Katherine Nalani Maloney

Point Loma Nazarene University
Department of Chemistry
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PROFESSIONAL EXPERIENCE

Co-Chair, Department of Chemistry, Point Loma Nazarene University 2023-present
Professor of Chemistry 2018-present
Associate Professor of Chemistry 2014-2018
Assistant Professor of Chemistry 2012-2014

Associate Editor, *Journal of Natural Products* 2023-present

Visiting Scholar in the Balskus Lab, 2022-2023
Harvard University Department of Chemistry and Chemical Biology

Visiting Scholar in the Dorrestein Lab 2019-2020
UC San Diego Skaggs School of Pharmacy & Pharmaceutical Science

Assistant Professor of Chemistry, Harvey Mudd College 2009-2011

EDUCATION & TRAINING

NIH Cancer Therapeutics Training (CT2) Postdoctoral Fellowship 2006-2009
Scripps Institution of Oceanography/UCSD
Advisor: Professor William Fenical
Isolation and structure elucidation of bioactive compounds from marine actinomycetes

Ph.D. in Chemistry and Chemical Biology 2000-2006
Cornell University
Advisor: Professor Jon Clardy
Dissertation title: Biologically active natural products from plants and their endophytes

B.S. in Chemistry, *summa cum laude* 1996-2000
Pacific Lutheran University
Advisor: Professor Duane Swank
Synthesis and characterization of copper halide dimers ligated by substituted pyridines

Undergraduate Researcher, NSF-REU Summer 1999
University of Washington
Advisor: Professor Tomikazu Sasaki
Multi-step organic synthesis of a modified carbohydrate ligand

TEACHING

2012- Point Loma Nazarene University

• CHE 1003, General, Organic & Biological Chemistry	2018-2023
• CHE 1003L, General, Organic & Biological Chem Lab	2023
• CHE 1003L, Tiny Earth Chemistry	2020-2021
• CHE 2013L, Analytical Chemistry Laboratory	2022
• CHE 294L, Organic Chemistry I Laboratory	2012-2015
• CHE 2096/3004, Organic Chemistry II	2012-2022
• CHE 2096L, Organic Chemistry II Laboratory	2012-2021
• CHE 3051, Organic Structure Elucidation	2012-2020
• CHE 3051L, Organic Structure Elucidation Laboratory	2012-2020
• CHE 370, Instrumental Analysis	2012-2018
• CHE 370L, Instrumental Analysis Laboratory	2012-2018
• CHE 4075, Natural Product Biosynthesis	2021

2009-2011 Harvey Mudd College:

• Chem 23S, General Chemistry: Structure	2010, 2011
• Chem 199, Seminar	2010-2011
• Chem 56, Carbon Compounds	2010, 2011
• Chem 58, Carbon Compounds Laboratory	2010, 2011
• Chem 111, Organic Chemistry Laboratory	2009-2011
• Chem 21, General Chemistry	2009
• Chem 25, General Chemistry Laboratory	2009

2004-2006 *Teaching Fellow*, 'B47: Molecules of Life' (Science Core course), Harvard University

2000-2001 *Teaching Assistant*, 'Organic Chemistry for the Life Sciences,' Cornell University

1998-2000 *Chemistry Tutor and Grader*, Pacific Lutheran University

RESEARCH STUDENT MENTORING

[#]Denotes students who have coauthored one or more peer-reviewed publications on their research
[§]Denotes honors project student (PLNU) or senior thesis student (HMC)

PLNU

Oscar Alvarado[#] (PLNU Biology-Chemistry '14; *DC, SCUHS)*	2012-2013
Victoria Berry[#] (PLNU Chemistry '19; *Drug Delivery Experts*)	2017-2018
Reese Bos (PLNU Chemistry '24)	2022
Connor Brandenburg[#,§] (PLNU Philosophy '19; *MS in Chemistry, UCSD; Takeda*)	2017-2019
Kiana Callahan (PLNU Biology-Chemistry '25)	2024-
Kyler Brinton[#] (PLNU Biology-Chemistry '21; *Olix Pharmaceuticals*)	2019
Diana Corral[#] (PLNU Biology-Chemistry '21; *Hologic*)	2019
Jason Chari[#] (Cornell Univ. Biostatistics '17; *PhD in Chemistry, UCLA; Pfizer*)	2016
Brent Chicoine[#] (PLNU Biology-Chemistry '15; *Novartis*)	2013
Jennifer Cordoza[#,§] (PLNU Biology-Chemistry '19; *PhD student in Chemistry, UCSC*)	2018-2019
Nick Cornelius (PLNU Biology MS '21; *Catalent Pharma Solutions*)	2021
Taylor Davis[#,§] (PLNU Biology-Chemistry '14; *MPH, Azusa Pacific University*)	2012-2014

Sydney Davis[#,§] (PLNU Biology-Chemistry '18; *MD, University of Utah*)	2016-2018
Lindsey D'Elia (PLNU Biology-Chemistry '17; *MD student at NYU*)	2015-2016
Corrie Fyle (PLNU Chemistry '24)	2022
Eunice Granados (PLNU Biology-Chemistry '14; *Alere Inc.*)	2014
Payton Hart (PLNU Environmental Science '25)	2024-
Nathan Jenkins (PLNU Chemistry '23)	2022
Andrew Kamemoto[§] (PLNU Biology-Chemistry '23)	2021-2023
Julia Kelly (PLNU Biology-Chemistry '21; *MD student at UCSD*)	2019-2021
Amanda Koontz[§] (PLNU Biology-Chemistry '23)	2021-2023
Lia Lozano[#] (PLNU Chemistry '19; *PhD student in Chemistry, UC Santa Cruz*)	2018-2019
Elizabeth Maloney[#] (Pacific Lutheran Univ. Econ., Math, & Comp. Sci. '16; *PhD in Economics, UC Irvine; The Brattle Group*)	2012, 2016
Jeremiah Meloch[#] (PLNU Biology-Chemistry '20; *PassPort Technologies*)	2018-2019
Olivia Owen[§] (PLNU Biology-Chemistry '22; *Coastal Pain and Spinal Diagnostics*)	2021-2022
Morgan Papineau[§] (PLNU Biology-Chemistry '17; *DO, Idaho College of Osteopathic Medicine*)	2015-2017
Heather Rainbow[§] (PLNU Chemistry '22; *Pfizer*)	2020-2022
Jordan Reader[#] (PLNU Biology-Chemistry '15; *DO, Univ. of New England*)	2013-2014
Carolina Ruiz Rivera (PLNU Biology-Chemistry '26)	2024-
Sierra Ruvalcaba (PLNU Biology-Chemistry '21; *MS student in Biomedical Diagnostics at Arizona State University; Hologic*)	2021
Jonathan Sawada (PLNU Biology-Chemistry '17; *MD, Loma Linda*)	2015-2016
Lindsay Semmler[§] (PLNU Biology-Chemistry '16; *Avanos Medical*)	2015-2016
Matthew Steinhaus[#] (PLNU Biology-Chemistry '15; *MD, UC Irvine*)	2013-2014
Samantha Thompson (PLNU Biology-Chemistry '18; *PharmD, UCSD*)	2017-2018
Sara Versales (PLNU Chemistry '21; *MS in Pharmacology, UCI*)	2019
Makena Williams (PLNU Music '23)	2022
Lauren Wilson (PLNU Biology-Chemistry '22; *MD student at Loma Linda*)	2021-2022
Christopher Yang (PLNU Biology-Chemistry '26)	2024-

HMC

Thomas Aldrich[#,§] (HMC Chemistry '12; *NSF GRFP PhD in Chemistry, Northwestern*)	2010-2012
Kyle Chakos (HMC Engineering '13; *Sr. Data Engineer at Sweetgreen*)	2010
Alix Chan (HMC Chemistry & Biology '12; *PhD in Chemical Biology, Harvard)*	2011
William Chen (HMC Mathematical Biology '12; *MS in Quantitative Ecology & Resource Management, Univ. of Washington*)	2010
Jonathan 'Chance' Crompton[#] (HMC Chemistry '13; *MS in Chemistry, Caltech*)	2011
Brian Fielder (HMC Chemistry '14; *Schrödinger, Inc.*)	2010-2011
Millie Fung[§] (HMC Chemistry & Biology '11; *PhD in Chemistry, UC Irvine*)	2010-2011
Katie Near[§] (HMC Chemistry '10; *NSF GRFP PhD in Chemistry, Stanford*)	2009-2010
Bethany Okada[#] (HMC Chemistry '13; *PhD in Chemistry, Princeton; Ionis*)	2011
Caitlin Olmsted[§] (HMC Chemistry '10; *Merkle*)	2009-2010
Emily Putnam (HMC Chemistry & Biology '12; *Quantabio*)	2010
Kim Quach[#] (HMC Chemistry '12; *PhD in Chemistry, Yale; L.E.K. Consulting*)	2011
Jessie Roy[§] (HMC Chemistry '11; *MS in Biology, Georgia Tech*)	2010-2011
Kathryn Schmiedicke[§] (HMC Biology '11)	2010-2011
Vincent Shieh[#] (HMC Chemistry & Biology '12; *Samsara, Inc.*)	2010
Camille Sultana[#,§] (HMC Chemistry '10; *PhD in Environmental Chemistry, UCSD; California Air Resources Board*)	2009-2010

PUBLICATIONS

** Undergraduate student co-authors*

1. Petras, D.; Phelan, V. V.; Acharya, D.; Allen, A. E.; Aron, A. T.; Bandeira, N.; Bowen, B. P. Belle-Oudry, D.; Boecker, S.; Cummings Jr., D. A.; Deutsch, J. M.; Fahy, E.; Garg, N.; Gregor, R.; Handelsman, J.; Navarro-Hoyos, M.; Jarmusch, A. K.; Jarmusch, S. A.; Louie, K.; **Maloney, K. N.**; Marty, M. T.; Meijler, M. M.; Mizrahi, I.; Neve, R. L.; Northen, T. R.; Molina-Santiago, C.; Panitchpakdi, M.; Pullman, B.; Puri, A. W.; Schmid, R.; Subramaniam, S.; Thukral, M.; Vasquez-Castro, F.; Dorrestein, P. C.; Wang, M. GNPS Dashboard: Collaborative exploration of mass spectrometry data in the web browser. *Nat. Methods*. **2022**, *19*, 134-136. DOI: 10.1038/s41592-021-01339-5

2. Schorn, M. A.; Verhoeven, S.; Ridder, L.; Huber, F.; Acharya, D. D.; Aksenov, A. A.; Aleti, G.; Moghaddam, J. A.; Aron, A. T.; Aziz, S.; Bauermeister, A.; Bauman, K. D.; Baunach, M.; Beemelmanns, C.; Beman, J. M.; Berlanga-Clavero, M. V.; Blacutt, A. A.; Bode, H. B.; Boullie, A.; Brejnrod, A.; Bugni, T. S.; Calteau, A.; Cao, L.; Carrion, V. J.; Castelo-Branco, R.; Chanana, S.; Chase, A. B.; Chevrette, M. G.; Costa-Lotufo, L. V.; Crawford, J. M.; Currie, C. R.; Cuypers, B.; Dang, T.; de Rond, T.; Demko, A. M.; Dittmann, E.; Du, C.; Drozd, C.; Dujardin, J.-C.; Dutton, R. J.; Edlund, A.; Fewer, D. P.; Garg, N.; Gauglitz, J. M.; Gentry, E. C.; Gerwick, L.; Glukhov, E.; Gross, H.; Gugger, M.; Guillén Matus, D. G.; Helfrich, E. J. N.; Hempel, B.-F.; Hur, J.-S.; Iorio, M.; Jensen, P. R.; Kang, K. B.; Kaysser, L.; Kelleher, N. L.; Kim, C. S.; Kim, K. H.; Koester, I.; König, G. M.; Leao, T.; Lee, S. R.; Lee, Y.-Y.; Li, X.; Little, J. C.; **Maloney, K. N.**; Männle, D.; Martin H., C.; McAvoy, A. C.; Metcalf, W. W.; Mohimani, H.; Molina-Santiago, C.; Moore, B. S.; Mullowney, M. W.; Muskat, M.; Nothias, L. F.; O'Neill, E. C.; Parkinson, E. I.; Petras, D.; Piel, J.; Pierce, E.; Pires, K.; Reher, R.; Romero, D.; Roper, M. C.; Rust, M.; Saad, H.; Saenz, C.; Sanchez, L. M.; Sørensen, S. J.; Sosio, M.; Süssmuth, R. D.; Sweeney, D.; Tahlan, K.; Thomson, R. J.; Tobias, N. J.; Trindade-Silva, A. E.; van Wezel, G. P.; Wang, M.; Weldon, K. C.; Zhang, F.; Ziemert, N.; Duncan, K. R.; Crüsemann, M.; Rogers, S.; Dorrestein, P. C.; Medema, M. H.; van der Hooft, J. J. J. A community resource for paired genomic and metabolomic data mining. *Nat. Chem. Biol.* **2021**, *17,* 363-368. DOI: 10.1038/s41589-020-00724-z

3. Aksenov, A. A.; Laponogov, I.; Zhang, Z.; Doran, S. L. F.; Belluomo, I.; Veselkov, D.; Bittremieux, W.; Nothias, L. F.; Nothias-Esposito, M.; **Maloney, K. N.**; Misra, B. B.; Melnik, A. V.; Smirnov, A.; Du, X.; Jones, K. L.; Dorrestein, K.; Panitchpakdi, M.; Ernst, M.; van der Hooft, J. J. J.; Gonzalez, M.; Carazzone, C.; Amézquita, A.; Callewaert, C.; Morton, J. T.; Quinn, R. A.; Bouslimani, A.; Orio, A. A.; Petras, D.; Smania, A. M.; Couvillion, S. P.; Burnet, M. C.; Nicora, C. D.; Zink, E.; Metz, T. O; Artaev, V.; Humston-Fulmer, E.; Gregor, R.; Meijler, M. M.; Mizrahi, I.; Eyal, S.; Anderson, B.; Dutton, R.; Lugan, R.; Boulch, P. L.; Guitton, Y.; Prevost, S.; Poirier, A.; Dervilly, G.; Le Bizec, B.; Fait, A.; Persi, N. S.; Song, C.; Gashu, K.; Coras, R.; Guma, M.; Manasson, J.; Scher, J. U.; Barupal, D. K.; Alseekh, S.; Fernie, A. R.; Mirnezami, R.; Vasiliou, V.; Schmid, R.; Borisov, R. S.; Kulikova, L. N.; Knight, R.; Wang, M.; Hanna, G. B.; Dorrestein, P. C.; Veselkov, K. Auto-deconvolution and molecular networking of gas chromatography-mass spectrometry data. *Nat. Biotechnol.* **2021**, *39*, 169-173. DOI: 10.1038/s41587-020-0700-3

4. Brandenburg, C. A.*; Castro, C. A.; Blacutt, A. A.; Costa, E. A.; Brinton, K. C.*; Corral, D. W.*; Drozd, C. L.; Roper, M. C.; Rolshausen, P. E.; **Maloney, K. N.**; Lockner, J. W. Synthesis of deoxyradicinin, an inhibitor of *Xylella fastidiosa* and *Liberibacter crescens*, a culturable surrogate

for *Candidatus* Liberibacter asiaticus. *J. Nat. Prod.* **2020**, *83: 6*, 1810-1816. DOI: 10.1021/acs.jnatprod.9b01207

5. Blacutt, A.; Ginnan, N.; Dang, T.; Bodaghi, S.; Vidalakis, G.; Ruegger, P.; Peacock, B.; Viravathana, P.; Campos Vieira, F.; Drozd, C.; Jablonska, B.; Borneman, J.; McCollum, G.; Cordoza, J.*; Meloch, J.*; Berry, V.*; Lozano Salazar, L.*; **Maloney, K. N.**; Rolshausen, P. E.; Roper, M. C. An *in vitro* pipeline to screen and select citrus-associated microbiota with potential anti-*Candidatus* Liberibacter asiaticus properties. *Appl. Environ. Microbiol.* **2020**, *86: 8*, e02883-19. DOI: 10.1128/AEM.02883-19

6. **Maloney, K. N.**; Botts, R. T.; Davis, T. S.*; Okada, B. K.*; Maloney, E. M.*; Leber, C. A.; Alvarado, O.*; Brayton, C.*; Caraballo, M.; Chari, J. V.*; Chicoine, B.*; Crompton, J. C.*; Davis, S. R.*; Gromek, S. M.; Kurnianda, V.; Quach, K.*; Samples, R. M.; Shieh, V.*; Sultana, C. M.*; Tanaka, J.; Dorrestein, P. C.; Balunas, M. J.; McFadden, C. S. "Cryptic species account for the seemingly idiosyncratic secondary metabolism of *Sarcophyton glaucum* specimens collected in Palau." *J. Nat. Prod.* **2020**, *83: 3*, 693-705. DOI: 10.1021/acs.jnatprod.9b01128

7. **Maloney, K.** "In Praise of a Nonelite Education" *Inside Higher Ed*, 22 May **2019**. Op-ed. https://www.insidehighered.com/advice/2019/05/22/nonelite-colleges-can-give-students-excellent-education-and-phd-grads-chance-grow

8. Kearney, S. E.; Zahoránszky-Köhalmi, G; Brimacombe, K. R.; Henderson, M. J.; Lynch, C.; Zhao, T.; Wan, K. K.; Itkin, Z.; Dillon, C.; Shen, M., Cheff, D. M.; Lee, T. D.; Bougie, D.; Cheng, K.; Coussens, N. P.; Dorjsuren, D.; Eastman, R. T.; Huang, R.; Iannotti, M. J.; Karavadhi, S.; Klumpp-Thomas, C.; Roth, J. S.; Sakamuru, S.; Sun, W.; Titus, S. A.; Yasgar, A.; Zhang, Y.; Zhao, J.; Andrade, R. B.; Brown, M. K.; Burns, N. Z.; Cha, J. K.; Mevers, E. E.; Clardy, J.; Clement, J. A.; Crooks, P. A.; Cuny, G. D.; Ganor, J.; Moreno, J.; Morrill, L. A.; Picazo, E.; Susick, R. B.; Garg, N. K.; Goess, B. C.; Grossman, R. B.; Hughes, C. C.; Johnston, J. N.; Joullie, M. M.; Kinghorn, A. D.; Kingston, D. G. I.; Krische, M. J.; Kwon, O.; Maimone, T. J.; Murphy, B. T.; Nagorny, P.; Majumdar, S.; **Maloney, K. N.**; Mohamed, E.; Olson, D. E.; Overman, L. E.; Brown, L. E.; Snyder, J. K.; Porco, J. A., Jr.; Sharma, I.; Shaw, J. T.; Rivas, F.; Ross, S. A.; Sarpong, R.; Xu, Z.; Shen, B.; Shi, W.; Stephenson, C. R. J.; Tang, Y.; Taylor, R. E.; Thomson, R. J.; Wuest, W. M.; Zakarian, A.; Zhang, Y.; Verano, A. L.; Tan, D. S.; Vosburg, D. A.; Wu, J.; Ren, T.; Zuo, Z.; Inglese, J.; Michael, S.; Simeonov, A.; Zheng, W.; Shinn, P.; Jadhav, A.; Boxer, M. B.; Hall, M. D.; Xia, M.; Guha, R.; Rohde, J. M. "Canvass: A Crowd-Sourced, Natural-Product Screening Library for Exploring Biological Space" *ACS Cent. Sci.* **2018**, *4*, 1727-1741. DOI: 10.1021/acscentsci.8b00747

9. Kim, D.; Lee, E. J.; Lee, J.; Leutou, A. S.; Shin, Y.-H.; Choi, B.; Hwang, J. S.; Hahn, D.; Choi, H.; Chin, J.; Cho, S. J.; Hong, Y. D.; Ko, J.; Seong, C. N.; **Maloney, K. N.**; Oh, D.-C.; Yang, I.; Hwang, H.; Nam, S.-J. "Antartin, a cytotoxic zizaane-type sesquiterpenoid from a *Streptomyces* sp. isolated from an Antarctic marine sediment." *Marine Drugs* **2018**, *16*, 130. DOI: 10.3390/md16040130

10. Aldrich, T. J.*; Rolshausen, P.; Roper, M. C.; Reader, J. M.*; Steinhaus, M. J.*; Rapicavoli, J.; Vosburg, D. A.; **Maloney, K. N.** "Radicinin from *Cochliobolus* sp. inhibits *Xylella fastidiosa*, the causal agent of Pierce's Disease of grapevine." *Phytochemistry* **2015,** *116*, 130-137.

11. Sun, P.; **Maloney, K. N.**; Nam, S.-J.; Haste, N. M.; Raju, R.; Aalbersberg, W.; Jensen, P. R.; Nizet, V.; Hensler, M. E.; Fenical, W. "Fijimycins A-C, three antibacterial etamycin-class depsipeptides

from a marine-derived *Streptomyces* sp." *Bioorg. Med. Chem.* **2011** *19* (22), 6557-6562. DOI: 10.1016/j.phytochem.2015.03.015

12. Udwary, D. W.; Gontang, E. A.; Jones, A. C.; Schultz, A. W.; Sorrels, C. M.; Winter, J. M.; Yang, J. Y.; Beauchemind, N.; Capson, T. L.; Clark, B. R.; Esquenazi, E.; Eustáquio, A. S.; Freel, K.; Gonzalez, D. J.; Gerwick, L; Gerwick, W. H.; Liu, W.-T.; Malloy, K. L.; **Maloney, K. N.**; Nett, M.; Nunnery, J. K.; Penn, K.; Prieto-Davo, A.; Simmons, T. L.; Weitz, S.; Wilson, M. C.; Tisad, L. S.; Dorrestein, P. C.; Moore, B. S. "Significant natural product biosynthetic potential of actinorhizal symbionts of the genus *Frankia*, as revealed by comparative genomic and proteomic analyses." *Appl. Environ. Microb*. **2011** *77* (11), 3617-3625. DOI: 10.1128/AEM.00038-11

13. Choi,Y.; Jermihov, K.; Nam, S.; Sturdy, M.; **Maloney, K.** ; Qiu, X.; Main, M.; Mesecar, A. D.; Pauli, G. F.; Fenical, W. Pezzuto, J. M.; van Breemen, R. R. "Screening natural products for inhibitors of quinone reductase-2 using ultrafiltration LC-MS." *Anal. Chem*. **2011** *83* (3), 1048-1052. DOI: 10.1021/ac1028424

14. Murphy, B. T.; **Maloney, K. N.**; Fenical, W., **2011**, Natural Products from Marine Microorganisms. In *Natural Products: Phytochemistry and Pharmacognosy*. Pezzuto, J. M.; Kato M. J., Eds.; in Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO, Eolss Publishers, Paris, France.

15. Haste, N. M.; Perera, V.; **Maloney, K. N.**; Tran, D. N.; Jensen, P. R.; Fenical, W.; Nizet, V.; Hensler, M. E. "Activity of the streptogramin antibiotic etamycin against methicillin-resistant *Staphylococcus aureus*." *J. Antibiot.* **2010** *63* (5), 219-224. DOI: 10.1038/ja.2010.22

16. **Maloney, K. N.**; MacMillan, J. B.; Kauffman, C. A.; Jensen, P. R.; DiPasquale, A. G.; Rheingold, A. L.; Fenical, W. "Lodopyridone, a structurally-unprecedented alkaloid from a marine actinomycete." *Org. Lett.* **2009** *11* (23), 5422-5424. DOI: 10.1021/ol901997k

17. **Maloney, K. N.**; Fujita, M.; Eggert., U. S.; Schroeder, F. C.; Field, C. M.; Mitchison, T. J.; Clardy J. "Actin-aggregating cucurbitacins from *Physocarpus capitatus*." *J. Nat. Prod.* **2008** *71* (11), 1927-1929. DOI: 10.1021/np8005259

18. **Maloney, K. N.**; Hao, W.; Xu, J.; Gibbons, J.; Hucul, J.; Roll, D.; Brady, S. F.; Schroeder, F. C.; Clardy, J. "Phaeosphaeride A, a selective inhibitor of STAT3-dependent signaling isolated from an endophytic fungus." *Org. Lett.* **2006** *8* (18), 4067-4070. DOI: 10.1021/ol061556f

19. Smith, P. L.; **Maloney, K. N.**; Pothen, R. G.; Clardy, J.; Clapham, D. E. "Bisandrographolide from *Andrographis paniculata* activates TRPV4 channels." *J. Biol. Chem.* **2006** *281* (40), 29897-29904. DOI: 10.1074/jbc.M605394200

20. Hieronymus, H.; Lamb, J.; Ross, K. N.; Clement, C.; Peng, X. P.; Rodina, A.; Nieto, M.; Du, J.; Stegmaier, K.; Raj, S. M.; **Maloney, K. N.**; Clardy, J.; Hahn, W. C.; Chiosis, G.; Golub T. R. "Gene expression signature-based chemical genomic prediction identifies novel class of HSP90 pathway modulators." *Cancer Cell* **2006** *10* (4), 321-330. DOI: 10.1016/j.ccr.2006.09.005

21. **Maloney, K. N.** "Book Review: Natural Products Isolation, Second Edition. Satyajit D. Sarker, Zahid Latif, and Alexander I. Gray, Editors. Humana Press." *Chemical Educator* **2006** *11* (2), 146-147.

PATENTS & PATENT APPLICATIONS

* *Undergraduate student co-authors*

1. Roper, M.C.; Rolshausen, P.; Maloney, K. Compositions and Methods for Treating Citrus Greening. *US Provisional Patent Appl. No.* 63/570,612, filed March 27, 2024.

2. Roper, M.C.; Rolshausen, P.; Lockner, J.; Maloney, K. Citrus Huanglongbing Therapeutic Compounds. (2023) *US Patent App.* 17/794,527.

3. Rolshausen, P.; Roper, M. C.; Maloney, K. N.; Aldrich, T.* Identification of fungi antagonistic to *Xylella fastidiosa*. (2019) *US Patent* 10,238,118.

4. Clardy, J. C.; Maloney, K. N.; Schroeder, F. C. Polymeric bioplastics. *PCT Int. Appl.* (2009), WO 2009/045719 A2 20090409.

PRESENTATIONS

* *Undergraduate student co-authors*

1. Maloney, K. N. "The curious case of *Sarcophyton glaucum*: Capricious natural products chemist or victim of mistaken identity?" Invited talk at the PLNU Perspectives on Science Lecture Series. San Diego, 7 November 2023.

2. Maloney, K. N. "Cryptic species membership as the primary driver of secondary metabolism in *Sarcophyton glaucum*: Leveraging interdisciplinary collaborations to get research done at a PUI." Plenary talk at the 2023 American Society of Pharmacognosy Annual Meeting. Rockville, 24 July 2023.

3. Maloney, K. N. "From PUI to the DOC: My career path, my day job, and my involvement with the ACS Division of Organic Chemistry." Invited Virtual Seminar at Universidad Yachay Tech, San Miguel de Urcuqui, Ecuador. 20 June 2023.

4. Maloney, K. N. "The curious case of *Sarcophyton glaucum*: Capricious natural products chemist or victim of mistaken identity?" Invited Seminar at the College of the Holy Cross, Worchester. 14 April 2023.

5. Maloney, K. N. "My life as a PUI prof." Chemistry and Chemical Biology - Graduate and Postdoc Council (CCB-GPC) Invited Speaker Series, Harvard University, Cambridge. 22 March 2023.

6. Kamemoto, A. K.*; Koontz, A. G.*; Blacutt, A.; Nunez, F.; Roper, M. C.; Maloney, K. N. "Discovery of antibiotic natural products to treat citrus greening disease." 47th National Organic Chemistry Symposium, La Jolla, 28 June 2022.

7. Maloney, K. N. "Tiny Earth Chemistry: Adventures in developing a natural products chemistry-themed course-based undergraduate research experience (CURE)." Guest Lecture in SIO262: Marine Chemical Biology Seminar, University of California, San Diego, 3 May 2021.

8. Maloney, K. N. "The curious case of *Sarcophyton glaucum*: Capricious natural products chemist or victim of mistaken identity?" PURE Lunch & Learn Seminar organized by the UCSD Office of Undergraduate Research. 30 June 2020.

9. Maloney, K. N. "Progress toward a Tiny Earth Chemistry course." Oral presentation at the TE2020: Tiny Earth Virtual Symposium. 17 June 2020.

10. Maloney, K. N. "Defending the grapevines & citrus trees: Finding new, natural product inhibitors of Pierce's disease and citrus greening from endophytic bacteria and fungi." Guest Lecture in AP Biology, La Jolla Country Day School, San Diego, 27 August 2020.

11. Maloney, K. N.; Botts, R. T.; Davis, T. S.*; Okada, B. K.*; Maloney, E. M.*; Leber, C. A.; Alvarado, O.*; Brayton, C.*; Caraballo, M.; Chari, J. V.*; Chicoine, B.*; Crompton, J. C.*; Davis, S. R.*; Gromek, S. M.; Kurnianda, V.; Quach, K.*; Samples, R. M.; Shieh, V.*; Sultana, C. M.*; Tanaka, J.; Dorrestein, P. C.; Balunas, M. J.; McFadden, C. S. "Cryptic species account for the seemingly idiosyncratic secondary metabolism of *Sarcophyton glaucum* specimens collected in Palau." Gordon Research Conference in Marine Natural Products. Ventura, 26 February, 2020.

12. Maloney, K. N. "Relating chemical differences with cryptic species membership in the soft coral *Sarcophyton glaucum*, and What it's like to teach and do research at a Primarily Undergraduate Institution." Guest Lecture in SIO242: Marine Biotechnology, University of California, San Diego, 30 January 2020.

13. Maloney, K. N. "Safeguarding the citrus: Natural product inhibitors of huanglongbing from endophytic bacteria and fungi." Invited seminar at California State University, San Marcos, 24 October 2019.

14. Maloney, K. N. "Defending the grapevines & citrus trees: Finding new, natural product inhibitors of Pierce's disease and citrus greening from endophytic bacteria and fungi" Guest lecture in A. P. Biology class at La Jolla Country Day School. San Diego, 27 A

15. Maloney, K. N. "Lessons from the S-STEM CS Program at PLNU." Invited oral presentation at the 223rd 2YC3 Conference. San Diego, 23 August 2019.

16. Brandenburg, C. A.*; Lockner, J. W.; Maloney, K. N.; Castro, C.; Blacutt, A.; Roper, M. C.; Rolshausen, P. "Toward the synthesis of radicinin, an inhibitor of Pierce's disease and citrus greening disease." 257th National Meeting, American Chemical Society. Orlando, 31 March 2019.

17. Berry, V. D.*; Cordoza, J. L.*; Meloch, J. J.*; Blacutt, A.; Roper, M. C.; Rolshausen, P.; Maloney, K. N. "Bioassay-guided isolation of fungal natural products for fighting citrus greening disease." 257th National Meeting, American Chemical Society. Orlando, 31 March 2019.

18. Lozano Salazar, L.*; Cordoza, J. L.*; Rolshausen, P.; Roper, M. C.; Maloney, K. N. "Isolation and formulation of radicinin as a microbial biopesticide against Pierce's Disease." 257th National Meeting, American Chemical Society. Orlando, 31 March 2019. *(Won 1st place in AGFD Undergraduate Poster Competition.)*

19. Maloney, K. N. "The curious case of *Sarcophyton glaucum*: Capricious natural products chemist or victim of mistaken identity?" Seminar presented to the Natural Product Affinity Group (NPAG) at Scripps Institution of Oceanography. La Jolla, 13 July 2018.

20. Davis, S.*; Thompson, S.*; Berry, V.*; Brandenburg, C.*; Rolshausen, P. E.; Roper, M. C.; Maloney, K. N. "Isolation and structure elucidation of alteichin, a fungal natural product that inhibits *Xylella fastidiosa*, the bacterium that causes Pierce's Disease." 255th National Meeting, American Chemical Society. New Orleans, 19 March 2018.

21. Maloney, K. N. "Defending the grapevines: Natural product inhibitors of Pierce's Disease from endophytic fungi." Symposium on Organic Synthesis and Chemical Biology at the University of San Diego. San Diego, 2 May 2017.

22. Maloney, K. N. "Hands-on NMR experience without the NMR: Using MestreNova to teach an undergraduate Organic Structure Elucidation course without an on-site high field NMR." 253rd National Meeting, American Chemical Society. San Francisco, 2 April 2017.

23. Papineau, M.*; D'Elia, L.*; Rolshausen, P. E.; Roper, M. C.; Maloney, K. N. "Bioassay-guided isolation and structure elucidation of a natural product inhibitor of *Xylella fastidiosa* from the endophytic fungus *Ulocladium* sp." 253rd National Meeting, American Chemical Society. San Francisco, 3 April 2017.

24. Maloney, E. M.*; Chari, J.*; Botts, R.; Davis, T. S.*; Alvarado, O. A.*; Chicoine, B. J. A.*; Brayton, C.*; McFadden, C. S.; Maloney, K. N. "Evaluating the relationship between chemical profiles and cryptic species of *Sarcophyton* soft corals in Palau using both supervised and unsupervised statistical learning." 253rd National Meeting, American Chemical Society. San Francisco, 3 April 2017.

25. Maloney, K. N. "The curious case of *Sarcophyton glaucum*: Capricious natural products chemist or victim of mistaken identity?" Portland Section Meeting, American Chemical Society. Portland, 1 December 2016.

26. Papineau, M.*; D'Elia, L.*; Rolshausen, P. E.; Roper, M. C.; Maloney, K. N. "Bioassay-guided isolation of secondary metabolite inhibitors of *Xylella fastidiosa* produced by endophytic fungi." 251st National Meeting, American Chemical Society. San Diego, 15 March 2016.

27. Semmler, L.*; Sawada, J.*; Steinhaus, M.*; Reader, J.*; Rolshausen, P. E.; Roper, C.; Rapicavoli, J.; Maloney, K. N. "Synthesis of a water-soluble radicinin derivative for use as an antibacterial agent in grapevines." 251st National Meeting, American Chemical Society. San Diego, 14 March 2016.

28. Maloney, K. N. "Saving the wine grapes: Radicinin from the endophyte *Cochliobolus* sp. inhibits *Xylella fastidiosa*, the causal agent of Pierce's Disease of grapevine," Seminar presented to the Natural Product Affinity Group (NPAG) at Scripps Institution of Oceanography. La Jolla, 8 May 2015.

29. Steinhaus, M.*; Reader, J.*; Rouffet, M.; Aldrich, T.*; Rolshausen, P.; Roper, M.; Maloney, K. "Synthesis of derivatives of the natural product radicinin that inhibit the plant pathogen *Xylella fastidiosa*," 249th National Meeting, American Chemical Society. Denver, 24 March 2015.

30. Davis, T. S.*; Alvarado, O. A.*; Chicoine, B. J. A.*; Okada, B. K.*; Quach, K.*; Brayton, C.*; Maloney, K. N.; McFadden, C. S. "Analysis of secondary metabolites from cryptic species of *Sarcophyton glaucum* suggests a genetic explanation for previously observed variation," 247th National Meeting, American Chemical Society. Dallas, 16 March 2014.

31. Yang, J-i.; Roper, C.; Borneman, J.; Gloer, J.; Maloney, K.; Rolshausen, P. "Characterization of the fungal microbial community inhabiting grapevine: Identification of a biocontrol agent for Pierce's Disease." 113th General Meeting, American Society of Microbiology. Denver, 21 May 2013.

32. Davis, T.*; Alvarado, O.*; Okada, B.*; Quach, K.*; Shieh, V.*; Brayton, C.*; Maloney, K. N.; McFadden, C. S. "Analysis of secondary metabolite chemistry among the soft coral *Sarcophyton* species *glaucum, gemmatum,* and *trocheliophorum*." 38th West Coast Biological Sciences Undergraduate Research Conference. San Diego, 20 April 2013.

33. Aldrich T.*; Maloney, K. N.; Rolshausen, P. E.; Roper, C. "Synthesis and biological evaluation of radicinin derivatives against *Xylella fastidiosa*, a bacterial pathogen of grapevines." 243rd National Meeting, American Chemical Society. San Diego, 26 March 2012.

34. Chan A.*; Brown A.*; Roy J.*; McFadden C. S.; Maloney K. N. "The relative role of physical versus chemical defenses in soft corals of the genus *Sinularia*." 243rd National Meeting, American Chemical Society. San Diego, 26 March 2012.

35. Okada, B.*; Quach, K.*; Brayton, C.*; Shieh, V.*; McFadden, C. S.; Maloney, K. N. "Identification of cryptic species accounts for the seemingly idiosyncratic secondary metabolism of *Sarcophyton glaucum* specimens collected in Palau." 243rd National Meeting, American Chemical Society. San Diego, 26 March 2012.

36. Fielder, B. C.*; Fung, M. H.*; Olmsted, C. M.*; Maloney, K. N. "Isolation and characterization of antibiotic depsipeptides produced by endophytic fungi from *Ribes viburnifolium*." 52nd Annual Meeting, American Society of Pharmacognosy. San Diego, 1 August 2011.

37. Aldrich T.*; Rolshausen, P. E.; Roper, C.; Maloney, K. N. "Discovery of natural product inhibitors of *Xylella fastidiosa* from endophytic fungi." 52nd Annual Meeting, American Society of Pharmacognosy. San Diego, 1 August 2011.

38. Quach, K.*; Okada, B.*; Brayton, C.*; Shieh, V.*; McFadden, C. S.; Maloney, K. N. "Variation in secondary metabolite chemistry among cryptic species of the soft coral *Sarcophyton glaucum*." 52nd Annual Meeting, American Society of Pharmacognosy. San Diego, 1 August 2011.

39. Aldrich T.*; Rolshausen, P. E.; Roper, C.; Maloney, K. N. "Progress toward the discovery of natural product inhibitors of *Xylella fastidiosa* from endophytic fungi." 241st National Meeting, American Chemical Society. Anaheim, 27 March 2011.

40. Roy, J. S.*; Brown, A.*; McFadden, C. S.; Maloney, K. N. "Trade-offs between the physical and chemical defenses of *Sinularia* soft corals." 241st National Meeting, American Chemical Society. Anaheim, 28 March 2011.

41. Fung, M. H.*; Olmsted, C. M.*; Maloney, K. N. "Progress toward the isolation and structure elucidation of antibiotic compounds produced by an endophytic fungus from *Ribes viburnifolium*. 241st National Meeting, American Chemical Society. Anaheim, 28 March 2011.

42. Maloney, K. N. "Mother Nature's medicine cabinet: Discovering new drugs at the bottom of the ocean, in the tallest trees of the rainforest, and everywhere in between." Keynote Speech at BE WiSE Overnight at the Sea Life Aquarium. Carlsbad, 1 May 2009; invited back for Keynote Speech at BE WiSE Overnight at the Birch Aquarium. La Jolla, 30 April 2010.

43. Maloney, K. N.; Nam, S.-J.; Gaudêncio, S.; MacMillan, J. B.; Sturdy, M.; Pegan, S.; Mesecar, A.; Choi, Y.; van Breemen, R.; Fenical, W.; Pezzuto, J. "X-ray crystallography- and mass spectrometry-based screens of natural product mixtures reveal potent and structurally novel quinone reductase 2 inhibitors from marine sediment bacteria." 100th Annual Meeting, American Association for Cancer Research. Denver, 20 April 2009.

44. Maloney, K. N.; MacMillan, J.; Choi, Y.; van Breemen, R.; Kauffman, C. A.; Fenical, W. "Lodopyridone, a selective ligand for quinone reductase 2 from a marine-derived *Saccharomonospora* sp." 42nd Western Regional Meeting, American Chemical Society. Las Vegas, 26 September 2008.

45. Maloney, K. N.; MacMillan, J. B.; Kauffman, C. A.; Jensen, P. R.; Fenical, W. "The lodopyridones: Modified peptides from a marine-derived *Saccharomonospora* sp." 7th Joint Meeting of AFERP, ASP, GA, PSE & SIF. Athens, 7 August 2008.

46. Maloney, K. N. "New medicines from marine bacteria." Saturday Science Club for Girls at the Reuben H. Fleet Science Center. San Diego, 13 October 2007.

47. Maloney, K. N.; Fenical, W.; Clardy, J. "A natural products research program for implementation at a primarily undergraduate institution." 234th National Meeting, American Chemical Society. Boston, 20 August 2007.

48. Maloney, K. N.; Eggert, U.; Mitchison, T. J.; Smith, P. L.; Clapham, D. E.; Bayliss, P.; Roberts, T.; Clardy, J. "Academic screens of plant extracts yield new structures and new probes for biology." 46th Annual Meeting, American Society of Pharmacognosy. Corvallis, July 2005.

49. Maloney, K. N.; Schroeder, F. C.; Fujita, M.; Eggert, U.; Shaw, J.; Clardy, J. "High throughput screening of natural product extracts for cancer drug discovery." Symposium Celebrating Diversity in Organic Chemistry, Pfizer Global Research & Development. Groton, 17 September 2004.

50. Maloney, K. N.; Sasaki, T. "Synthesis of a Multivalent Carbohydrate Ligand." 219th National Meeting, American Chemical Society. San Francisco, 26 March 2000.

51. Maloney, K. N.; Swank, D. "Crystallographic Structure Determination of a $CuBr_2$•pyridine Complex." Summer Research Symposium, MJ Murdock Charitable Trust. Nampa, 7 November 1998.

EXTERNAL GRANTS

USDA Citrus Disease Research and Extension (CDRE) Program, co-investigator 2017-2022
(with PD Caroline Roper and co-Is Robert Turgeon, Georgios Vidalakis, Philippe Rolshausen, Greg McCollum, David Jassby, Pieter Dorrestein, James Borneman and Jonathan Kaplan)
Deployment of a Spectrum of Bactericides to Cure and Prophylactically Treat Citrus Huanglongbing.
$5,112,000 ($131,207 for my part)

CDFA UC Pierce's Disease Research Grant, co-PI 2016-2017
(with PI Philippe Rolshausen and co-PIs Caroline Roper and James Borneman, UC Riverside)
Greenhouse evaluation of grapevine microbial endophytes and fungal natural products for control of Pierce's Disease.
$94,402 ($17,759 for my part)

NSF Scholarships in Science Technology Engineering and Math (S-STEM), PI 2015-2020
(with co-PIs Maria Zack, Dawne M. Page, Lorinda Carter, and Paul Schmelzenbach)
Scholarships to Support STEM majors Computational Sciences Minors
$576,750

CDFA UC Pierce's Disease Research Grant, co-PI 2014-2016
(with PI Phlippe Rolshausen and co-PI Caroline Roper, UC Riverside)
Greenhouse Evaluation of Grapevine Fungal Endophytes and Fungal Natural Products Antagonistic to *Xylella fastidiosa* for Control of Pierce's Disease.
$175,007 ($31,990 for my part)

Research Corporation Multiple Investigator-Cottrell College Science Awards, PI 2010-2012
(with Catherine McFadden, HMC Dept of Biology)
Variation in secondary metabolite chemistry among cryptic species of the soft coral Sarcophyton, a source of bioactive cembranoids
$75,000

American Society of Pharmacognosy Research Starter Grant, PI 2010
Discovery of natural product inhibitors of *Xylella fastidiosa* from endophytic fungi
$5,000

National Science Foundation Major Research Instrumentation, co-PI 2009
MRI: Acquisition of a Liquid Chromatograph-Ion Trap Mass Spectrometer for Undergraduate Research and Research Training
$234,310

HONORS AND AWARDS

Excellence in Teaching Award, PLNU	2021
Cancer Therapeutics Training Fellowship, UCSD Moores Cancer Center	2007-2009
Certificate of Distinction in Teaching, Harvard University	2006, 2005
American Chemical Society Travel Award	2005
American Society of Pharmacognosy Lynn Brady Travel Award	2005
NSF Graduate Research Fellowship	2001-2004

Herman & Margaret Sokol Fellowship	2001
Cornell University Graduate Fellowship	2000-2001
American Institute of Chemists Award (top chemistry senior)	2000
NSF REU Fellowship, University of Washington	1999
Barry Goldwater Scholarship	1998-2000
Olsen Fellowship for Undergraduate Research, PLU Department of Chemistry	1997-1998
Robert C. Byrd Scholarship	1996-2000
PLU Academic Scholarship	1996-2000

SERVICE

2024-2026	ACS National Award Selection Committee (2025-2027 award cycle)
2024	Past Chair, ACS Division of Organic Chemistry
2023-	Academic Policies Committee, PLNU
2023-2024	Audrey S. Bingel Fellowship Committee, American Society of Pharmacognosy
2023-2024	ACS Publications Awards Committees (member of three confidential committees)
2023	Chair, ACS Division of Organic Chemistry
2022	Chair-Elect, ACS Division of Organic Chemistry
2022, 2023	National Organic Symposium Organizing Committee
2021-2023	ACS National Award Selection Committee (2022-2024 award cycle; 2023 Chair)
2020-	Tiny Earth Curriculum Committee *(Chair, Tiny Earth Chemistry Course Working Group)*
2018-2022	Councilor, ACS Division of Organic Chemistry Executive Committee *(member of Awards, Membership, and Nomination Committees)*
2022	Expert Reviewer: NSF Division of Ocean Sciences
2021	Rank & Tenure Committee, PLNU *(one semester leave replacement)*
2017-2019	Diversity Committee, PLNU *(2018-19 Chair)*
2013-2019	Pre-Health Committee, PLNU *(conduct sophomore and junior pre-med interviews; provide feedback on application materials)*
2013-	Goldwater Faculty Representative, PLNU *(assist PLNU students applying for the Barry Goldwater Scholarship and coordinate final application submission)*
2012-	Honors Project Committees

- 2022-23, Andrew Kamemoto
- 2022-23, Amanda Koontz
- 2021-22, Olivia Owen
- 2021-22, Heather Rainbow
- 2021-22, Mahima Dixit (advisor Dianne Anderson)
- 2018-19, Jennifer Cordoza
- 2018-19, Connor Brandenburg (advisor Jonathan Lockner)
- 2017-18, Sydney Davis
- 2016-17, Morgan Papineau
- 2015-16, Marcela Bucardo (advisor Dale Shellhamer)
- 2015-16, Lindsay Semmler
- 2015-16, Connor Voss (advisor Matthieu Rouffet)
- 2014-15, Hannah Quinn (advisor Mike McConnell)
- 2013-14, Taylor Davis
- 2013-14, William Frye (advisor David Cummings)
- 2012-13, Zachary Sedillo and Jack Rusing (advisor Mike Dorrell)

2008-	Manuscript Reviewer: *ACS Omega; Journal of Natural Products*; *Marine Drugs; Organic Letters*; *Phytochemistry; Metabolites; Journal of Undergraduate Chemical Research; Scientific Reports*
2018, 2019	Expert Reviewer: NSF S-STEM program, Citrus Research Board
2015-2017	Alternate Councilor, ACS Division of Organic Chemistry Executive Committee *(member of Awards, Membership, and Nomination Committees)*
2015-2016	2016 Organic Chemistry Examination Committee, ACS Division of Chemical Education Examinations Institute *(co-wrote 2016 ACS Organic Chemistry examination)*
2015-2016	Faculty Development Committee, PLNU *(one year appointment)*
2015	NSF Panelist (S-STEM program)
2015	Expert Reviewer: ACS Petroleum Research Fund Undergraduate New Investigator Research Grant program; North Carolina Biotechnology Center Biotechnology Research Grant program
2015	Enrollment Management Committee, PLNU *(one year appointment)*
2015	Commencement Honor Guard, PLNU
2015	Student Success Collaborative (SSC) Department Representative, PLNU
2013-2014	Faculty Status Committee, PLNU *(elected for one-year position)*
2012-2014	Member-At-Large, ACS Division of Organic Chemistry Executive Committee *(Chaired Membership Committee; member of Graduate Fellowship, Membership, and Communications Committees; headed up Social Media initiative)*
2013	Faculty Mentor, PLNU First Year Experience
2010-2011	Academic Affairs Committee, Harvey Mudd College
2010-2011	Assessment Committee, Harvey Mudd College
2010-2011	Seminar Coordinator, HMC Department of Chemistry
2008-2011	Workshop Leader, WEST Conference, Harvey Mudd College
2010	NSF Panelist (MRI program)
2009, 2010	Keynote Speaker, BE WiSE Overnight
2006-2009	Program Co-Chair, San Diego Expanding Your Horizons Conference
2009	Judge (AWIS), Greater San Diego Science and Engineering Fair
2007, 2008	Assistant Event Captain, San Diego Science Olympiad
2007, 2008	Volunteer, National Ocean Sciences Bowl
2007	Presenter, Reuben H. Fleet Saturday Science Club for Girls
2004-2005	Mentor, Boston Latin School Science Mentor Program
2003-2005	Emergency Department Volunteer, Brigham & Women's Hospital
2001, 2002	Transportation Chair, Cornell Expanding Your Horizons Conference
2000	Session Leader, Cornell University Materials Science Workshop
1998	Volunteer Tutor, Keithley Middle School 'Extra Innings' Program

PROFESSIONAL MEMBERSHIPS

American Chemical Society (2023 Chair, Division of Organic Chemistry, member of ORGN, CHED, and AGFD technical divisions)
American Society of Pharmacognosy (member of Bingel Award Committee)
Council on Undergraduate Research