, E15" **Abstract, Fourteenth** Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA

21. McConnell, M.R., B. Walker*, P. Middleton*, J. Chase*, J. Fuller* and D. Hyatt* (1989), "Organizational and Functional Aspects of the Genome of the Salmonella Bacteriophage E15, as Revealed by Restriction Endonuclease Mapping and Marker Rescue Assays", Abstract, **1989 Annual** Meeting on the Molecular Genetics of Bacteria and Phages, Cold Spring Harbor Laboratory, NY

22. McConnell, M.R., W. Sanford* and P. Middleton* (1990), "Cloning the Lipopolysaccharide Conversion Genes of Bacteriophage E15 - A Preliminary Report", Abstract I-P-6, **First Annual Congress of the International Endotoxin Society**, San Diego, CA (May, 1990)

23. McConnell, M.R., D. Falk, M. Williams*, B. Walker*, D. Hambright*, J. Chase*, D. Hyatt*, P. Middleton*, M. Barry, Jr.* and S. Sage*, "The Lipopolysaccharide Conversion Genes are Adjacent to the Integration Site in the Genome of the Temperate Salmonella Phage E15", Abstract A-138, **1990 Annual** Meeting on the Molecular Genetics of bacteria and Phages Cold Spring Harbor Laboratory, N. Y.

24. Marvin*, M. and M.R. McConnell (1991), "Use of Transposon Tn5SupF as a tool for locating the conversion Genes in the Genome of Bacteriophage E15 - A preliminary report, Abstract, Sixteenth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA

25. Sage*, S., M. Barry, Jr.*, M. Williams*, M. Marvin* and M.R. McConnell (1991), "Evidence for Close Proximity of Lipopolysaccharide conversion Genes and the Integration Site in the Genome of the Temperate Salmonella Bacteriophage E15, Abstract, Sixteenth Annual West Coast Biological Sciences Undergraduate Research Conference, University of Santa Clara, CA

26. McConnell, M.R., D. Falk, M. Williams*, M. Marvin*, M. Barry, Jr.* and S. Sage* (1991), "Alternative approaches to mapping the Lipopolysaccharide conversion genes in the genome of the temperate Salmonella bacteriophage, E15", Abstract, Twelfth International Bacteriophage Assembly Meeting, Cable, WI (June, 1991)

27. Barry, Jr.* M, and M. McConnell (1992), "Development of a transposon system suitable for mapping the cell surface conversion genes of Salmonella bacteriophage, E15, by insertion mutagenesis", Abstract, Seventeenth Annual West Coast Biological Sciences Undergraduate Research Conference, Point Loma Nazarene College, San Diego, CA

28. Kerns*, S., A. Miller* and M. McConnell (1994), "Cloning of the transacetylase repressor gene of Epsilon 15, a Group E1 Salmonellae-converting bacteriophage...a progress report", Abstract, Nineteenth Annual West Coast Biological Sciences Undergraduate Research Conference, Occidental College, Los Angeles, CA

29. McConnell, M.R., B. Butts*, F. Conte*, D. Brock* and V. Tran* (1995) "Initial characterization of genes from the Group E1 Salmonellae-specific, lipopolysaccharide converting phages, Epsilon 15 and c341, the

protein products of which are believed to inhibit production of host cell O-polysaccharide transacetylase enzyme, Abstract 164, 49th Annual Meeting on Molecular Genetics of Bacteria and Phages, Cold Spring Harbor Laboratory, NY

30. Butts*, Brent, and Michael McConnell (1995) "Initial characterization of the transacetylase repressor genes of the Group E1 Salmonellae-converting phages, Epsilon 15 and c341", Abstract, Twentieth Annual West Coast Biological Sciences Undergraduate Research Conference, University of San Francisco, CA

31. Brock*, David, Vitruc Tran* and M. McConnell (1996), "A cloned copy of the Epsilon 15 transacetylase repressor gene alters the in vitro phage receptor activity of Group E1 Salmonellae lipopolysaccharide", Abstract, Twenty-First Annual West Coast Biological Sciences Undergraduate Research Conference, Point Loma Nazarene College, San Diego, CA

32. Butts*, Brent, and M. McConnell (1996), "Detection of the beta polymerase gene of bacteriophage Epsilon 15 by PCR, using primers based upon the O-polysaccharide alpha polymerase gene sequence of Salmonella anatum", Abstract, Twenty-First Annual West Coast Biological Sciences Undergraduate Research Conference, Point Loma Nazarene College, San Diego, CA

33. Eastis*, J., B. Whitehead* and M. McConnell (1997), "Probable primary structure of the transacetylase repressor protein of bacteriophage Epsilon 15", Abstract, Twenty-Second Annual West Coast Biological Sciences Undergraduate Research Conference, Loyola Marymount University, Los Angeles, CA

34. McConnell, Michael (1997), "Characterization of a gene in bacteriophage Epsilon 15 whose expression blocks acetylation of Salmonella O-polysaccharide", First Annual Meeting of the San Diego Microbiology Group (May 17, 1997)

35. McConnell, M., B. Butts*, K.A. Johnson*, B. Whitehead*, J. Eastis*, D. Mills*, S. Norton*, F. Conte*, D. Brock* and V. Tran* (1997), "Control of acetylation of Group E1 Salmonellae endotoxin by bacteriophages", Annual Meeting on Microbial Pathogenesis and Host Response, Cold Spring Harbor Laboratory, NY

36. Norton*, Suzanne, Kenneth Day* and Michael McConnell (1998), "A new model for the mechanism of inhibition of O-polysaccharide transacetylase by bacteriophage Epsilon 15", Abstract, Twenty-third Annual West Coast Biological Sciences Undergraduate Research Conference, University of San Francisco, CA

37. Day*, Kenneth, Suzanne Norton* and Michael McConnell (1999) "Establishment of the correct ORF for the bacteriophage Epsilon 15 transacetylase repressor gene by in vitro mutagenesis, using altered PCR primers", Abstract, Twenty-Fourth Annual West Coast Biological Sciences Undergraduate Research Conference, University of California at Irvine

38. Mills*, David, Michael McConnell and Stephen Billington (1999) "A "Genomics" approach to the search for beta polymerase, a hypothesized cell surface conversion gene of bacteriophage Epsilon 15", Abstract , Twenty-Fourth Annual West Coast Biological Sciences Undergraduate Research Conference, University of California at Irvine

39. Patrick*, Aaron, Kenneth Oakes* and Michael McConnell (2001) "Two functional O-polysaccharide polymerase genes are present in the rfb gene cluster of Group E1 Salmonella enterica", Abstract, Twenty-sixth Annual West Coast Biological Sciences Undergraduate Research Conference, Santa Clara University.

40. Sydlaske*, Anya and Michael McConnell (2002) "Identification of the gene coding for the tail fiber protein of the Salmonella-specific bacteriophage, Epsilon 15", Abstract, Twenty-seventh Annual West Coast Biological Sciences Undergraduate Research Conference, Loyola Marymount University

41. Hutson*, Shandee M. and Michael McConnell (2003) "The use of chimer protein constructs to examine structure/function relationships in Group E1 Salmonella enterica O-polysaccharide polymerase enzymes"

Abstract, Twenty-Eighth Annual West Coast Biological Sciences Undergraduate Research Conference, Colorado College, Colorado Springs.

42. Chen, Jessica, Courtney Hall*, Natasha Jundt, Anthony Montano*, Robert Thayer and Michael McConnell (2009). "Studies on the mechanism of lipopolysaccharide biosynthesis and its phage-mediated conversion in Group E1 Salmonellae bacteria", Presented by Courtney Hall and Anthony Montano at the "Celebration of Math and the Sciences at PC/PLNU", Point Loma Nazarene University, San Diego, CA, November 20, 2009.

43. Hall, Courtney*, Anthony Montano*, Natasha Jundt*, Jessica Chen*, Robert Thayer* and Michael McConnell (2010) "Studies on the mechanism of lipopolysaccharide biosynthesis in Group E1 Salmonellae bacteria", Poster presentation by Courtney Hall and Anthony Montano at the Thirty-Fifth Annual West Coast Biological Sciences Undergraduate Research Conference, Santa Clara University, CA.

44. Megan Edgbert*, Natasha Jundt*, Anthony Montano*, Andrew Montano* and Michael McConnell (2011). "A gene deletion analysis of O-polysaccharide biosynthesis in Salmonella enteric, Serovar anatum, a serotype Group E1 organism", Seminar presentation by Megan Edgbert at the Thirty-Sixth Annual West Coast Biological Sciences Undergraduate Research Conference, Pacific Lutheran University, Tacoma, WA

45. Sean Heavey*, Andrew Montano*, Megan Evilsizor*, Natasha Gebhart*, Danielle Matonis*, Hannah Quinn*, Maika Adair* and Michael McConnell (2013. "Identification of genes coding for two cell surface converting enzymes of the Group E1 Salmonella-specific bacteriophage, Epsilon 15", Seminar presentation by Sean Heavey at the Thirty-Eighth Annual West Coast Biological Sciences Undergraduate Research Conference, Point Loma Nazarene University, San Diego, CA (April 20, 2013). **Won 1st prize in the Molecular Biology Seminar Session**

46. Michael McConnell (2013). "Salmonella Cell Surface Conversion by Bacteriophage E15: An Old Story Revisited", Poster presented at the 50th Anniversary Symposium, Dept of Molecular Biology and Microbiology, Tufts University, Boston, MA (July 1, 2013)

47. Hannah Quinn* and Michael McConnell (2014). "Evidence for Two O-Polysaccharide Polymerase Enzymes in *Salmonella enterica*, Serovar Strasbourg", Seminar presentation by Hannah Quinn at the 2014 UCSD Summer Undergraduate Research Conference, University of California San Diego, San Diego, CA (August 14, 2014).

48. Hannah Quinn* and Michael McConnell (2014). "Evidence for Two O-Polysaccharide Polymerase Enzymes in *Salmonella enterica*, Serovar Strasbourg", Seminar presentation by Hannah Quinn at the 2014 Southern California Conferences for Undergraduate Research (SCCUR), November 22, 2014.

49. Amelia Krause* and Michael McConnell (2017). "A Genetic Analysis of the Roles Played by Bacteriophage E15 Proteins gp21 and gp22 in Converting the O-Polysaccharide of Salmonella anatum from an Alpha-Glycosidically Linked Form to a Beta-Glycosidically Linked Form", Seminar presentation by Amelia Krause at the Forty-Second Annual West Coast Biological Sciences Undergraduate Research Conference, Santa Clara University (April 22, 2017).

50. Yuendie Guridi*, Victoria Chavez*, Courtney Rundio*, Alexander Earle* and Taylor Steele* (Michael McConnell and Ryan Botts). "Characterization of a bacteriophage that can infect four of the five major disease-causing Salmonella serogroups", Seminar presentation by Yuendie Guridi, Victoria Chavez and Courtney Rundio at the 44th Annual West Coast Biological Sciences Undergraduate Research Conference, University of San Diego (April 6, 2019)

51. Victoria Chavez*, Courtney Rundio*, Brianna Jones* and Noah Schultz* (Michael McConnell), "Characterization of P22virB-3: A bacteriophage that can infect four of the five major disease-causing Salmonella serogroups", Seminar presentation by Victoria Chavez, Courtney Rundio, Brianna Jones and Noah Schultz at the U.C. San Diego Summer Research Conference (August 9, 2019).

52. Leia Laughlin*, Hayden Sanders*, Camille Rodriguez, Brandon Park and Michaela Cain (Michael McConnell). "New insight on the mechanism whereby podovirus P22 adsorbs irreversibly to *Salmonella typhimurium* bacteria". Seminar presentation by Leia Laughlin and Hayden Sanders at the 45th Annual West Coast Biological Sciences Undergraduate Research Conference, Point Loma Nazarene University, April 9, 2022)

INVITED RESEARCH SEMINARS AND PROFESSIONAL MEETING SEMINAR AND POSTER PRESENTATIONS

1975 Cold Spring Harbor Phage Meetings, Cold Spring Harbor, New York
1984 Department of Biology, Biola University, La Mirada, CA
1984 Department of Microbiology and Immunology, University of Arizona, Tucson, AZ
1984 Basic Sciences Seminar, Loma Linda University, Loma Linda, CA
1985 Department of Molecular Biology, Vanderbilt University, Nashville, TN
1986 Tenth Biennial Meeting on Bacteriophage Assembly (two seminars), MacDonald College of McGill University, Montreal, Quebec
1988 25th Anniversary Symposium of the Department of Molecular Biology and Microbiology, Tufts University School of Medicine, Boston, MA
1988 Eleventh Biennial Meeting on Bacteriophage Assembly, Asilomar, CA
1991 Twelvth International Meeting on Bacteriophage Assembly, Cable, WI
1992 Department of Microbiology, Montana State University, Boseman, MT
1994 Department of Microbiology, University of Sydney, Sydney, Australia
1997 San Diego Microbiology Group – 2nd Annual Meeting (May 17, 1997)
1999 San Diego Microbiology Group – 4th Annual Meeting (May 22, 1999)
2001 Department of Medicine, U.C. San Diego, CA (July 5, 2001)
2005 Departments of Biology and Chemistry, Azusa Pacific University (April 21, 2005
2005 San Diego Microbiology Group - 10th Annual Meeting, May 28, 2005
2011 San Diego Microbiology Group – 16th Annual Meeting, May 14, 2011
2011 Jack Johnson Lab Group (The Scripps Research Institute) – June 3, 2011
2012 Jack Johnson Lab Group (The Scripps Research Institute) – December, 2012
2013 50th Anniversary Symposium of the Department Molecular Biology and Microbiology, Tufts University, Boston, MA (July 1, 2013)
2016 Centro Nacional de Biotecnologia, Madrid, Spain (10/27/16)
2018 The Centre for Immunology and Infection, University of York, Heslington, York, United Kingdom (10/24/18)
2019 The University of Potsdam, Germany (11/12/19)

EDUCATIONAL WORKSHOPS AND OTHER PROFESSIONAL ACTIVITIES

1986 "Gene cloning in the High School Classroom using inexpensive, homemade models", Workshop for Secondary Science Teachers, Point Loma Nazarene College, (August, 1986)
1987 "Gene cloning in the classroom", 3rd Annual Science Educator's Conference K-12, San Diego County Office of Education (February 11, 1987)
1988 Adjudicator for 34th Annual Greater San Diego Science and Engineering Fair
1989 Adjudicator for 35th Annual Greater San Diego Science and Engineering Fair
1990 "DNA and the age of genetic engineering", Seminar presentation for "Outward Bound" students, presented at U.C. San Diego (July 5, 1990)
1996 Scientific Consultant for Murdock Charitable Trust (Seattle, WA)
1996 Presentation on Microbes and Personal Hygiene, Warren Walker School, Grade K (March 19, 1996)
1997 Presentation on Anton van Leeuwenhoek and Microscopy, Warren Walker School, Grade 1 (May 13, 1997)
1997 "Immunoglobulin Genes - Structure and Function", California Scope, Sequence and Coordination Southern Summer Institute (High School Science Teacher Workshop), Point Loma Nazarene College, (July 17, 1997)
1998 to present Member, West Coast Biological Sciences Undergraduate Research Conference Steering Committee
1998 Presentation on Properties of RNA and Proteins, Warren Walker School, Grade 2 (May 22, 1998)

1998 Scientific Consultant for Murdock Charitable Trust (Seattle, WA)
1999 Presentation on Arthropods, Warren Walker School, Grade 3 (6/2/99)
2000 Presentation on Mammalian Circulatory and Excretory Systems, Warren Walker School, Grade 4 (May 31, 2000)
2001 Presentation on the Human Central Nervous System, Warren Walker School, Grade 5 (May 31, 2001)

ADDITIONAL COMMUNITY SERVICE ACTIVITIES

Sept. 1989 Vocal Music Entertainment (with Phil Bowles) for PLUS, a Point Loma Community Senior Citizens Group
Feb. 1991 Vocal Music Entertainment (with Phil Bowles) for Active Adults, a Senior Citizens Group of the First United Methodist Church in San Diego
Jan-March 1998 Coach for YMCA Basketball Program (Boys 7-8)
1990-2002 Member, Linda Vista Civic Association

COLLEGE LEVEL COURSES TAUGHT

Advanced Biochemistry 450 (1978 - 2013)
Basic Biology 101 (1978 - 1992)
Cell Biology and Biochemistry 110 (1992 -2005)
Cell Physiology (1975)
General Chemistry 154 - Qualitative Analysis (1978-1990)
General Zoology 102 (1978, 1991-92)
Genetics 341 (1975, 1978 - 1988)
General and Biological Chemistry 102 and 103, a two course sequence for allied health sciences
Immunology 387 (1986 - 1992)
Introductory Chemistry 101 (1978-1990)
Microbiology and Immunology 390 (1992- 2002)
Molecular Microbiology 356 (1978 - 1990)
Molecular Biology 380 (1991; 1997-2014)
Undergraduate Research 499 (1978 – present)
Virology 357 (1985-88)

FOREIGN TRAVEL EXPERIENCES (as of 6/2/22, a total of 21 countries)

Western Europe (England, Scotland, Wales, Netherlands, Denmark, Norway, Sweden, West Germany, East Germany, Switzerland, Austria, Italy, Spain, France and Belgium)	(9 weeks) 1969
France and Spain	(5 weeks) 1975
Western Europe (5 countries)	(5 weeks) 1976
Spain	(2 weeks) 1977
England and Spain	(5 weeks) 1978
Central Mexico	(2 weeks) 1979
Central Mexico	(5 weeks) 1980
Western Europe (Germany, Austria, Yugoslavia, Greece, Spain) and Israel	(5 weeks) 1981
Spain	(2 weeks) 1986
Spain and Portugal	(3 weeks) 1986
Spain and Portugal	(2 weeks) 1987
Central Mexico	(2 weeks) 1989
Australia	(4 weeks) 1994
Spain and Portugal	(3 weeks) 1994
Central Mexico	(2 weeks) 1998
British Columbia (Canada)	(2 weeks) 2004
England and Scotland……	(2 weeks) 2005
British Columbia (Canada)	(1 week) 2012

Spain (4 weeks, 2016)
France and England (4 weeks, 2018)
Spain, Germany and France…….(3 weeks, 2019)