

Curriculum vitae

BRADLEY S. MOORE

Distinguished Professor
Scripps Institution of Oceanography (SIO)
Skaggs School of Pharmacy & Pharmaceutical Sciences (SSPPS)
UC San Diego

EDUCATION & TRAINING

Postdoc	University of Zurich , Switzerland Biochemistry (J.A. Robinson)	1995
Ph.D.	University of Washington , Seattle, WA Bioorganic chemistry (H.G. Floss)	1994
B.S.	University of Hawaii , Honolulu, HI Chemistry (R.E. Moore)	1988

PROFESSIONAL EXPERIENCE

UC San Diego, La Jolla, CA

- Director, Scripps Center for Oceans and Human Health 2024-present
- Distinguished Professor, Scripps Institution of Oceanography 2021-present
- Distinguished Professor, Skaggs School of Pharmacy & Pharm Sciences 2021-present
- Director, Center for Marine Biotechnology and Biomedicine, SIO 2020-present
- Division Head, Division of Pharmaceutical Chemistry, SSPPS 2016-2019
- Director, Scripps Center for Oceans and Human Health 2012-2017
- Assoc Director, Center for Marine Biotechnology and Biomedicine, SIO 2011-2020
- Member, Moores Cancer Center 2007-present
- Professor, Scripps Institution of Oceanography 2005-2021
- Professor, Skaggs School of Pharmacy & Pharm Sciences 2005-2021

Danish Technical University, Copenhagen, Denmark

- Visiting Professor, Center for Biotechnology 2024

Federal Institute of Technology (ETH), Zurich, Switzerland

- Visiting Professor, Division of Microbiology 2014

University of Arizona, Tucson, AZ

- Associate Professor, Department of Medicinal Chemistry 2003-2005
- Associate Professor, Department of Chemistry 2003-2005
- Comprehensive Member, Arizona Cancer Center 2002-2005
- Assistant Professor, Department of Chemistry 2001-2003
- Assistant Professor, Department of Medicinal Chemistry 1999-2003

University of Zurich, Switzerland

- Postdoctoral Scientist, Organic Chemistry Institute 1994-1995

University of Washington, Seattle, WA

- Research Assistant Professor, Department of Chemistry 1996-1999
- Teaching and Research Graduate Assistant, Department of Chemistry 1990-1994

University of Hawaii, Honolulu, HI

- Research Associate, Department of Chemistry 1989

MAJOR ADMINISTRATIVE ACCOMPLISHMENTS

UC San Diego

Director, Center for Marine Biotechnology and Biomedicine, SIO

- Administer activities and files of CMBB faculty and research staa. I organize and lead quarterly faculty meetings to discuss and plan research/funding/student opportunities of interest to the CMBB community. We revised the CMBB website, initiated quarterly news reports to stakeholders, and established the annual CMBB research symposia in 2023.
- Developed partnerships with local biotech companies to support the research and training mission of CMBB scientists. Since 2021 we have spearheaded the donation and distribution of high-value equipment and funds to CMBB researchers, including the creation of Illumina Automation Labs at SIO.
- Led several major fundraising eaorts on behalf of CMBB for new fellowships, awards, and facilities, including endowments to support incoming PhD students and an annual postdoc researcher prize. Also led the successful conceptualization, fundraising, and design of a new marine biotechnology building at SIO that will begin construction in 2027.

Division Head, Division of Pharmaceutical Chemistry, SSPPS

- Administered faculty and graduate students in the Division of Pharmaceutical Chemistry at SSPPS as the inaugural Division Head in 2016. Created the administrative structure of the new division, including committee and teaching assignments, research space allocation, annual reports, etc. The creation of divisions in SSPPS led to the formal creation of new departments in 2025.
- Developed a college-wide 5-year strategic plan in coordination with the two other SSPPS Division Heads and in consultation with the SSPPS Dean and all other constituents, including faculty, students and staa.

Director, Scripps Center for Oceans and Human Health, SIO

- Created the Scripps COHH in 2012 with joint funding from the NIH/NSF to support 8 investigators working on marine contaminants and seafood security. In 2024 with a new group of researchers, we secured an additional grant from NIH/NSF to extend our research and outreach to advance the science of marine contaminants and seafood security at SIO.
- Manage the administration, budgeting, community engagement, and national coordination of the Scripps COHH with other Centers across the US.

PROFESSIONAL AFFILIATIONS

- Editor-In-Chief, *Journal of Natural Products* 2025-present
- SAB member, *Lassogen*, San Diego, CA 2020-2024
- Associate Editor, *Organic Letters* 2019-2024
- SAB member, *Synvitro*, San Francisco, CA 2018-2019
- Consultant, *Eli Lilly and Company*, Indianapolis, IN 2015-2017
- Consultant, *Genomatica*, La Jolla, CA 2015-2017
- SAB member, *Laboratorio Nacional de Biotecnologia*, Campinas, Brazil 2015-2020
- Mentor, *NIGMS Mentoring Workshop*, Dallas, TX 2015
- Chair, *Marine Natural Products Gordon Conference* 2014
- President, *American Society of Pharmacognosy* 2013-2014
- Vice President, *American Society of Pharmacognosy* 2012-2013
- Vice Chair, *Marine Natural Products Gordon Conference* 2012
- Editorial Advisory Board member, *ChemBioChem* 2010-2020
- Editorial Advisory Board member, *Journal of Antibiotics* 2009-present
- Editorial Advisory Board member, *Organic Letters* 2008-2018
- Chair of the Editorial Board, *Natural Product Reports* 2011-2018
- Commissioning Editor, *Natural Product Reports* 2005-2018
- Grant Reviewer, *National Institutes of Health* 2002-present
 - **BNP ad hoc** member: 2002; **BPC-B**: 2004; **SBCB permanent** member: 2005-2008; *ad hoc* member: 2015; **MSFE**: 2013; **R01 Member Conflict**: 2013, 2016, 2018; **MIRA**: 2016, 2020; **TRA**: 2019, 2021; **NIEHS ONES**: 2020.
- Grant Reviewer and permanent committee member, *California Sea Grant* 2000-2005

PROFESSIONAL AWARDS & NAMED LECTURES

- Paul J. Scheuer Award in Marine Natural Products, *Gordon Research Conf* coming 2026
- Distinguished Research Award, *UC San Diego* 2024
- Taito O. Soine Lecture in Medicinal Chemistry, *University of Minnesota* 2024
- Ernest Guenther Award in the Chemistry of Natural Products, *American Chemical Society* 2021
- Norman R. Farnsworth Research Achievement Award, *American Society of Pharmacognosy* 2021
- Alexander M. Cruickshank Lectureship Award, *Gordon Research Conference* 2020
- Elected Fellow, *American Society of Pharmacognosy* 2019
- C. Richard Hutchinson Lectureship, *University of Wisconsin* 2019

- Natural Product Chemistry Award, *Royal Society for Chemistry* 2018
- Highly Cited Researcher in Cross-Field category, *Clarivate Analytics* 2018
- Elected Fellow, *American Academy of Microbiology* 2017
- Novartis Lecturer in Organic Chemistry, *UC Berkeley* 2017
- Arthur C. Cope Scholar Award, *American Chemical Society* 2013
- Novartis Lecturer in Organic Chemistry, *MIT* 2010
- Elected Fellow, *Royal Society for Chemistry* 2010
- Matt Suaness Young Investigator Award, *American Society of Pharmacognosy* 2001
- ACS-PRF Type G Award, *American Chemical Society* 1999-2002
- Predoctoral Training Fellow in Biotechnology, *National Institutes of Health* 1992-1994

GRANTS & CONTRACTS

- Over \$50M in grants and contracts awarded since 1996.
- PI on >75 grant-years of NIH awards since 2000, and the founding director of the NIEHS/NSF-sponsored Scripps Center for Oceans and Human Health.

Current

NSF OCE-2414798 (Moore, Contact PI; Hamdoun & 6 other co-PIs) 3/1/24 – 2/28/29, *Scripps Center for Oceans and Human Health: Advancing the Science of Marine Contaminants and Seafood Security*, \$4,322,964 Total Costs.

NIH/NIEHS P01 ES021921 (Moore, Contact PI; Hamdoun & 6 other co-PIs), 3/1/24 – 2/28/29, *Scripps Center for Oceans and Human Health: Advancing the Science of Marine Contaminants and Seafood Security*, \$3,026,071 Total Costs.

NIH/NCCIH R01 AT 012641-01 (Moore, Contact PI; Chun, MPI), 12/20/23 – 10/31/28, *Biosynthesis and Biological Mechanisms of Minor Cannabinoids*, \$3,563,186 Total Costs.

NIH/NIGMS R01 GM 146224-01 (Moore, Contact PI; Chang, MPI), 8/1/23 – 5/31/27, *Biosynthesis of Marine Terpenoid Natural Products*, \$1,939,743 Total Costs.

ONR (Moore, PI; Deravi, co-PI), 9/1/24 – 8/30/26, *Bioengineering Primary Metabolic Byproducts as Templates for Adaptive Technologies*, \$650,000 Total Costs.

Gordon and Betty Moore Foundation 13797 (Moore, PI; Burkhardt co-PI), 10/1/25 – 10/31/28, *Exploring Early Metabolic Evolution in Animals*, \$1,293,250 Total Costs.

UCSD Faculty Senate (Smith, PI; Moore, co-PI), 10/1/25 – 9/30/26, *Seafood as Catalyst – Bridging Climate, Ocean Conservation, Nutrition, and the Human Dimensions of Food from the Sea*, \$25,000 Total Costs.

Pending

NOAA (Allen, PI; Moore & 6 other co-PIs), 9/1/24 – 8/31/29, *ECOHAB: Oceanographic Controls and Molecular Forecasting of Domoic Acid Biosynthesis in the Central and Southern California Current System*, \$5,000,000 Total Costs.

NSF (Pandelia, PI; Moore, co-PI), 3/1/26 – 2/28/29, *Exploring Non-Heme Oxidases in Tryptophan Metabolism: Pathways to Toxins and Bioactive Molecules*, \$877,355.

ONR (Moore, PI; Deravi, co-PI), 9/1/26 – 8/30/29, *Bioengineering multi-pixelated living arrays for adaptive technologies*, \$1,529,445 Total Costs.

Completed (not comprehensive)

NIH/NIGMS R01 GM 085770-13 (Moore, Contact PI; Jensen, MPI), 8/1/09 – 8/31/25, *Natural Product Genome Mining*, \$5,136,041 Total Costs.

NOAA NA23OAR0110520 (Jensen, PI; Moore & 3 other co-PIs), 9/1/23 – 8/31/25, *Diversity and Biopharmaceutical Assessments of Deep Sea, Mineral-Rich Biomes OP Southern California*, \$563,355 Total Costs.

Gates Foundation 50297-2023-30250092 (Gerwick, PI; Moore & 2 other co-PIs), 6/1/23 – 5/30/25, *Neglected Disease Drug Discovery from Marine Products*, \$514,086 Total Costs.

NOAA NA19NOS4780181 (Allen, PI; Moore & 5 other co-PIs), 9/1/19 – 8/31/24, *ECO HAB19: Oceanographic and Cellular Controls on Domoic Acid Production in the Central and Southern California Current System*, \$4,724,894 Total Costs.

NIH/NIEHS R01 ES030316-01 (Moore, contact PI; Allen, MPI), 9/15/18 – 6/30/23, *Natural Sources and Microbial Transformation of Marine Halogenated Pollutants*, \$627,750 Total Costs.

NSF OCE-1837116 (Moore, PI; Allen, co-PI), 9/15/18 – 8/31/23, *Natural Sources and Microbial Transformation of Marine Halogenated Pollutants*, \$815,111 Total Costs.

NIH/NIAID R01 AI 047818-17 (Moore, PI), 8/1/00 – 12/31/22, *Biosynthesis of the Marine Polyketide Antibiotics*, \$5,552,084 Total Costs.

NIH/NIEHS R21 ES032056 (Moore, PI), 8/13/20 – 7/31/22, *Biosynthesis and Monitoring of the Cyanobacterial Toxin Anatoxin-a(s)*, \$433,927 Total Costs.

USC Sea Grant NA18OAR4170075 (Moore, PI), 4/1/20 – 3/31/22, *Design and Development of a Universal Genetic Assay to Monitor and Predict Toxic *Pseudo-nitzschia* Planktonic Blooms*, \$70,002 Total Costs

NIH/NIAID R01 AI 117712-01 (Pogliano, Pogliano, Moore, MPIs), 3/1/16 – 2/28/20, *Targeted discovery of antibiotics from cave bacteria*, \$2,842,425 Total Costs.

NIH/NCI R01 CA127622 (Moore, PI), 4/1/07 – 5/31/18, *Salinosporamide biosynthesis and engineering*, \$2,805,515 Total Costs.

NSF OCE-1313747 (Moore, PI; plus 6 co-PIs) 3/1/13 – 2/28/18, *Scripps Center for Oceans and Human Health*, \$4,050,605 Total Costs.

NIH/NIEHS P01 ES021921 (Moore, PD and Project-2 PI; plus 6 co-PIs), 9/24/12 – 7/31/17, *Scripps Center for Oceans and Human Health*, \$1,934,804 Total Costs

NIH/NIGMS R01 GM097509 (Dorrestein, Moore, MPI), 4/1/12 – 2/28/17, *Experiment Based Genome Mining of Ribosomal Natural Products*, \$1,875,726 Total Costs

PUBLICATIONS

- As of January 2026, I have edited 3 books, published 281 refereed journal articles, and filed 12 patents. According to *Google Scholar*, my publications have been cited ~38,000 times, with an h-index of 97.

Edited Books

Comprehensive Natural Products II, Natural Products Structural Diversity-II Secondary Metabolites: Sources, Structures and Chemical Biology, Volume 2, Elsevier, Edited by **B. S. Moore** and P. Crews, pp 683 (2010).

Methods in Enzymology, Marine Enzymes and Specialized Metabolism, Part A, Volume 604, Academic Press, Edited by **B. S. Moore**, pp 540 (2018). ISBN 9780128139592

Methods in Enzymology, Marine Enzymes and Specialized Metabolism, Part B, Volume 605, Academic Press, Edited by **B. S. Moore**, pp 549 (2018).

Refereed Journal Articles

- R. E. Moore, S. Banarjee, V. Bornemann, F. R. Caplan, J. L. Chen, D. G. Corley, L. K. Larsen, **B. S. Moore**, G. M. L. Patterson, V. J. Paul, J. B. Stewart and D. E. Williams. Novel Cytotoxins and Fungicides from Blue-Green Algae and Marine Animals Possessing Algal Symbionts. *Pure Appl. Chem.*, **61**, 521-524 (1989).
- B. S. Moore**, J. L. Chen, G. M. L. Patterson, R. E. Moore, L. S. Brinen, Y. Kato and J. Clardy. [7.7]Paracyclophanes from Blue-Green Algae. *J. Am. Chem. Soc.*, **112**, 4061-4063 (1990).
- R. E. Moore, J. L. Chen, **B. S. Moore**, G. M. L. Patterson and W. W. Carmichael. Biosynthesis of Microcystin-L.R. Origin of the Carbons in the Adda and Masp Units. *J. Am. Chem. Soc.*, **113**, 5083-5084 (1991).
- B. S. Moore**, J. L. Chen, G. M. L. Patterson and R. E. Moore. Structures of Cylihydrocyclophanes A-F. *Tetrahedron*, **48**, 3001-3006 (1992).
- B. S. Moore**, I. Ohtani, C. B. de Koning, W. W. Carmichael and R. E. Moore. Biosynthesis of Anatoxin-a(s). Origin of the Carbons. *Tetrahedron Lett.*, 6595-6598 (1992).
- R. E. Moore, I. Ohtani, **B. S. Moore**, C. B. de Koning, W. Y. Yoshida, M. T. Runnegar and W. W. Carmichael. Cyanobacterial Toxins. *Gazz. Chim. Ital.*, **123**, 329-336 (1993).
- H. G. Floss, H. Cho, K. A. Reynolds, E. Kennedy, **B. S. Moore**, J. M. Beale, U. Mocek and K. Poralla. Diversions of the Shikimate Pathway - The Biosynthesis of Cyclohexanecarboxylic Acid. *Secondary-Metabolite Biosynthesis and Metabolism in Environmental Science Research*, Vol. 44, R.J. Petroski and S.P. McCormick, Eds., Plenum Press, New York, 77-88 (1992).
- B. S. Moore**, H. Cho, R. Casati, E. Kennedy, K. A. Reynolds, J. M. Beale, U. Mocek and H. G. Floss. Biosynthetic Studies on Ansatrienin. Formation of the Cyclohexanecarboxylic Acid Moiety. *J. Am. Chem. Soc.*, **115**, 5254-5266 (1993).
- B. S. Moore**, K. Poralla and H. G. Floss. Biosynthesis of the Cyclohexanecarboxylic Acid Starter Unit of μ -Cyclohexyl Fatty Acids in *Alicyclobacillus acidocaldarius*. *J. Am. Chem. Soc.*, **115**, 5267-5274 (1993).

10. T. Pratum and **B. S. Moore**. Inverse Detection of Multiple Quantum Coherences for Biosynthetic Studies. *J. Mag. Res., Series B*, **102**, 91-97 (1993).
11. **B. S. Moore** and H. G. Floss. Biosynthetic Studies on the Origin of the Cyclohexanecarboxylic Acid Moiety of Ansatrienin A and μ -Cyclohexyl Fatty Acids. *J. Nat. Prod.*, **57**, 382-386 (1994).
12. K. K. Wallace, K. A. Reynolds, K. Koch, H. A. I. McArthur, M. S. Brown, R. G. Wax and **B. S. Moore**. Biosynthetic Studies of Immunomycin (FK520): Formation of the (1*R*,3*R*,4*R*)-3,4-Dihydroxy-cyclohexanecarboxylic Acid-Derived Moiety. *J. Am. Chem. Soc.*, **116**, 11600-11601 (1994).
13. H. Skubatz, E. Svee, **B. S. Moore**, W. N. Howald, W. Tang and B. J. D. Meeuse. Oleic Acid and its Positional Isomer, *cis*-Vaccinic Acid, in the Appendix of *Sauromatum gattutum* During Anthesis. *Plant Physiol.*, **107**, 1433-1438 (1995).
14. **B. S. Moore**, K. Poralla and H. G. Floss. Three New μ -Cycloheptyl Fatty Acids from *Alicyclobacillus cycloheptanicus* and Their Biosynthetic Interrelationships. *J. Nat. Prod.*, **58**, 590-593 (1995).
15. H. G. Floss, C. G. Kim and **B. S. Moore**. New Variants of the Shikimate Pathway in the Biosynthesis of Antibiotics and Other Microbial Metabolites. *Secondary Metabolism of Microorganisms*, W. Kuhn and H. P. Fiedler, Eds., Attempto Verlag, Tübingen, Germany, 91-97 (1995).
16. **B. S. Moore**, R. Eisenberg, C. Weber, A. Bridges, D. Nanz and J. A. Robinson. On the Stereospecificity of the Coenzyme B₁₂-Dependent Isobutyryl-CoA Mutase Reaction. *J. Am. Chem. Soc.*, **117**, 11285-11291 (1995).
17. **B. S. Moore**, K. Walker, I. Tornus, S. Handa, K. Poralla and H. G. Floss. Biosynthesis of μ -Cycloheptyl Fatty Acids in *Alicyclobacillus cycloheptanicus*. Formation of Cycloheptanecarboxylic Acid from Phenylacetic Acid. *J. Org. Chem.*, **62**, 2173-2185 (1997).
18. **B. S. Moore**. Biosynthetic Studies on the Salinamides, Depsipeptides from a Marine *Streptomyces*. *New Developments in Marine Biotechnologies*, Y. Le Gal and H. O. Halvorson, Eds., Plenum Press, Plenum Press, New York, 49-53 (1998).
19. **B. S. Moore** and D. Seng. Biosynthesis of the Bicyclic Depsipeptide Salinamide A in *Streptomyces* sp. CNB-091: Origin of the Carbons. *Tetrahedron Lett.*, **39**, 3915-3918 (1998).
20. T.-W. Yu, Y. Shen, R. McDaniel, H. G. Floss, C. Khosla, D. A. Hopwood and **B. S. Moore**. Engineered Biosynthesis of Novel Polyketides from *Streptomyces* Spore Pigment Polyketide Synthases. *J. Am. Chem. Soc.*, **120**, 7749-7759 (1998).
21. **B. S. Moore**, J. A. Trischman, D. Seng, D. Kho, P. R. Jensen and W. Fenical. Salinamides, Antiinflammatory Depsipeptides from a Marine Streptomycete. *J. Org. Chem.*, **64**, 1145-1150 (1999).
22. **B. S. Moore** and H. G. Floss. Biosynthesis of Cyclic Fatty Acids Containing Cyclopropyl-, Cyclopentyl-, Cyclohexyl-, and Cycloheptyl-Rings. *Comprehensive Natural Products Chemistry, Volume 1: Polyketides and Other Secondary Metabolites Including Fatty Acids and Their Derivatives*, D. Barton, K. Nakanishi and O. Meth-Cohn, Eds., Elsevier, New York, 61-82 (1999).
23. Y. Shen, P. Yoon, T.-W. Yu, H. G. Floss, D. A. Hopwood and **B. S. Moore**. Ectopic Expression of the Minimal *whiE* Polyketide Synthase Generates a Library of Aromatic Polyketides of Diverse Sizes and Shapes. *Proc. Natl. Acad. Sci. USA*, **96**, 3622-3627 (1999).

- *Commentary* by C. R. Hutchinson. Microbial polyketide synthases: More and more prolific. *Proc. Natl. Acad. Sci. USA*, **96**, 3336-3338 (1999).
24. T.-W. Yu, Y. Shen, Y. Doi-Katayama, L. Tang, C. Park, **B. S. Moore**, C. R. Hutchinson, and H. G. Floss. Direct Evidence that the Rifamycin Polyketide Synthase Assembles Polyketide Chains Processively. *Proc. Natl. Acad. Sci. USA*, **96**, 9051-9056 (1999).
 25. Y. Doi-Katayama, L. Tang, C. Park, T.-W. Yu, **B. S. Moore**, H. G. Floss, and C. R. Hutchinson. Biosynthesis of the Ansamycin Antibiotic Rifamycin: Polyketide Synthase Processes Multiple Polyketide Chains Simultaneously. *Tenne Yuki Kagobutsu Toronkai Koen Yoshishu*, **41**, 637-642 (1999).
 26. **B. S. Moore**. Biosynthesis of Marine Natural Products: Microorganisms and Macroalgae. *Nat. Prod. Rep*, **16**, 653-673 (1999).
 27. J. Piel, K. Hoang, and **B. S. Moore**. Natural Metabolic Diversity Encoded by the Enterocin Biosynthesis Gene Cluster. *J. Am. Chem. Soc.*, **122**, 5415-5416 (2000).
 28. C. Hertweck and **B. S. Moore**. A Plant-like Biosynthesis of Benzoyl-CoA in the Marine Bacterium *Streptomyces maritimus*. *Tetrahedron*, **56**, 9115-9120 (2000).
 29. J. Piel, C. Hertweck, P. R. Shipley, D. M. Hunt, M. S. Newman, and **B. S. Moore**. Cloning, Sequencing and Analysis of the Enterocin Biosynthesis Gene Cluster from the Marine Isolate "*Streptomyces maritimus*": Evidence for the Derailment of an Aromatic Polyketide Synthase. *Chem. Biol.*, **7**, 943-955 (2000).
 30. **B. S. Moore** and J. Piel. Engineering Biodiversity with Type II Polyketide Synthase Genes. *Anton. Leeuw. J. Microbiol.*, **78**, 391-398 (2000).
 31. **B. S. Moore** and J. N. Hopke. Discovery of a New Bacterial Polyketide Biosynthetic Pathway. *ChemBioChem*, **2**, 35-38 (2001).
 32. C. Hertweck, A. P. Jarvis, L. Xiang, **B. S. Moore**, and N. J. Oldham. A Mechanism of Benzoic Acid Biosynthesis in Plants and Bacteria that Mirrors Fatty Acid ω -Oxidation. *ChemBioChem*, **2**, 784-786 (2001).
 33. **B. S. Moore** and C. Hertweck. Biosynthesis and Attachment of Novel Bacterial Polyketide Synthase Starter Units. *Nat. Prod. Rep.*, **19**, 70-99 (2002).
 34. L. Xiang, J. A. Kalaitzis, G. Nilsen, L. Chen, and **B. S. Moore**. Mutational Analysis of the Enterocin Favorskii Biosynthetic Rearrangement. *Org. Lett.*, **4**, 957-960 (2002).
 35. U. Hentschel, J. Hopke, M. Horn, A. B. Friedrich, M. Wagner, J. Hacker, and **B. S. Moore**. Molecular Evidence for a Uniform Microbial Community in Sponges from Distant Oceans. *Appl. Environ. Microbiol.*, **68**, 4431-4440 (2002).
 36. L. Xiang and **B. S. Moore**. Inactivation, Complementation and Heterologous Expression of *encP*, a Novel Bacterial Phenylalanine Ammonia-Lyase Encoding Gene. *J. Biol. Chem.*, **277**, 32505-32509 (2002).
 37. **B. S. Moore**, C. Hertweck, J. N. Hopke, M. Izumikawa, J. A. Kalaitzis, G. Nilsen, T. O'Hare, J. Piel, P. R. Shipley, L. Xiang, M. B. Austin, and J. P. Noel. Plant-Like Biosynthetic Pathways in Bacteria: from Benzoic Acid to Chalcone. *J. Nat. Prod.*, **65**, 1956-1962 (2002).

38. **B. S. Moore.** The Interface of Natural Product Chemistry and Biology. in *Marine Biotechnology in the Twenty-First Century: Problems, Promise, and Products*, National Research Council, National Academy Press, Washington, D.C., 61-64 (2002).
39. L. Xiang and **B. S. Moore.** Characterization of Benzoyl-CoA Biosynthesis Genes in the Enterocin Producing Bacterium *Streptomyces maritimus*. *J. Bacteriol.*, **185**, 399-404 (2003).
40. D. Hoamann, J. M. Hevel, R. E. Moore, and **B. S. Moore.** Sequence Analysis and Biochemical Characterization of the Nostopeptolide A Biosynthetic Gene Cluster from *Nostoc* sp. GSV224. *Gene*, **311**, 169-178 (2003).
41. J. A. Kalaitzis, M. Izumikawa, L. Xiang, C. Hertweck, and **B. S. Moore.** Mutasynthesis of Enterocin and Wailupemycin Analogues. *J. Am. Chem. Soc.*, **125**, 9290-9291 (2003).
42. M. Izumikawa, P. R. Shipley, J. N. Hopke, T. O'Hare, L. Xiang, J. P. Noel, and **B. S. Moore.** Expression and Characterization of the Type III Polyketide Synthase 1,3,6,8-Tetrahydroxynaphthalene Synthase from *Streptomyces coelicolor* A3(2). *J. Indust. Microbiol. Biotechnol.*, **30**, 510-515 (2003). (Invited paper)
43. J. A. Kalaitzis, Y. Hamano, G. Nilsen, and **B. S. Moore.** Biosynthesis and Structure Revision of Neomarinone. *Org. Lett.*, **5**, 4449-4452 (2003).
44. J. E. Becker, R. E. Moore, and **B. S. Moore.** Cloning, Sequencing and Biochemical Characterization of the Nostocyclopeptide Biosynthetic Gene Cluster: Molecular Basis for Imine Macrocyclization. *Gene*, **325**, 35-42 (2004).
45. C. Hertweck, L. Xiang, J. A. Kalaitzis, Q. Cheng, M. Palzer, and **B. S. Moore.** Context-Dependent Behavior of the Enterocin Iterative Polyketide Synthase: A New Model for Ketoreduction. *Chem. Biol.*, **11**, 461-468 (2004).
46. J. Garcia-Bernardo, L. Xiang, H. Hong, **B. S. Moore**, and P. F. Leadlay. Engineered Biosynthesis of Phenyl-Substituted Polyketides. *ChemBioChem*, **5**, 1129-1131 (2004).
47. J. A. Kalaitzis and **B. S. Moore.** Heterologous Biosynthesis of Truncated Hexaketides by the Actinorhodin Polyketide Synthase. *J. Nat. Prod.*, **67**, 1419-1422 (2004).
48. M. A. Austin, M. Izumikawa, M. E. Bowman, D. W. Udway, J.-L. Ferrer, **B. S. Moore**, and J. P. Noel. Crystal Structure of a Bacterial Type III Polyketide Synthase and Enzymatic Control of Reactive Polyketide Intermediates. *J. Biol. Chem.*, **279**, 45162-45174 (2004).
49. L. Xiang, J. A. Kalaitzis, and **B. S. Moore.** EncM, a Versatile Enterocin Biosynthetic Enzyme Involved in Favorskii Oxidative Rearrangement, Aldol Condensations, and Heterocycle Forming Reactions. *Proc. Natl. Acad. Sci. USA*, **101**, 15609-15614 (2004).
50. **B. S. Moore**, J. A. Kalaitzis, and L. Xiang. Exploiting Marine Actinomycete Biosynthetic Pathways for Drug Discovery. *Anton. Leeuw. J. Microbiol.*, **87**, 49-57 (2005).
51. B. Zhao, P. F. Guengerich, A. Bellamine, D. C. Lamb, M. Izumikawa, L. Lei, L. M. Podust, M. Sundaramoorthy, J. A. Kalaitzis, L. M. Reddy, S. L. Kelly, **B. S. Moore**, D. Stec, M. Voehler, J. R. Falck, T. S. Shimada, and M. R. Waterman. Binding of Two Flaviolin Substrate Molecules, Oxidative Coupling, and Crystal Structure of *Streptomyces coelicolor* A3(2) Cytochrome P450 CYP158A2. *J. Biol. Chem.*, **280**, 11599-11607 (2005).

52. L. Xiang and **B. S. Moore**. Biochemical Characterization of a Prokaryotic Phenylalanine Ammonia-Lyase. *J. Bacteriol.*, **187**, 4286-4289 (2005). [Correction: *J. Bacteriol.*, **188**, 5331 (2006).]
53. **B. S. Moore**. Biosynthesis of Marine Natural Products: Microorganisms (Part A). *Nat. Prod. Rep.*, **22**, 580-593 (2005).
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265. I. Burkhardt, L. Dürr, N. E. Grayson, and **B. S. Moore**. Methods for the discovery and characterization of octocoral terpene cyclases. *Meth. Enzymol.*, **699**, 343-371 (2024).

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- Largest protein yet discovered builds algal toxins. *Scripps News*, August 8, 2024.
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 - Can toxic algae blooms be predicted? La Jolla scientists think so. *La Jolla Light*, November 7, 2024.
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273. N. E. Grayson, P. D. Scesa, M. L. Moore, J.-B. Ledoux, J. Gomez-Garrido, T. Alioto, T. P. Michael, I. Burkhardt, E. W. Schmidt, and **B. S. Moore**. A widespread metabolic gene cluster family in metazoans. *Nat. Chem. Biol.*, **21**, 1509-1518 (2025).
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274. **B. S. Moore** and D. J. Newman. The extraordinary benefit of nature's chemistry to health, society and the economy. *J. Nat. Prod.*, **88**, 1541-1548 (2025).
275. S. Adak, A. B. Chase, A. E. Skrip, **B. S. Moore**, and A. L. Lukowski. Metagenomic identification of brominated indole biosynthetic machinery from cyanobacteria. *J. Nat. Prod.*, **88**, 1734-1742 (2025).
276. **B. S. Moore**. A new era for the *Journal of Natural Products*. *J. Nat. Prod.*, **88**, 1869-1870 (2025).
277. S. M. Wood-Rocca, N. Allsing, Y. Ashida, M. Mochizuki, A. Beattie, M. L. Moore, Y. Kotaki, C. Puilingi, Y. Maeno, Z. Füßy, M. Yotsu-Yamashita, T. P. Michael, A. E. Allen, and **B. S. Moore**. Domoic acid biosynthesis and genome expansion in *Nitzschia navis-varingica*. *mBio*, **16**, e02079-25 (2025).
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Kim, L. F. Deravi, A. M. Feist, P. I. Nickel, and **B. S. Moore**. Growth-coupled microbial biosynthesis of the animal pigment xanthommatin. *Nat. Biotechnol.*, DOI: 10.1038/s41587-025-02867-7.

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279. F. M. Hubert, A. C. Love, T. Lam, H. K. Bone, and **B. S. Moore**. Recent innovations in cannabinoid chemistry, biology and biosynthesis. *Curr. Opin. Biotechnol.*, **96**, 103378 (2025).

280. I. Burkhardt, H. K. Bone, N. E. Grayson, H. Leucke, J. Gutleben, P. R. Jensen, A. M. Quattrini, A. B. Chase, and **B. S. Moore**. Diversification of diterpene biosynthesis occurred early in octocoral evolution. *Proc. Natl. Acad. Sci. U.S.A.*, **122**, e2520279122 (2025).

- K. Darragh, Ancient enzyme diversification underpins octocoral chemical diversity. *Trends Biochem. Sci.* S0968-0004(25)00303-2 (2026).

281. **B. S. Moore**. The *Journal of Natural Products* welcomes 2026, editorial changes, and a new award. *J. Nat. Prod.*, **89**, 1-2 (2026).

282. A. C. Love, H. Sirohi, F. M. Hubert, Y.-C. Kao, D. E. Quinnell, R. Gappy, M. Sheehy, J. Hsu, A. Lee, L. Zangwill, B. A. Palfey, G. Chang, and **B. S. Moore**. Structural and biochemical basis for cannabinoid cyclase activity in marine bacterial flavoenzymes. *In revision*.

283. H. K. Bone, D. C. Holland, N. A. Allsing, M. L. Moore, T. P. Michael, I. Burkhardt, and **B. S. Moore**. Discovery of terpene synthases in brown algae. *In revision*.

Patents

1. **B. S. Moore**, L. L. Beer, A. S. Eustáquio, M. Nett, and R. P. McGlinchey, "Biosynthesis of salinosporamide A and analogs ", PCT patent application, filed 06/26/07 (UCSD Ref. No. 2006 -203) PCT/US2007/14895, WO2008002600A2.
2. **B. S. Moore**, M. C. Moffitt, J. P. Noel, G. V. Louie, and M. E. Bowman, "Structure of cyanobacterial phenylalanineammonia lyases", Serial Number 60/844,812, Provisional application filed 9/14/2006.
3. J. P. Noel, G. V. Louie, M. E. Bowman, **B. S. Moore**, and M. C. Moffitt, "Substrate switched ammonia lyases and mutases ", filed by Salk Institute (UCSD 2007-034) PCT/US2007/24612; WO2008069958A2.
4. **B. S. Moore**, A. S. Eustáquio and A. Lechner, "Regulation of salinosporamide A biosynthesis and methods thereof", US Provisional application 61/087,572 (UCSD Ref.No. SD2009-029-1).
5. W. H. Gerwick, A. R. Pereira-Badilla, T. Byrum, F. A. Valeriote, M. K. Gilson, A. T. Fenley, **B. S. Moore**, A. J. Kale, and H. Debonsi, "Compositions and methods for inhibiting proteases", US Patent 9,409,944, August 9, 2016.
6. M. D. Burkart, J. M. Lipson, **B. S. Moore**, and M. Thomsen, "Enzymatic method for in situ production of S-adenosyl-L-methionine with applications to chemoenzymatic synthesis", UCSD provisional patent application 2012-051.
7. **B. S. Moore**, V. Agarwal, and S. Diethelm, "Chemoenzymatic methodology for the preparation of acyl coenzyme A molecules", US Provisional application 62/208,176 (UCSD Ref.No. SD2016-038).
8. **B. S. Moore**, J. R. Chekan, and S. M. K. McKinnie, "Methods to biosynthesize kainic acid and analogues thereof", PCT patent application, filed 12/4/18 (UCSD Ref. No. 2019-168-2PCT) PCT/US18/064221, WO2020117792A2.
9. **B. S. Moore** and H. Luhavaya, "Genetically engineered microbes and biosynthetic methods", PCT patent application, filed 8/28/19 (UCSD Ref. No. SD2020-014), PCT/US2020/048570, WO2021041932A3.
10. T. N. Purdy and **B. S. Moore**, "Cannabinoid production in bacteria", PCT/US2022/043696, WO2023043946A3.
11. S. T. Lima, M. F. Fiore, **B. S. Moore**, T. R. Fallon, J. R. Chekan, and S. M. K. McKinnie, "Methods and compositions for detecting guanitoxin producing bacteria", PCT/US2023/062430, WO2023154891A2. Licensed to Phytogigene, 2024.
12. **B. S. Moore**, L. B. Bushin, T. Alter, and P. Nickel, "Compositions and methods for biomolecule synthesis", US Provisional application 63/583,543, filed 9/18/23 (UCSD Ref.No. SD2023-280).

RESEARCH ACTIVITIES

Specialty areas

- Marine biotechnology and biomedicine, marine microbial biosynthesis and genetics, genome mining, marine microalgal toxins, drugs from the sea, biosustainability, biocatalysis

Invited or keynote lectures at conferences

1. "The Genetic Analysis of Marine Actinomycete Secondary Metabolic Genes and Their Associated Products", NMHCC Conference on Natural Products Drug Discovery, Baltimore, MD, November 1997.
2. "The Analysis of Marine Actinomycete Secondary Metabolic Genes and Their Associated Products", IBC Conference on Combinatorial Synthesis of Natural Products Analogues, San Francisco, CA, December 1997.
3. "Towards Engineering Biodiversity in Marine Streptomyces", 9th International Symposium on Marine Natural Products, Australia, July 1998.
4. "Towards Engineering Biodiversity in Marine Streptomyces", 1998 Annual Meeting of the Society for Industrial Microbiology, Denver, CO, August 1998.
5. "Cloning of the Enterocin Biosynthesis Genes from a Marine Streptomyces", 4th US-Japan Symposium on Marine Bioorganic Chemistry, Santa Cruz, CA, December 1998.
6. "Engineering Biodiversity with Type II Polyketide Synthase Genes", 11th International Symposium on the Biology of the Actinomycetes, Crete, Greece, October 1999.
7. "Natural and engineered polyketide diversity", 41st Annual Meeting of the American Society of Pharmacognosy, Seattle, Washington, July 2000.
8. "Phylogeny and biosynthetic potential of bacteria hosted by the sponge *Theonella swinhoei*", 2000 International Chemical Congress of Pacific Basin Societies (Marine Natural Products Symposium), Honolulu, HI, December 2000.
9. "Derailment of an aromatic polyketide synthase", 2000 International Chemical Congress of Pacific Basin Societies (Biosynthesis Symposium), Honolulu, HI, December 2000.
10. "Genetic Manipulation of Marine Actinomycetes", Workshop on Conservation and Sustainable Use of Biodiversity in Egypt, Mansoura, Egypt, April 2001.
11. "Iterative Polyketide Synthases", US-Japan Seminar on Biosynthesis, Girdwood, Alaska, June 2001.
12. "Plant-Like Biosynthetic Pathways in Bacteria: From Benzoic Acid to Chalcone", The 42nd Annual Meeting of the American Society of Pharmacognosy, Oaxaca, Mexico, August 2001.
13. "Engineering molecular diversity with iterative polyketide synthases from marine Actinomycetes", Royal Chemical Society International Interdisciplinary Conference on Polyketides III, University of Bristol, UK, September 2001.
14. "The Interface of Natural Product Chemistry and Biology", Marine Biotechnology: Biomedical Application of Marine Natural Products Workshop, The National Academy of Sciences, Washington DC, October 2001.
15. "Engineering Structural Diversity with Iterative Polyketide Synthases", 9th International Symposium on the Genetics of Industrial Microorganisms, Gyeongju, Korea, July 2002.
16. "Surf, Sand and Actinos", 2002 Annual Meeting of the Society for Industrial Microbiology (Alma Dietz Actinomycete dinner lecture), Philadelphia, PA, August 2002.

17. "Type III Polyketide Synthases: Structure and Mechanism", 7th Conference on the Biotechnology of Microbial Products, Honolulu, HI, October 2002.
18. "Biosynthesis and Bioengineering of Marine Microbial Products", New Bioactive Molecules from Nature: The Road to Drug Discovery, Puerto Rico, February 2003. (Plenary lecturer)
19. "Engineered Biosynthesis with Bacterial Iterative Polyketide Synthases", Gordon Research Conference on Bioorganic Chemistry, Procter Academy, NH, June 2003.
20. "Biosynthesis and Bioengineering of Marine Microbial Products", 5th US-Japan Symposium on Marine Bioorganic Chemistry, Nagoya, Japan, June 2003.
21. "Exploiting Marine Actinomycete Biosynthetic Pathways for Drug Discovery", 13th International Symposium on the Biology of the Actinomycetes, Melbourne, Australia, December 2003.
22. "Biosynthesis and Engineering of Aromatic Polyketides", 20th Mona Symposium on Natural Products and Medicinal Chemistry, University of the West Indies, Mona, Kingston, Jamaica, January 2004. (Plenary lecturer)
23. "Reprogramming Nature to Produce New Chemical Entities", UK-US New Frontiers of Science Meeting sponsored by the National Academy of Sciences and the Royal Society, Cambridge, UK, June 2004.
24. "Structure and Mechanism of Type III Polyketide Synthases: The Possibility of Enzymatic Protecting Group Chemistry", Gordon Research Conference on Natural Products, Tilton, NH, July 2004
25. "Structure and Mechanism of Type III Polyketide Synthases", Frontiers of Bioorganic and Natural Product Chemistry, Seattle, WA, August 2004.
26. "Biosynthesis of Marine Microbial Natural Products", 2004 Genetics and Microbiology of Industrial Microorganisms/Biotechnology of Microbial Products Conference, San Diego, CA, November 2004.
27. "Biosynthesis of Marine Actinomycete Natural Products", 4th European Conference on Marine Natural Products, Paris, France, September 2005.
28. "Biosynthesis of Hybrid Isoprenoids from Marine Streptomyces", 2005 International Chemical Congress of Pacific Basin Societies (Marine Microbial Products Symposium), Honolulu, HI, December 2005.
29. "Biosynthesis of Phenylalanine-Derived Polyketide Synthase Starter Units", 2005 International Chemical Congress of Pacific Basin Societies (Biosynthesis of Natural Products Symposium), Honolulu, HI, December 2005.
30. "Mining Marine Actinomycete Genomes for Natural Products and Pathways", CHI Drug Discovery Chemistry 2006, La Jolla, CA April 2006.
31. "Exploring the biosynthetic potential of the Fenical actinomycete culture collection", Fenical Symposium, La Jolla, CA June 2006.
32. "Mining *Salinispora* Genomes for Biosynthetic Treasures", ICOB & ISCNP-25 IUPAC, Kyoto, Japan, July 2006.
33. "Mining *Salinispora* Genomes for Natural Products and Pathways", 2006 Annual Meeting of the Society for Industrial Microbiology, Baltimore, August 2006.

34. "Mining Marine *Salinispora* Genomes for Biosynthetic Treasures", Royal Chemical Society International Interdisciplinary Conference on Directing Biosynthesis, Cambridge, UK, September 2006.
35. "Exploiting Marine Bacterial Genomes for Natural Products and Pathways", 1st CMDD International Symposium on Marine Natural Products and Drug Discovery, Seoul, Korea, September 2006.
36. "Exploiting Marine Bacterial Genomes for Natural Products and Pathways", 12th International Symposium on Marine Natural Products, Queensland, New Zealand, February 2007. (Plenary lecturer)
37. "Discovery and Characterization of New Marine Bacterial Halogenating Enzymes", 6th US-Japan Symposium on Marine Biorganic Chemistry, Park City, Utah, July 2007.
38. "A Collection of Iterative PKS Stories from Actinomycetes", Iterative Polyketide Synthases Conference, Bana, Canada, July 2007.
39. "Exploiting Marine Bacterial Genomes for Natural Products and Pathways", 234th American Chemical Society Meeting, Boston, Massachusetts, August 2007.
40. "*Salinispora*, Prolific Actinomycetes from the Sea", 14th International Symposium on the Biology of the Actinomycetes, Newcastle, UK, August 2007.
41. "*Salinispora*, Prolific Actinomycetes from the Sea", VAAM Workshop on the Biology of Bacteria Producing Natural Products, Saarbrueken, Germany, October 2007.
42. "In Vivo and Ex Vivo Biosynthesis of Marine Natural Products", 2nd CMDD International Symposium on Marine Natural Products and Drug Discovery, Seoul, Korea, November 2007.
43. "Mining Marine Bacterial Genomes for Biosynthetic Treasures", The University of Tokyo International Symposium Frontier of Microbial and Plant Biotechnology in Environmental and Life Sciences, Tokyo, Japan, December 2007.
44. "Biosynthesis and Resistance of the 20S Proteasome Inhibitor Salinosporamide A", Gordon Research Conference on Marine Natural Products, Ventura, CA, February 2008.
45. "*Salinispora*, prolific natural product-producing bacteria from the sea", 108th General Meeting of the American Society of Microbiology, Boston, MA, June 2008.
46. "*Salinispora*, prolific natural product-producing bacteria from the sea", 7th US-Japan Symposium on the Biosynthesis of Natural Products, La Jolla, CA, June 2008.
47. "Mining and Extending the *Salinispora* Secondary Metabolome", 2008 Annual Meeting of the Society for Industrial Microbiology, San Diego, August 2008.
48. "Exploring and exploiting the biosynthesis of nonproteinogenic amino acids in marine microbial metabolites", 3rd CMDD International Symposium on Marine Natural Products and Drug Discovery, Seoul, Korea, November 2008.
49. "Genomic exploration and exploitation of marine bacteria for natural product discovery", Zing Conference on Natural Products, Antigua, March 2009.
50. "Genomic exploration and exploitation of marine bacteria for natural product discovery", 3rd Tokyo University of Science International Collaboration Workshop, Tokyo, Japan, March 2009.

51. "The ever evolving face of natural product biosynthesis", The 50th Annual Meeting of the American Society of Pharmacognosy, Honolulu, July 2009. (Plenary lecturer)
52. "Bioengineering the marine actinomycete *Salinispora* for novel natural products", 15th International Symposium on the Biology of the Actinomycetes, Shanghai, China, August 2009.
53. "Biosynthesis in marine actinomycete bacteria", Symposium on Chemical Biology, Xiamen, China, August 2009.
54. "Adventures in marine actinomycete natural product biosynthesis", 4th CMDD International Symposium on Marine Natural Products and Drug Discovery, Seoul, Korea, September 2009.
55. "Genomics-inspired discovery and engineering of natural anticancer agents", International Symposium on Herbal Medicines and Vaccines for Cancer Therapy, Taipei, Taiwan, December 2009.
56. "Genomics-inspired natural products discovery", Western Pharmacology Society Meeting, San Diego, February 2010.
57. "Exploiting microbial genomes for natural product discovery", 110th General Meeting of the American Society for Microbiology, San Diego, May 2010.
58. "Function oriented biosynthesis of beta-lactone proteasome inhibitors", 32nd Annual National Medicinal Chemistry Symposium, Minneapolis, June 2010.
59. "Genome guided discovery of new natural products from marine actinomycetes", 60th Annual Meeting of the Society for Industrial Microbiology, San Francisco, August 2010.
60. "Exploring the treasures of the sea – bacterial marine natural products", FAPESP Workshop on Marine Biodiversity, Sao Paulo, Brazil, September 2010.
61. "The genetic and biochemical basis for napyradiomycin biosynthesis via V-dependent chloroperoxidases", RSC Directing Biosynthesis 2010: Discovery, Evolution, and Function, Durham, England, September 2010.
62. "Genomics-inspired biosynthesis and bioengineering of marine microbial natural products", DFG sponsored workshop on the Current Trends in Antibacterial Research, Bonn, Germany, October 2010.
63. "Genomics-inspired discovery and bioengineering of marine microbial natural products", 13th International Symposium on Marine Natural Products, Phuket, Thailand, October 2010. (Plenary lecturer)
64. "Extending nature's chemical repertoire through biosynthetic reprogramming", RIKEN Advanced Science Institute Evaluation Symposium, Tokyo, Japan, October 2010.
65. "Decoding and reprogramming marine bacteria for the production of pharmaceuticals", 2nd L. S. Skaggs Biomedical Symposium, La Jolla, CA, November 2010.
66. "Decoding and reprogramming marine bacteria for the production of pharmaceuticals", World Ocean Forum 2010, Busan, South Korea, November 2010.
67. "Discovery of new marine metabolites through genome mining", 2010 International Chemical Congress of Pacific Basin Societies (Marine Natural Products Symposium), Honolulu, HI, December 2010.

68. "Probing the mechanism of a biosynthetic Favorskii rearrangement catalyzed by the flavoprotein EncM", 2010 International Chemical Congress of Pacific Basin Societies (Biosynthesis of Natural Products Symposium), Honolulu, HI, December 2010.
69. "Genomics-inspired discovery and bioengineering of natural products and biocatalysts", 20th Volcano Conference in Bioorganic Chemistry, Seattle, WA, February 2011. (Plenary lecturer)
70. "Genomics-inspired discovery and bioengineering of marine microbial natural products drug leads", New Frontiers in Marine Drug Discovery, New York Academy of Sciences, NY, May 2011.
71. "Exploiting natural product biosynthesis in the drug discovery process", NatPharma: Nature aided drug discovery, Naples, Italy, June 2011. (Plenary lecturer)
72. "Natural product total biosynthesis", Natural Product Gordon Research Conference, RI, July 2011.
73. "Integrating genomics in the natural product discovery process", Sao Paulo Advanced School on Chemistry: Natural Products, Medicinal Chemistry and Organic Synthesis Integrated Solutions for tomorrow's world, Sao Paulo, Brazil, August 2011.
74. "Genomics-inspired discovery and bioengineering of marine microbial natural product drug leads", 6th CMDD International Symposium on Marine Natural Products and Drug Discovery, Seoul, South Korea, September 2011.
75. "Exploring the chemistry of a biological Favorskii rearrangement", 43rd Western Regional Meeting of the American Chemical Society, Pasadena, CA, November 2011
76. "Genomic basis for natural product biosynthetic diversity in the actinomycetes", 16th International Symposium on the Biology of the Actinomycetes, Puerto Vallarta, Mexico, December 2011.
77. "Genomics-inspired discovery of natural product drugs", The Role of Natural Products and Synthetic Biology in Drug Discovery, Aberdeen, UK, March 2012
78. "Genomics-inspired discovery of natural product chemistry", 243rd ACS National Meeting and Exposition, San Diego, CA, March 2012
79. "Linking microbial metabolites and genes through peptidogenomics for peptide discovery", Experimental Biology 2012, San Diego, CA, April 2012.
80. "New enzymatic reactions in marine bacterial natural product biosynthesis", 2012 International Congress on Natural Product Research, Awaji, Japan, June 2012.
81. "Expediting natural product discovery through genomics", International Congress on Natural Products Research 2012, New York, NY, July 2012.
82. "Expediting natural product discovery through genomics", VAAM Workshop on the Biology of Bacteria Producing Natural Products, Braunschweig, Germany, September 2012. (keynote speaker)
83. "Introducing the Scripps Center for Oceans and Human Health", SIO Science Showcase, La Jolla, CA, January 2013.
84. "Complexity made simple – New insights into an enzymatic Favorskii rearrangement", 2013 R. Bryan Miller Symposium, Davis, CA, March 2013.
85. "Empowering natural product drug discovery through biosynthesis", 133rd Annual Meeting of the Pharmaceutical Society of Japan, Yokohama, Japan, March 2013. (Plenary lecturer)

86. "Empowering natural product drug discovery through biosynthesis", 68th ACS Northwest Regional Meeting, Corvallis, OR, July 2013.
87. "Biosynthesis and distribution of polybrominated organic compounds in marine bacteria", Gordon Research Conference on Marine Molecular Ecology, Hong Kong, August 2013.
88. "Empowering natural product drug discovery through biosynthesis", Arthur C. Cope and Arthur C. Cope Scholar Awards Symposium, 246th ACS National Conference, Indianapolis, IN, September 2013. (Award lecturer)
89. "Marine bacterial biosynthesis of polybrominated organic compounds", 14th International Symposium on Marine Natural Products, La Toja Island, Galicia, Spain, September 2013. (Plenary lecturer)
90. "Empowering natural product drug discovery through biosynthesis", 4th Brazilian Conference on Natural Products, Natal, Brazil, November 2013. (Plenary lecturer)
91. "Rewriting natural products drug discovery through synthetic biology", 6th International Conference on Drug Discovery and Therapy, Dubai, UAE, February 2014. (Plenary lecturer)
92. "Rewriting natural products drug discovery through synthetic biology", International Conference on Pharmaceutical Synthetic Biology, Nanjing, China, May 2014. (Keynote lecturer)
93. "Natural Halogenated Organic Compounds", Gordon Research Conference on Oceans and Human Health, Biddeford, ME, June 2014.
94. "Rewriting natural products drug discovery through synthetic biology", Gordon Research Conference on Bioorganic Chemistry, Andover, NH, June 2014.
95. "Modern marine drug discovery in the post-genomic era", International Meeting on Marine Research, Peniche, Portugal, July 2014.
96. "Rewriting natural products drug discovery", 17th Annual San Diego MedChem Symposium, San Diego, CA, July 2014.
97. "Rewriting natural products drug discovery through synthetic microbiology", 29th Annual William S. Johnson Symposium, Stanford University, October 2014
98. "Lessons from Nature – Dissecting and applying the chemical logic of halogenating enzymes", Society for Industrial Microbiology & Biotechnology - Natural Product Discovery in the Post Genomic Era, San Diego, CA, January 2015.
99. "Natural product biosynthesis - A treasure trove of multitasking flavoenzymes", Experimental Biology 2015, Boston, MA, March 2015.
100. "Blue Biotechnology and Its Potential to Impact Human Health", 2015 International Meeting of the Microbiological Society of Korea, Changwon, South Korea, April 2015.
101. "Marine bacteria, inspirational halogenating chemists", 98th Canadian Chemistry Conference and Exhibition, Ottawa, Canada, June 2015.
102. "Precision biosynthesis of natural product drug leads", Sino-German Symposium on Natural Product Sciences, Wuhan, China, October 2015.
103. "Modern natural products discovery: From genes to drug leads", Eli Lilly & Co. 2015 Synthetic Biology Symposium, Indianapolis, IN, November 2015.

104. "Precision biosynthesis of natural product drug leads", The Interface of Science and Technology as Applied to Natural Product Research, Budapest, Hungary, November 2015.
105. "Developing next generation antibiotics and discovery tools", 2015 International Chemical Congress of Pacific Basin Societies (Natural Product-based Drug Discovery Symposium), Honolulu, HI, December 2015.
106. "The rapid and evolving world of natural products science and its impact on human health", Palmer Taylor Symposium, La Jolla, CA, January 2016.
107. "Biosynthetic gene clusters: Nature's gift to discovery and application", Marine Natural Products Gordon Research Conference, Ventura, CA, March 2016.
108. "Precision biosynthesis of natural product drug leads", FASEB Experimental Biology Conference, San Diego, CA, April 2016.
109. "Scripps Center for Oceans and Human Health", NIEHS-NSF Oceans and Human Health Grantees Conferences, North Carolina, April 2016.
110. "Biosynthetic gene clusters: Nature's gift to discovery and application", Microbial and Plant Systems Modulated by Secondary Metabolites Meeting, Walnut Creek, CA, May 2016.
111. "Biosynthetic gene clusters: Nature's gift to discovery and application", 99th Canadian Chemistry Conference and Exhibition, Halifax, Canada, June 2016.
112. "Marine natural products as an inspiration for new biosynthetic enzymology", Enzymes, Coenzymes, and Metabolic Pathways Gordon Research Conference, Waterville Valley, NH, July 2016.
113. "New flavoenzyme catalysis in secondary metabolism", 252nd ACS National Conference, Philadelphia, PA, August 2016.
114. "Biosynthetic gene clusters: Nature's gift to discovery and application", XV Fall Workshop CICY Frontiers in Biotechnology, Merida, Yucatan, Mexico, October 2016.
115. "Heterologous biosynthesis of marine natural products", 8th US-Japan Symposium on Marine Natural Products, Honolulu, HI, November 2016.
116. "Chemistry and enzymology of polybrominated chemical cues and toxicants", Joint CIFAR-GBMF Workshop, Message in a Bottle – Chemical Symbiotic Interactions in the Oceans, Eilat, Israel, March 2017.
117. "Exploring domoic acid biosynthesis in a harmful algal bloom diatom", 9th US-Japan Seminar on the Biosynthesis of Natural Products, Lake Arrowhead, CA, June 2017.
118. "Learning and Applying Nature's Biosynthetic Logic", Sino-Italian Symposium on Natural Product Sciences, Nanjing, China, October 2017.
119. "Modern natural products discovery: from genes to drug leads", 28th Quebec-Ontario Mini-Symposium for Synthetic and Bioorganic Chemistry, Montreal, Canada, November 2017.
120. "Biosynthesis in toxic marine microalgae", Keystone Symposia: Natural Products and Synthetic Biology – Parts and Pathways, Olympic Valley, CA, January 2018.
121. "Mining genomes for antibiotics", New Antibacterial Discovery and Development Gordon Research Conference, Ventura, CA, March 2018.
122. "Asymmetric alkene and arene halofunctionalization reactions in meroterpenoid biosynthesis", 255th ACS National Conference, New Orleans, LA, March 2018.

123. "Pursuing the ideal synthesis nature's way", Natural Products and Bioactive Compounds Gordon Research Conference, Andover, NH, August 2018.
124. "Biosynthesis of algal toxins and the discovery of new enzymatic reactions", Cofactors RTG 1976 Symposium, Freiburg, Germany, September 2018.
125. "Connecting genes to chemistry to empower small molecule discovery and synthesis", 24th National Organic Conference of the Royal Australian Chemical Institute, Perth, Australia, December 2018.
126. "Connecting genes to chemistry to empower small molecule production", Victoria University of Wellington 2018 Centre for Biodiscovery Symposium, Wellington, New Zealand, December 2018.
127. "Connecting genes to chemistry in natural product discovery and synthesis", RSC Organic Division Midlands Regional Meeting, Warwick, England, March 2019. (RSC Natural Products Chemistry Award Lecture)
128. "Connecting genes to chemistry in natural product discovery and synthesis", Synbiochem Research Symposium, Manchester Synthetic Biology Research Centre, England, March 2019.
129. "Biosynthesis, regulation and distribution of marine toxins inspired by genome mining", Mycotoxins and Phytotoxins Gordon Research Conference, Easton, MA, June 2019. – keynote session speaker
130. "Transforming microbial biosynthetic gene clusters to specialized chemical products", 2019 International Symposium & Annual Meeting of the Korean Society for Microbiology and Biotechnology, Jeju Island, South Korea, June 2019. – keynote speaker
131. "Emerging platforms and opportunities in marine natural product biosynthesis", 16th International Symposium on Marine Natural Products, Peniche, Portugal, September 2019. – keynote speaker
132. "Life's a beach – marine drugs and toxins from down the blue", Salk Institute 2019 Spring Faculty Retreat, Borrego Springs, CA, October 2019. – keynote speaker
133. "Connecting genes to chemistry to empower marine drug discovery and development", 26th Hans Fischer Symposium on Marine Drugs, Technical University of Munich, Germany, November 2019. – keynote speaker
134. "Enzyme Total Synthesis of Natural Products", SIMB 3rd International Conference on Natural Product Discovery and Development, San Diego, CA, January 2020.
135. "Expanding marine natural product genome mining and synthetic biology horizons", Marine Natural Products Gordon Research Conference, Ventura, CA, February 2020. – Alexander M. Cruickshank Award Lecture
136. "Fishing ocean genomes for new molecules and biocatalysts", Scripps Florida Research Fest, October 2020. – keynote speaker (virtual)
137. "Mining genomes to illuminate the specialized chemistry of life", 21st Leibniz Symposium, Leibniz University Hannover, Germany, February 2021. (virtual)
138. "Connecting genes to chemistry to empower small molecule discovery and synthesis", 21st Tetrahedron Symposium, June 2021. (virtual)
139. "Biosynthesis of bioactive seaweed natural products", 2020 Pacificchem Conference, December 2021. (virtual)

140. "New terpene synthase enzymes discovered from the ocean", 27th Enzyme Mechanism Conference, Tucson, AZ, January 2022.
141. "Reading and writing natural product biosynthesis", ACS National Conference, San Diego, CA, March 2022. – Ernest Guenther Award in the Chemistry of Natural Products
142. "Reading and writing the genetic code of marine life to treat human disease", Bio-Inspired Green Science & Technology Symposium, New York City, NY, April 2022.
143. "Reading and writing natural product biosynthesis", Institut de Chimie des Substances Naturelles (ICSN) 60th Anniversary Symposium, Gif sur Yvette, France, June 2022.
144. "Taking inspiration from nature to empower the way we make molecules", 47th National Organic Chemistry Symposium, San Diego, CA, June 2022.
145. "A biosynthetic journey to discover and apply nature's specialized chemistry", 2022 American Society of Pharmacognosy Annual Meeting, Charleston, SC, July 2022. – Norman R. Farnsworth Research Achievement Award.
146. "Mining bioactive natural products from marine eukaryotes", 4th International Conference on Natural Product Discovery and Development in the Genomic Era, San Diego, CA, January 2023.
147. "Octocorals as ancient organic chemists", MBL Aquatic Symbiosis Workshop, Woods Hole, MA, March 2023.
148. "Mining bioactive natural products from marine eukaryotes", 35th Irsee Natural Products Conference, Irsee, Germany, April 2023.
149. "New genomic sources and approaches for natural product discovery from the ocean", 2nd International CellMAP Conference on Cellular Mechanisms of Antibiotic Action and Production, Bad Boll, Germany, May 2023.
150. "Biosynthesis and molecular monitoring of freshwater and marine HAB toxins", Mycotoxins and Phytotoxins Gordon Research Conference, Easton, MA, June 2023.
151. "A career in biosynthesis", Heinz G. Floss Memorial Symposium on Chemical Biology, Seattle, WA, August 2023.
152. "Reading and writing natural product biosynthesis", 1st Experimental and Applied Biology Congress, Ensenada, Mexico, October 2023.
153. "Illuminating and translating the specialized chemistry of algae through genomics", Plant and Animal Genome Conference / PAG31, San Diego, CA, January 2024.
154. "Biosynthesis of a giant ladder-frame polyketide by toxic microalgae", Gordon Research Conference on Marine Natural Products, Ventura, CA, March 2024.
155. "Evolution and function of terpenoid gene cluster families in coral animals", 2024 American Society for Biochemistry and Molecular Biology (ASBMB) Annual Meeting, DiscoverBMB, San Antonio, TX, March 2024.
156. "Reading and writing natural product biosynthesis", 2024 Annual IBL Symposium, Leiden, Netherlands, April 2024 – keynote speaker
157. "The emerging chemical language of ancient animals", 2024 Microbial Secondary Metabolites in Microbiomes Symposium, Helsingor, Denmark, June 2024.

158. "Mining Nature's chemistry from the ocean to improve human health", Skaggs Biomedical Research Symposium, San Diego, August 2024.
159. "Reading and writing the genomes of marine life to improve environmental and human health", Gloucester Marine Genomics Institute Science Forum, Gloucester, MA, October 2024. – keynote speaker
160. "Stoichiometric growth-coupled biosynthesis of natural products", 5th International Conference on Natural Product Discovery and Development in the Genomic Era, San Diego, CA, January 2025.
161. "Mining the Specialized Chemistry of the Ocean's Living Wonders to Improve Human Health", 14th Annual Watanabe Symposium in Chemical Biology, Indiana University, April 2025.
162. "Understanding and translating the specialized chemistry of the ocean's living wonders", Sacramento Section ACS 74th Annual Meeting and Steak Barbeque, University of the Pacific, Stockton, CA, April 2025.
163. "Pharmacy of the Deep", WAVES Symposium, La Jolla, CA, May 2025.
164. "Stoichiometric growth-coupled biosynthesis of natural products", 29th Biophysics Conference, Taipei, Taiwan, May 2025 – keynote speaker
165. "Biosynthesis of giant molecules by giant enzymatic machines", XL Biennial Meeting of the Royal Spanish Society of Chemistry, Bilbao, Spain, July 2025.
166. "Enzyme discovery and exploration from the deep ocean", Gordon Research Conference on Enzymes, Coenzymes and Metabolic Pathways, Waterville Valley, NH, July 2025.
167. "Marine natural product biosynthesis and interorganismal interactions in marine invertebrates", 2025 American Society of Pharmacognosy Annual Meeting, Grand Rapids, MI, August 2025.
168. "Understanding and translating the specialized chemistry of the ocean's living wonders", 32nd IUPAC International Symposium on the Chemistry of Natural Products, Sydney, Australia, August 2025 – plenary lecture
169. "Harnessing nature's innovations from the sea", Jearey B. Graham Lecture in Ocean Sciences, Birch Aquarium, San Diego, October 2025.
170. "Fulfilling Palmer's vision to build a premier pharmacy-oceanographic partnership at UC San Diego", Palmer Taylor Honorary Symposium, UC San Diego, November 2025.
171. "Enzyme discovery from the seashore to the deep ocean", 29th Enzymes Mechanism Conference, Carlsbad, CA, January 2026.

Invited or keynote lectures at universities, institutes and companies

Institute of Microbiology, University of Tübingen, Germany (1994)
Institute of Pharmaceutical Biology, University of Tübingen, Germany (1994)
Institute of Pharmaceutical Biology, University of Bonn, Germany (1995) Organic
Chemistry Institute, University of Zürich, Switzerland (1995) Department of
Chemistry, University of Hawaii (1996)
Scripps Institution of Oceanography, University of California at San Diego (1997) Institute
of Molecular Biosciences, Tokyo University, Japan (1998)
Faculty of Pharmaceutical Sciences, Toyama Medical and Pharmaceutical University, Japan (1998)

CV for Bradley S. Moore, Ph.D.

Biotechnology Research Center, Toyama Prefectural University, Japan (1998)
Faculty of Pharmaceutical Sciences, Osaka University, Japan (1998) Department
of Chemistry, Pacific Lutheran University (1998)
Department of Chemistry, San Diego State University (1998)
Department of Medicinal Chemistry and Molecular Pharmacology, Purdue University (1999) Department
of Pharmacology and Toxicology, University of Arizona (1999)
Terragen Biodiversity, Inc., Vancouver, B.C., Canada (1999)
Maxygen, Inc., Redwood City, CA (1999)
Department of Chemistry, University of Arizona (2000)
Aventis Pharmaceuticals, Inc., Cambridge, MA (2000)
Department of Chemistry, University of Hawaii (2000)
Department of Biochemistry and Biophysics, University of Arizona (2001) Nereus
Pharmaceuticals Inc., San Diego, CA (2001)
Biological Chemistry Program, University of Arizona (2002)
BioTechnology Institute, University of Minnesota (2002)
Department of Chemistry, University of Hawaii (2002) College
of Pharmacy, Oregon State University (2003)
Center for Marine Biotechnology and Biomedicine, Scripps Institution of Oceanography (2003) Nereus
Pharmaceuticals, Inc., San Diego, CA (2003)
Department of Plant Sciences, University of Arizona (2003)
College of Pharmacy, The Ohio State University (2003) Wood
Research Institute, Kyoto University (2003) Department of
Chemistry, University of Nebraska (2003) Kosan Biosciences,
Inc., Hayward, CA (2003)
Division of Medicinal Chemistry, University of Arizona (2004)
Institute of Chemical Biology, Vanderbilt University (2004) Biotica
Technology Ltd., Cambridge, UK (2004)
College of Pharmacy, University of California at San Diego (2004)
College of Pharmacy, University of Wisconsin-Madison (2004)
College of Pharmacy, University of Kentucky (December 2004)
Department of Pharmacology and Toxicology, University of Arizona (April 2005) BioMarin
Pharmaceuticals, Inc. (May 2005)
College of Pharmacy, University of Mississippi (April 2006)
Nereus Pharmaceuticals, Inc., San Diego, CA (May 2006)
Center of Biomedical Sciences, University of St. Andrews, Scotland (September 2006)
Department of Chemistry, San Diego State University (March 2007)
Department of Medicinal Microbiology, University of Wisconsin-Madison (April 2007) Department of
Molecular Pharmacology and Chemical Biology, Harvard University (May 2007) Joint Genome
Institute, DOE, Walnut Creek, CA (June 2007)
Department of Chemistry, University of Bonn, Germany (October 2007)
Sanofi-Aventis Deutschland GmbH, Frankfurt (October 2007)
Leibniz Institute for Natural Product Research and Infection Biology, Jena, Germany (October 2007)
Department of Chemistry, Portland State University (November 2007)
Kitasato Institute, Tokyo, Japan (December 2007) The
University of Tokyo, Japan (December 2007)
Department of Chemistry, Syracuse University (April 2008) Marine
Biology, Scripps Institution of Oceanography (April 2008)
Chemical Biology Program, Rockefeller University (September 2008)

Department of Chemistry, University of Washington (October 2008) Department of Chemistry, University of Hawaii (December 2008) Department of Chemistry, The Scripps Research Institute (April 2009) Department of Chemistry, University of Warwick, UK (April 2009) Department of Chemistry, University of Alberta, Canada (May 2009) School of Chemical and Biological Engineering, Seoul National University (September 2009) Department of Chemistry, Yale University (November 2009) Accelerator Corporation, Seattle (March 2010) Department of Chemistry, University of Victoria, Canada (April 2010) Department of Chemistry, University of British Columbia, Canada (April 2010) Department of Chemistry, Martin Fraser University, Canada (April 2010) Department of Chemistry, MIT (April 2010) – Novartis Lecture Department of Chemistry, UC Santa Cruz (May 2010) Celgene Corporation, San Diego (May 2010) Department of Chemistry, Georgia Institute of Technology (January 2011) – Cherry Emerson Lecture Department of Chemistry, University of Florida (February 2011) National Institutes of Health, Bethesda (April 2011) Molecular Discovery Program, NCI-NIH, Frederick (April 2011) Department of Microbiology, McMaster University, Canada (May 2011) Natural History Museum and Chimie ParisTech, Paris, France (June 2011) Department of Microbiology, University of Tübingen, Germany (June 2011) Department of Chemistry, University of Bristol, UK (September 2011) Department of Chemistry, Texas A&M University (October 2011) Korea Research Institute for Biotechnology and Biomedicine, Daejeon, South Korea (October 2011) Ehwa Womans University, Seoul, South Korea (October 2011) Department of Chemistry and Biochemistry, Indiana University (February 2012) Department of Chemistry, Stanford University (April 2012) – Student Hosted Colloquia Series seminar sponsored by Novartis ACS Hawaii Awards Gala, Honolulu (May 2012) – featured guest speaker Department of Chemistry, University of Hawaii (May 2012) Institute of Pharmaceutical Science, University of Freiburg, Germany (May 2012) Institute of Organic Chemistry, University of Zurich, Switzerland (May 2012) Graduate School of Pharmaceutical Sciences, Kyoto University, Japan (June 2012) Department of Bioscience, Fukui Prefectural University, Japan (June 2012) Division of Life Sciences, The Hong Kong University of Science and Technology (August 2012) Department of Organic Chemistry, University of Braunschweig, Germany (September 2012) Department of Chemistry, University of Illinois at Urbana-Champaign (November 2012) School of Pharmacy, University of Illinois at Chicago (November 2012) Department of Chemistry, Case Western Reserve University (December 2012) Indian Association for the Cultivation of Science, Kolkata, India (February 2013) Indian Institute of Science, Bangalore, India (February 2013) National Chemical Laboratory, Pune, India (February 2013) Graduate School of Pharmaceutical Sciences, University of Tokyo, Japan (March 2013) Biochemistry and Cellular and Molecular Biology, University of Tennessee at Knoxville (April 2013) Department of Chemistry, University of Warwick, United Kingdom (May 2013) Department of Molecular Microbiology, John Innes Centre, Norwich, United Kingdom (May 2013) University of the Third Age Program, University of San Diego (July 2013) Department of Chemistry, University of A Coruna, Spain (September 2013)

University of Fortaleza, Brazil (November 2013)
Laboratorio Nacional de Biociencias (LNBio), Campinas, Brazil (November 2013)
Department of Chemistry and Biochemistry, UCLA (November 2013)
Life Technologies, Inc., Carlsbad, CA (February 2014)
WarpDrive Biosciences, Boston, MA (April 2014)
Cubist Pharmaceuticals, Boston, MA (April 2014)
US Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD (May 2014)
School of Pharmaceutical Sciences, Wuhan University, China (May 2014) – Yaoyuan Lecture Award
School of Life Sciences and Biotechnology, Shanghai Jiao Tong University, China (May 2014) Shanghai
Institute of Organic Chemistry, Chinese Academy of Sciences, China (May 2014)
Clinical and Translational Research Institute, UCSD (August 2014)
Southern California Coastal Water Research Project, Costa Mesa, CA (September 2014)
Institute of Pharmaceutical Sciences, University of Freiburg, Germany (October 2014)
Institutes of Microbiology & Chemistry, ETH, Zurich, Switzerland (November 2014)
Department of Chemistry, University of Zurich, Switzerland (November 2014) Department of
Chemistry, LMU, Munich, Germany (November 2014)
Department of Chemistry, Technical University of Munich, Munich, Germany (November 2014)
Institute of Pharmaceutical Sciences, University of Tübingen, Germany (November 2014) Novartis
Pharma AG, Basel, Switzerland (December 2014)
Institute of Food, Nutrition, and Health, ETH, Zurich, Switzerland (December 2014)
Hillcrest Biomedical and Clinical Research Center, UCSD (February 2015) Environmental
Health Sciences, NIEHS Training Program, UC Davis (February 2015) Genomics Institute of
the Novartis Research Foundation, San Diego (March 2015) Department of Chemistry,
University of North Carolina (April 2015)
Department of Plant Medicine, Gyeongsang National University, Korea (April 2015)
Genomatica Inc., San Diego (July 2015)
Laboratorio Nacional de Biociencias (LNBio), Campinas, Brazil (August 2015)
Department of Chemistry, University of Pittsburgh (September 2015)
State Key Laboratory of Pharmaceutical Biotechnology, Nanjing University, China (October 2015) China
Pharmaceutical University, Nanjing, China (October 2015)
Marine Biology, Scripps Institution of Oceanography, UCSD (February 2016)
School of Pharmacy, University of Florida (April 2016) – CNPD3 Symposium
Division of Infectious Disease, School of Medicine, UCSD (October 2016)
Department of Chemistry, Texas A&M University (October 2016) – Scott Symposium
Department of Chemistry, Tel Aviv University, Israel (March 2017)
Department of Microbiology, University College Cork, Ireland (March 2017) Eli
Lilly Pharmaceuticals, Indianapolis, IN (April 2017)
Dow AgroSciences, Indianapolis, IN (April 2017)
Department of Chemistry, University of Hawaii (August 2017) Department
of Chemistry, Cambridge University, UK (September 2017)
Department of Chemistry, UC Berkeley (October 2017) – Novartis Organic Chemistry lecturer Department of
Microbiology, University of Tübingen, Germany (October 2017)
Department of Biochemistry, McGill University, Canada (November 2017)
Department of Chemistry, McGill University, Canada (November 2017)
Department of Chemistry, North Carolina State University, Raleigh, NC (February 2018)
Department of Biochemistry, Purdue University, West Lafayette, IN (April 2018) Department
of Chemistry, Princeton University, Princeton, NJ (April 2018)
Department of Chemistry, University of Washington, Seattle (July 2018)

Department of Chemistry, University of Campinas, Brazil (August 2018)
Department of Chemistry, University of Sao Carlos, Brazil (August 2018)
Department of Chemistry, University of Vale do Itajai, Brazil (August 2018) Bio21
Institute, University of Melbourne, Australia (November 2018) Department of
Chemistry, University of Adelaide, Australia (November 2018)
Department of Chemistry, University of New South Wales, Sydney, Australia (November 2018) Griaith
Institute for Drug Discovery, Brisbane, Australia (November 2018)
College of Pharmacy, University of Arizona, Tucson (January 2019)
Department of Chemistry, University of Illinois, Urbana Champaign, IL (February 2019)
Department of Chemistry, Manchester Metropolitan University, England (March 2019)
Department of Chemistry, Oxford University, England (March 2019)
Department of Chemistry, University of Glasgow, Scotland (March 2019)
Department of Medicinal Chemistry, University of Michigan, MI (April 2019)
Department of Microbiology, University of Minnesota, MN (May 2019) Woods
Hole Oceanographic Institute, MA (June 2019)
College of Pharmacy, University of Wisconsin, Madison, WI (September 2019) – Hutchinson Lecturer Institute
of Chemical Biology, Vanderbilt University (October 2019)
Biomolecular Sciences PhD Program, Boise State University, ID (October 2019)
Department of Chemistry, University of Dresden, Germany (November 2019) School
of Medicine (CHARM lecture series), UC San Diego (February 2020)
Hong Kong Branch of the Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou),
Hong Kong University of Science and Technology (September 2020) (virtual)
Weizmann Institute of Science, Rehovot, Israel (March 2021) (virtual)
Hong Kong Branch of the Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou),
Hong Kong University of Science and Technology (January 2022) (virtual)
Rosenstiel School of Marine and Atmospheric Science, University of Miami, FL (March 2022) – Sea Secrets
seminar
CNRS, University of Paris, France (June 2022) UCSD
Osher Institute (February 2023)
Department of Pharmaceutical Biology, University of Basel (April 2023)
Department of Chemistry, Emory University (January 2024) Department of
Chemistry, University of Hawaii (February 2024)
School of Pharmacy, Oregon State University (March 2024)
Department of Chemistry, UC Santa Barbara (March 2024)
Center for Microbial Secondary Metabolites, Technical University of Denmark, Copenhagen (April 2024)
Department of Applied Sciences, Technical University of Delft, The Netherlands (April 2024) Institute of
Biology, Leiden University, The Netherlands (April 2024)
Center for Biosustainability, Technical University of Denmark, Copenhagen (April 2024) Department
of Aquatic Ecology, Lund University, Sweden (April 2024)
Department of Chemistry, Aarhus University, Denmark (May 2024)
Department of Environmental Science and Analytical Chemistry, University of Stockholm, Sweden (May
2024)
Department of Medicinal Chemistry, University of Minnesota (September 2024) – Soine lecturer College
of Pharmacy, University of Kentucky (October 2024)
Departments of Chemistry & Biological Sciences, University of Frankfurt, Germany (November 2024)
Department of Pharmaceutical Sciences, University of Bonn, Germany (November 2024) Distinguished
Research Award Lecture, UC San Diego (December 2024)

Genomics Research Center, Academia Sinica, Taiwan (May 2025)
Fundacion Medina, Granada, Spain (June 2025)
Department of Chemistry, University of Santiago de Compostela, Spain (June 2025)
Department of Chemistry, University of A Coruna, Spain (June 2025)
Department of Chemistry, University of La Laguna, Tenerife (July 2025)
Bio21 Institute, University of Melbourne, Australia (September 2025)
Biodiversity Institute, Monash University, Melbourne, Australia (September 2025)
Birch Aquarium, UC San Diego (October 2025) – Jearey B. Graham Lecture on Ocean Sciences

MENTORING ACTIVITIES

- 26 graduate students (5 MS and 21 PhD) and 57 postdocs *completed* their formal training in my laboratory. 31 out of 57 of my postdoc trainees have since transitioned to faculty positions across the US and rest of world.
- My group members have been awarded T32 traineeships (6), F31 predoctoral fellowships (3), F32 postdoctoral fellowships (7), IRACDA postdoc fellowships (1), and K99 awards (1) from the NIH. Altogether, 51 graduate students and postdocs have been awarded national or international fellowships while working in the Moore laboratory.
- I presently advise 1 Project Scientist, 1 Program Coordinator, 7 postdoctoral fellows, 6 PhD graduate students and several undergrads in my UCSD research group.

UC San Diego (2005 – present)

Postdoctoral Advisor to: Longkuan Xiang (2005-2006), Daniel Udvary (2005-2007), Michelle Moaitt (2005-2006), Alessandra Eustaquio (2005-2010, LSRF postdoctoral fellow), Ryan McGlinchey (2006-2008), John Kalaitzis (2006-2007), Markus Nett (2007-2008, DAAD postdoctoral fellow), Tobias Gulder (2008-2010, DAAD postdoctoral fellow), Alexandra Roberts (2008-2010), Kaity Ryan (2008-2010, LSRF postdoctoral fellow), Amy Lane (2008-2010, NIH-IRACDA postdoctoral fellow), Akimasa Miyana (2009-2011, JSPS postdoctoral fellow), Elisha Fielding (2010-2013), Peter Bernhardt (2010-2012, NIH F32 postdoctoral fellow), Roland Wenter (2010-2012, DFG postdoctoral fellow), Leonard Kayssar (2010-2013, Alexander von Humboldt Feodor Lynen postdoctoral fellow), Kazuya Yamanaka (2010-2013, supported by Chisso Corporation, Japan), Simone Moraes Mantovani (2011-2015, CNPq postdoctoral fellow), Robin Teufel (2012-2015, DFG postdoctoral fellow), Avena Ross (2012-2014, NSERC postdoctoral fellow), Daniela Trivella (2012, FAPESP postdoctoral fellow), Peter Jordan (2012-2018, NIH F32 postdoctoral fellow), Dennis Poth (2012-2013), Vinayak Agarwal, (2012-2017, HHWF postdoctoral fellow; NIH K99 postdoc awardee), Nadine Zeimert (2013-2015), Lauren Ray (2013-2016), Max Crussemann (2013-2015, DFG postdoctoral fellow), Xiaoyu Tang (2013-2017), Stefan Diethelm (2014-2015, Swiss National Science Foundation postdoctoral fellow), Ellis O'Neill (2014-2015), Ana Ligia Leandrini de Oliveira (2014-2016, CNPq postdoctoral fellow), Jie Li (2014-2018), Takayoshi Awakawa (2014-2016, Uehara Memorial Foundation postdoctoral fellow), Zachary Miles (2015-2017), Anya Luhavaya (2015-2019), Shaun McKinnie (2016-2019, NSERC postdoctoral fellow), Yuta Kudo (2016-2018, JSPS postdoctoral fellow), John Chekan (2016-2020, LSRF postdoctoral fellow), Tristan de Rond (2017-2022, NIH F32 postdoctoral fellow), Jeong "Dave" Sang Yi (2018-2021), Percival Chen (2019-2021), Timothy Fallon (2019-2025, NIH F32 postdoctoral fellow), Immo Burkhardt (2019-2024, Leopoldina postdoctoral fellow), Sanjoy Adak (2020-present), Vikram Shende (2020-2024, NIH F32 postdoctoral fellow), April Lukowski (2020-2023, NIH F32 postdoctoral fellow), Rebecca Schaefer (2020-2023, Swiss National Science Foundation postdoctoral fellow), Leah Bushin (2021-2025, NIH F32 postdoctoral fellow), Anna Love (2022-present, NIH F32 postdoctoral

fellow), Ashleigh Burke (2023-2025, SIO Postdoctoral fellow), Lara Dürr (2023-2025, Swiss National Science Foundation postdoctoral fellow), Lucia Castineiras (2024-present, Fulbright postdoctoral fellow), Tian Lan (2024-present), Alex Babczyk (2024-present, Alexander von Humboldt Feodor Lynen postdoctoral fellow), Natalie Grayson (2026-present), Shraven Dommaraju (2026-present).

Project Scientist: Immo Burkhardt (2024-present)

Graduate Student Research Advisor to: Jaclyn “Jackie” Winter (2005-2010, NIH Marine Biotechnology predoctoral fellow, SIO, PhD “Investigating the biosynthesis of halogenated meroterpenoid natural products from marine actinomycetes”), Yuan Liu (2005-2009, SIO, PhD "Investigations into the biosynthesis of salinosporamide A: new insights on PKS extender units and the origin of a nonproteinogenic amino acid"), Lisa Ziegler (2005-2006, SIO, MS), Andrew Schultz (2005-2010, NIH Marine Biotechnology predoctoral fellow, SIO, PhD "Biosynthesis and engineering of cyclomarin and cyclomarazine : prenylated, non-ribosomal cyclic peptides of marine actinobacterial origin"), Micheal Wilson (2006-2011, SIO, PhD “Biosynthetic investigations of ansamycin natural products from marine-derived actinomycetes”), Andrew Kale (2007-2012, SIO, PhD "Proteasome inhibitor biosynthesis and self-resistance in the marine actinobacterium *Salinispora tropica*"), Taylor Stratton (2009-2014, SIO, PhD "Discovery, biosynthesis and evolutionary history of sioxanthin, a novel glycosylated carotenoid from marine bacteria *Salinispora*"), Roland Kersten (2009-2013, SIO, PhD, "Mass spectrometry-guided genome mining of peptidic and glycosylated microbial natural products"), Abraham “Bimo” El Gamal (2011-2016, NIH Marine Biotechnology predoctoral fellow, SIO, PhD, “Biosynthesis of polybrominated aromatic molecules by marine bacteria”), Kirk Reynolds (2012-2016, UCSD-Chemistry. PhD, “Discovery and characterization of calcium-dependent antibiotics via activation of a silent natural product gene cluster”), Michelle Schorn (2013-2018, SIO, PhD, “From molecules to genes and back again: Tales of marine microbes and their specialized chemistry”), Charles Larson (2013-2019, BMS, PhD “Blurring the lines between natural and synthetic: The biosynthetic chemistry of marine actinomycete bacteria”), Jia Jia Zhang (2013-2019, SIO, NSF predoctoral fellow, NIAID F31 graduate student fellow, PhD “Heterologous expression and genetic manipulation of natural product biosynthetic gene clusters from marine bacteria”), John Patrick Brunson (2015-2021, SIO, NIH Chemical Biology predoctoral fellow, 2019 Jane and Jiao Fan, PhD '94 Prize for Best Advocate for Graduate Studies, 2019 Edward A. Frieman Director’s Prize for Graduate Student Research, 2019 Claude E. Zobell Prize for Excellence in Marine Microbiology, NIEHS F31 graduate student fellow, PhD “The genetic basis for domoic acid biosynthesis”), Kate Bauman (2016-2022, SIO, NIH Marine Biotechnology predoctoral fellow, NIH F31 predoctoral fellow, 2022 Edward A. Frieman Director’s Prize for Graduate Student Research, PhD “In vivo and in vitro strategies for characterizing secondary metabolite biosynthetic pathways from marine bacteria”), Kayla Wilson (2017-2023, SIO, NSF predoctoral fellow, PhD “Investigations into the biosynthesis of terpenoids from marine sponges”), Monica Thukral (2018-2021, SIO, MS), Taylor Steele (2019-2023, UCSD-Chemistry, NSF predoctoral fellow, PhD “A genomic approach to accessing and characterizing secondary metabolite biosynthetic pathways from marine red macroalgae”), Trevor Purdy (2019-2021, SIO, NIH Marine Biotechnology predoctoral fellow, PhD “Synthetic and biocatalytic strategies for natural product synthesis via ortho-quinone methide intermediates”), Steaney Wood (2020-2026, SIO, Rita L. Atkinson Fellow, PhD “Genomic, biochemical, and environmental investigations of the domoic acid biosynthesis pathway in diatoms”), Hannah Bone (2021-present, SIO, Tribal Membership Initiative predoctoral fellow, NIH diversity predoctoral fellow), Mariah Avila (2021-present, SIO), Natalie Grayson (2022-2025, SIO, NOAA Davidson fellow, PhD “Wandering in genomes and probing biosynthetic machinery in pursuit of the evolutionary origins and diversification of

octocoral terpenoids), Felix Hubert (2022-present, SIO), Aodhan Beattie (2024-present, SIO), Maxwell Grabovac (2024-present, SIO).

Undergraduate Research Advisor to: Albert Wang (2007), Tracy Mrowczynski (2007-2008), Michelle Hook (2008, 2010, CSG Isaacs Research Trainee), Diana Plutchak (2008, 2009, ASP Undergraduate Research Award), Kari Potter (2009-2010), Lyn'Al Nosaka (2010), Maxine Tan (2012, ASP Undergraduate Research Award), Mary Kristine Carbullido (2012-2014, recipient of 2013 Julia Brown Research Scholarship), Bailey Bonet (2013-2014), Imran Rahman (2014-2015), Kimberly Chang (2014-2017), Ernesto Garibay (2016-2018), Ethan Older (2017-2018), Marvin Chau (2017-2018), Ge Yang (2017-2019), Julia Asay (2018-2020), Emily Paris (2018-2020, BGRD 200, BISP 196 Honor's Thesis "Domesticating unidentified marine bacteria in chitosan-alginate micro-orbs"), Allison Kramer (2019-2020, BGRD 200, BISP 196 Honor's Thesis "Bacterial remediation of the environmental neurotoxin domoic acid"), Christine Lee (2019-2021), Vanessa Aguirre (2019-2020), Samantha Hanauer (2021-2023), Vivian Lin (2021-2023), Yanzhe Leo Liu (2021-2023, TRELs Scholar, ASP Undergraduate Research Award), Sharon Roth (2022-2023), Wilson Lubeck (2022-2023), Ella Kirwan (2022-2024), Dushanti Patterson (2023, Mesa Impactship Program scholar), Derick Muir (2023-2025), Marissa Sheehy (2024-date, Ledell Family Research Scholarship for Science and Engineering), Ryan Gappy (2024-date, TRELs scholar).

Host for Visiting Scientist: Qian Cheng (2005-2007, University of Arizona graduate student), Johannes Haerle (January-February 2007, University of Tübingen graduate student), Anna Lechner (2007-2008, University of Applied Sciences, Mannheim, Germany, diploma student, DAAD fellowship; 2008-2012, University of Heidelberg, PhD student), Tatsufumi Okino (2010, on sabbatical from University of Hokkaido, Japan), Won-Gon Kim (2010-2011, on sabbatical from the Korea Research Institute of Bioscience & Biotechnology), Larissa Dirr (2010-2011, visiting student from the University of Saarbrücken, Germany), Yi Tang (2011, on sabbatical from UCLA), Eric Helfrich (2011-2012, visiting student from University of Jena, Germany), Stephanie Maerten (2012, visiting student from University of Aachen, Germany), Yongxin "Philip" Li (2013, visiting student from Hong Kong University of Science and Technology), Lingli "Leonie" Liu (2013, visiting student from Hong Kong University of Science and Technology), Katrin Schroder (2013, visiting student from Westfälische Wilhelms-Universität Münster, Germany), Hongbin Zou (2013-2014, visiting professor from Zhejiang University, China), Karine Pires, (2014-2015, visiting student from Bióloga Instituto Federal de Santa Catarina, Brazil), Kazuya Murata (2014-2015, visiting professor from Kinki University, Japan), Liang Lu (2014, visiting student from Hong Kong University of Science and Technology), Joseph Jarrett (2014-2015, on sabbatical from University of Hawaii), Hilke Bruns (2015, visiting student from TU Braunschweig, Germany), Jan Wohlfarth (2015, visiting student from University of Freiburg, Germany), Taro Amagata (2015, on sabbatical from San Francisco State University), Kenichi Matsuda (2016, visiting student from Tokyo University), Erni Reto (2016-2017, visiting MS student from ETH), Jamshid Moghaddam (2016-2017, visiting student from University of Bonn), Renata Sigrist (2016-2017, visiting PhD student from University of Campinas), Marlene Rothe (2017, visiting MS student from ETH), Lauren Murray (2017 and 2019, visiting student from University of Adelaide), Fergus Collins (2017, visiting student from University College Cork), Catharina Seel (2017 and 2018, visiting student from TUM), Stella de Lima Camargo (2017-2019, visiting student from University of Sao Paulo-Piracicaba), Malia Moore (2018, visiting student from UC-Berkeley, ASP undergraduate awardee), Daniel Männle (2018-2019, visiting graduate student from University of Tübingen), Fernanda das Chagas (2020, visiting Fulbright-funded professor from Federal University of Rio de Janeiro), Gabriella da Cruz (2020-2021, visiting MS student from Federal University of Rio de Janeiro), Helena Leucke (2022, visiting MS student from Technical University of Dresden, "Exploring terpenoids from deep sea corals and their biosynthetic

pathways”), Henrique Niero (2023, visiting PhD student from University of Campinas), Kalle Kind (2025, visiting MS student from University of Freiburg).

Host for High School Student Intern: Natalia Baker (2012 UCSD Research Scholar high school student), Lauren Gulland (2013 & 2014 UCSD Research Scholar high school student), Michelle Zhang (2014 and 2015 summer intern).

University of Arizona (1999-2005)

Postdoctoral Advisor to: Jörn Hopke (1999-2000), Christian Hertweck (1999-2000), Paul Shipley (1999-2001), Longkuan Xiang (2000-2005), John Kalaitzis (2001-2004), Miho Izumikawa (2001-2005), Yoshimitsu Hamano (2002-2003), Daniel Udvary (2003-2005), Michelle Moaitt (2003-2005).

Graduate Student Research Advisor to: Laura Beer (2001-2006, Pharm. Tox., PhD “Studies on the biosynthesis and isolation of the biosynthetic gene cluster for the salinosporamides of the marine bacterium *Salinispora tropica*”), Qian Cheng (2003-2007, Med. Chem., PhD “*In vitro* reconstitution of the entire enterocin biosynthetic pathway: New insights into type II PKS enzymology”), Anatol Litoschka (2004, Chemistry), Jackie Winter (2005, Med. Chem.), Yuan Liu (2005, Chemistry).

Undergraduate Research Advisor to: Andrew Yang (2000-2001, UBRP student; Biochemistry senior thesis student), George Nilsen (2001-2004, Yuma Friends of the Arizona Health Sciences Center Young Investigator 2002 award recipient), Lihn Nguyen (2001, American Society of Pharmacology undergraduate research award recipient; Honor's College scholar), Lindsay Felker (2002-2003), Janet Cooley (2002), Michelle Stevie (2003-2004), Andrew Peralta (Summer 2004, Minority Health Disparities Summer Program, University of Wisconsin-River Falls).

Host for Visiting Scientist: Thomas O’Hare (May-July 2001, ACS-PRF Summer Research Fellow from Willamette University), Julie Becker (2002-2004, visiting scientist from the University of Hawaii), Kwangkyoung Liou (May-November 2004, sabbatical scientist from Department of Pharmaceutical Engineering, SunMoon University, Korea).

Host for Local High School Student Intern: Nicole Rasmussen (Canyon del Oro High School, 2002-2003)

University of Washington (1996-1999)

Postdoctoral Advisor to: Dieter Seng (1996-1997, DFG Postdoctoral Fellow), Stepanka Storkova (1997), Jörn Piel (1998-1999, Alexander von Humboldt Foundation, Feodor Lynen Postdoctoral Fellow), Aiming Yu (1998-1999), Jörn Hopke (1998-1999, DFG and DAAD Postdoctoral Fellowships), Christian Hertweck (1999, Alexander von Humboldt Foundation, Feodor Lynen Postdoctoral Fellow).

Graduate Student Research Advisor to: Deanna Shock (1999-2000, M.S.).

Undergraduate Research Advisor to: Patrick Carter (1995-1996, senior thesis student), David Kho (1995-1997, Mary Gates Endowment for Students scholar), Michael Dahl (1996, senior thesis student), Charmaine Uy (1996), Ronald Pangilinan (1996-1997, senior thesis student), Thomas Liu (1997), Khanh Hoang (1997-1999, senior thesis student), Michele Costanza (1997, NSF-REU scholar), Rebecca Ledger (1997-1998, Mary Gates Endowment for Students scholar), Paul Yoon

(1997-1998), Kristen Miller (1998), Jason Boyd (1998-1999), Wendy Siemion (1998-1999, senior thesis student), Mark Neuman (1999, NSF-REU scholar from Willamette University, Oregon).

TEACHING ACTIVITIES

UC San Diego (2005 – present)

2021-present SIO 90 (Perspectives in Ocean Science) – instructor
2020-present SIO 242B (Marine Biotechnology) – instructor
2007-2019 SPPS 218B (Contemporary Topics in Pharmacology) – instructor
2006-present SIO 264 (Special Topics in Marine Natural Products) – instructor
2006-present SPPS 223 (Pharmaceutical Biochemistry: Kinetics and Metabolism) – lecturer
2006-2012 SPPS 221 (Pharmaceutical Biochemistry: Medicinal Chemistry) – lecturer
2005-present SIO 262 (Seminar in Marine Bioorganic and Natural Products Chemistry) – coordinator

University of Arizona (1999-2005)

2003 PCOL 530 (Proteins and Nucleic Acids as Drug Targets, 3 units) – lecturer
2001-2003 PHSC 670 (Principles in Drug Design, Development and Discovery, 3 units) – lecturer
2001, 2004 CHEM 549 (aka PCOL 549 and PHSC 549 - Chemistry of Natural Products, 3 units) – course coordinator and lecturer
2000 PCOL 437A (Medicinal Chemistry, 3 units) – lecturer
2001-2005 PCOL 436/536 (Chemotherapy of Infectious Diseases, 3 units) – course coordinator and lecturer. This required course is offered each fall semester to the second year Pharm.D. students

University of Washington (1996-1999)

1998-1999 CHEM 347 (Honors Organic Chemistry Laboratory B, 4 units)
1998 CHEM 346 (Honors Organic Chemistry Laboratory A, 4 units)
1997 CHEM 239 (Organic Chemistry III, 3 units)
1996 CHEM 238 (Organic Chemistry II, 3 units)