

David H. Peyton, Ph.D.
Emeritus Professor of Chemistry

February 2025

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Education

Ph.D. 1983 Chemistry, University of California, Santa Barbara, CA
 MA 1980 Chemistry, University of California, Santa Barbara, CA
 BS 1977 Chemistry, Abilene Christian University, Abilene, TX

Employment & Related

Emeritus Professor of Chemistry, Portland State University, 2022 – continuing
 Advisor to AliquantumRX (aliquantumrx.com), 2022 – continuing
 Founder & Chief Scientific Officer, DesignMedix, Portland OR, 2006 - 2020
 Visiting Professor, University of Tsukuba, Tsukuba, Japan, 2004
 Visiting Scholar, University of Cambridge, U.K. (sabbatical year), 2000
 Professor of Chemistry, Portland State University, 1996 - 2022
 Head of Chemistry, Portland State University, 1994 - 1998
 Associate Professor of Chemistry, Portland State University, 1991 - 1998
 Assistant Professor of Chemistry, Portland State University, 1987 - 1991
 Postdoctoral Research Fellow, University of California at Davis, 1985 - 1987
 Postdoctoral Research Fellow, Cornell University Medical College, 1983 - 1985
 Assistant Professor of Chemistry, Westmont College, Santa Barbara, California, 1982 - 1983

Dissertation: (Advisor: J.T.C. Gerig, U. California at Santa Barbara)

Pt I: *Rotations about the Carbamoyl CN Bond of Micellar and Non-Micellar Alkali Sarcosinates*
 Pt II: *Chemical Modification of Cytochrome c by Immobilization*

SCHOLARSHIP

Research Interest Summary: Public Health.

I led the project to overcome the effects of drug resistance, particularly in malaria. This was a shift from understanding fundamental biomolecular interactions. I co-founded DesignMedix, Inc. in 2008 to help discover & develop the drugs to overcome resistance. We brought our lead drug DM1157 into its Phase 1, first in-human Clinical Trial, sponsored by the NIH. Unfortunately, the drug did not make it beyond Phase-1 because of significant “adverse events” at the highest doses.

In another major project funded by the NIH, carried out with the Strongin and Pankow laboratories at PSU, we studied aerosols from electronic cigarettes, as well as smoke from cigarettes & other tobacco products. This work brings together aspects of the physiology of nicotine addiction with its physical state, as well as the larger aspects of public health priorities and impact on policy.

Publications (all peer-reviewed)

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2. Munger, K. R.; Anreise, K. M.; Jensen, R. P.; Peyton, D. H.; Strongin, R. M. Mechanistic Rationale for Ketene Formation during Dabbing and Vaping. *JACS Au* **2024**, 4 (6), 2403-2410. DOI: 10.1021/jacsau.4c00436.
3. Strongin, R. M.; Sharma, E.; Erythropel, H. C.; Kassem, N. O. F.; Noel, A.; Peyton, D. H.; Rahman, I. Chemical and physiological interactions between e-liquid constituents: cause for concern? *Tob Control* **2024**. DOI: 10.1136/tc-2023-058546.
4. Kumar, A.; Li, Y.; Dodean, R. A.; Roth, A.; Caridha, D.; Madejczyk, M. S.; Jin, X.; Dennis, W. E.; Lee, P. J.; Pybus, B. S.; et al. Tambjamines as Fast-Acting Multistage Antimalarials. *ACS Infect Dis* **2024**, 10 (12), 4291-4300. DOI: 10.1021/acsinfecdis.4c00659.
5. Kerber, P. J.; Luo, W.; McWhirter, K. J.; Powers, M.; Peyton, D. H. Effects of E-Cigarette Flavor Enhancing Capsules on Inhalable Aerosols. *Chem Res Toxicol* **2023**, 36 (1), 8–13. DOI: 10.1021/acs.chemrestox.2c00273
6. Kerber, P. J.; Peyton, D. H. Kinetics of Aldehyde Flavorant-Acetal Formation in E-Liquids with Different E-Cigarette Solvents and Common Additives Studied by ¹H NMR Spectroscopy. *Chem Res Toxicol* **2022**, 35 (8), 1410-1417. DOI: 10.1021/acs.chemrestox.2c00159.
7. Kerber, P. J.; Duell, A. K.; Powers, M.; Strongin, R. M.; Peyton, D. H. Effects of Common e-Liquid Flavorants and Added Nicotine on Toxicant Formation during Vaping Analyzed by ¹H NMR Spectroscopy. *Chem Res Toxicol* **2022**, 35 (7), 1267-1276. DOI: 10.1021/acs.chemrestox.2c00110.
8. Balevic, S. J.; Raja, S. M.; Randell, R.; Deye, G. A.; Conrad, T.; Nakamura, A.; Peyton, D. H.; Shotwell, S.; Liebman, K.; Cohen-Wolkowicz, M.; et al. Adverse Reactions in a Phase 1 Trial of the Anti-Malarial DM1157: An Example of Pharmacokinetic Modeling and Simulation Guiding Clinical Trial Decisions. *Infect Dis Ther* **2022**, 11 (2), 841-852. DOI: 10.1007/s40121-022-00605-z From NLM PubMed-not-MEDLINE.
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J.X. Kelly, M.V. Ignatuschenko, R.W. Winter, H.G. Bouwer, D.H. Peyton, D.J. Hinrichs, & M. Riscoe (2003) *Mol. Biochem. Parasitol.*, **126**, 43-49
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Patents

- Quinoline Derivatives and Uses Thereof, U.S. Patent Number 7968539
- Quinoline Derivatives and Uses Thereof, U.S. Patent Number 8524739
- Quinoline Derivatives and Compositions Thereof, Indian Patent Number 261831
- Modified Chloroquinines with Single Ring Moiety or Fused Ring Moiety U.S. Patent 8658648
- Modified Chloroquinines with Branched Moiety (pending)
- Modified Fluoroquinoline Compounds and Methods of using the Same
(*Actually 2 patents of the same name with slight differences for strategic reasons.*)

HONORS, GRANTS, & FELLOWSHIPS

Awards from Portland State University

- 2021 Branford Millar Price Award for Faculty Excellence (Portland State University's highest faculty honor.
- 2021 Graduate Mentoring Excellence Award
- 2013 2013 John Eliot Allen Teaching Award for the Chemistry Department
- 2011 Sigma Xi (Columbia-Willamette), Outstanding Scientific Researcher Award (Chemistry)

Current Support (only external listed)

- Murdock Charitable Trust

Purchase of a 600 MHz NMR Spectrometer with Cryoprobe capability. This project is to upgrade our nuclear magnetic resonance (NMR) capabilities at PSU to serve ongoing and future research needs of the University. This is a \$500K award, pending PSU has the rest of the funds needed to finish the project. Thus, I will be heading-up the efforts for a NSF:MRI award the next cycle.

Recently completed (external listed only)

- NIH/ES: **R01ES025257**

07/01/2015 – 05/31/2021

Toxicant Production and Mitigation in the Electronic-Cigarette Reaction Vessel. This project is relevant to public health because it will enhance understanding of the currently unclear health effects of electronic cigarettes. A study of the origin and levels of chemical toxins and particulate matter is planned. This proposal is relevant to NIH's mission because it addresses the critical need for scientific data that can inform the regulation of electronic cigarettes.

R.M. Strongin is PI; role: Co-I

- NIH/NIAID: **R42AI094959** (Phase 2)

04/15/2014 – 03/31/2019

Preclinical development of a novel small molecule malaria drug that overcomes drug resistance. This project (Phase 2 STTR ATP-mechanism grant) is to take the final preclinical steps toward approval and commercialization of the 'reversed-chloroquines' as antimalarial agents.

Role: PI, at Portland State University & DesignMedix

TEACHING, MENTORING & CURRICULAR ACHIEVEMENTS

My courses ranged from General Chemistry (1st year) through Ph.D. special topics. Related to these, I have developed nuclear magnetic resonance spectroscopy courses for advanced undergraduate and graduate students, including Introductory, Advanced, Practical, and Biological NMR Spectroscopy. Generally, these have been taught from advanced texts or (more often) the primary literature. I have also developed, taught, and coordinated (with OHSU) courses in Biophysical Chemistry for several terms, as well as teaching special topics sections at OHSU having to do with NMR spectroscopy.

Graduate students supervised

M.S. 2022 Paul Kerber

NMR Analyses of Flavored E-cigarette Liquids Before and After Aerosolization
NMR Facility Technician, Univ Wisconsin Medical School

Ph.D. 2019 Anna K. Duell

Analysis of E-cigarette Liquids and Aerosols by NMR Spectroscopy: Compositions, Boiling Points, and Degradation Profiles

Postdoctoral researcher in the Peyton Lab at Portland State University & NMR Facility Coordinator

Ph.D. 2016 Robert Paul Jensen

Thermal Decomposition of Electronic Cigarette Liquids

Worked at Western Washington Univ., and Reed College as Chemical Instrumentation Specialist, and now is Head Chemist at a local chemical synthesis company.

M.S. 2015 Kevin Murphy

Design and Synthesis of Novel Chloroquine-based Antimalarials

Earned his Ph.D. at University of GA in computational chemistry, and is now Assistant Professor of Chemistry at Valley City State University (North Dakota).

M.S. 2015 Elias Sibhatu Tesfaselassie

Antimalarial Drug Discovery using Triazoles to Overcome Chloroquine Resistance

Has become a pharmacist.

M.S. 2014 Kelsie Kendrick

Mimicking Metabolism of a Reversed Chloroquine Antimalarial

Obtained her teaching credentials and teaches science in a Washington state high school.

Ph.D. 2014 Cheryl Hodson

The Antimalarial Activity of PL74: A Pyridine-Based Antimalarial Compound

Professor of Chemistry, PCC (Portland).

Ph.D. 2014 Katherine Liebman

New 4-aminoquinoline compounds to reverse drug resistance in *P. falciparum* malaria, and a survey of early antimalarial treatments

Senior Scientist & Director of Regulatory (DesignMedix), Portland, then researcher at VA and OHSU.

Ph.D. 2010 Bornface Gunsaru

Simplified Reversed Chloroquines to Overcome Malaria Resistance to Quinoline-based Drugs

Assistant Professor of Chemistry, Missouri Southern State Univ.

Ph.D. 2008 Steven Burgess

Design and Synthesis of Antimalarial Drugs Based on a Chloroquine Scaffold

Spent several years as Senior Scientist at DesignMedix in Portland, and now a Patent Agent at Klarquist Sparkman, LLP, in Portland.

M.S. 2006 Simeon Andrews

Design, Synthesis, and *in vitro* Effectiveness of Reversed Chloroquines, a Novel Class of Antimalarial Drugs; *Ph.D. (Chemistry) Univ. of WA; now Teaching Specialist at Weill Cornell Medical-Qatar.*

Ph.D. 2005 Douglas Preston

Modular Synthesis of Probe Components and Development of a Computational Model for Carbonyl Hydrogen Abstractions, Peroxide Degradation, and Peroxide Acidity

This student was taken on after Professor Bryant Gilbert left PSU.

Ph.D. 2003 John Cramer

Toward an asymmetric synthesis of 5-fluoroepinephrine and epinephrine for hemodynamic support during systemic inflammatory response syndrome/septic shock.

This student was taken on after Professor Bryant Gilbert left PSU. Went to NIH main campus as researcher.

Ph.D. 2002 Jane Kelly

Investigation of the 3,6-bis- ω -diethylaminoalkoxyxanthone Series as Antimalarial and Antileishmanial Agents; *Adjunct Professor (Chemistry) at PSU, Portland VA, and OHSU.*

MS 2000 Run Zhang

Synthesis and Comparison of Analogous Polymerized and Nonpolymerized Amphiphilic Systems Encapsulating Heme Complexes; *became an engineer (degree at PSU).*

MS 2000 Brenda Schmidt

^1H NMR Studies of Mixed-Spin Hemoglobins

Obtained M.D., surgery

Ph.D. 1999 Ayna Alfadhli

Structural Studies of Neuropeptides

Research Assistant Professor, OHSU.

MS 1998 Thomas Ritter

Paramagnetic Nuclear Magnetic Resonance (NMR) Studies of the Calcium Binding Site of α -Lactalbumin; *Ph.D. at Scripps, then became a corporate attorney in Europe.*

MS 1998 Jane Kelly

Xanthenes as Antimalarial Agents: Binding Interactions Between Heme Analogues and Xanthenes

Ph.D. at PSU (see above).

Ph.D. 1998 Ying Luo

Two-Dimensional Nuclear Magnetic Resonance (NMR) Spectroscopic Studies of Paramagnetic Myoglobin Complexes; *Instrumentation Specialist at Amgen (CA).*

Ph.D. 1996 Clary Clish

Structural Study of the HIV-I Capsid Protein Major Homology Region; *Senior Director of the Metabolomics Platform, Institute Scientist at the Broad Institute.*

Ph.D. 1996 Hong Moulton

Structure and Specificity of the Binding Site of the Anti-phenylphosphocholine Antibody M3C65: Interactions with Haptens and Hapten-carrier Conjugates
Associate Professor (Senior Research), Oregon State U. (Vet).

MS 1996 Jian Yao

NMR Study of Neurophysin Dimer Dissociation by Cosolvents

MS 1996 Ying Luo

Heme Proton Resonance Assignments and Kinetics Study in High-spin and Mixed-spin Metmyoglobin Complexes by Chemical Exchange NMR Spectroscopy; *Ph.D. at PSU (see above).*

Ph.D. 1993 Ruba S. Deeb

Nuclear Magnetic Resonance Investigation of the Interaction of Heme Binding Proteins with Sn^{IV} protoporphyrin IX and Heme: Structure and Conformational Changes of Myoglobin and Hemopexin; *Director of Biomedical Research Development, Associate Professor of Biomedical Engineering & Technology Management, University of Bridgeport (after several years as academic at Weill Cornell U. Medical College).*

Ph.D. 1993 Elisar J. Barbar

Assignments and Structural Analysis of Neurophysin as an Antigen Model
Nuclear Magnetic Resonance Study of Antigen-Antibody Complexes, Including Sequence Specific Assignments; *Professor/Department Head, & Faculty Director of the OSU Biomolecular NMR Facility, Oregon State U.*

Ph.D. 1993 Sidney Yee

Solution-State Proton Nuclear Magnetic Resonance (NMR) Spectroscopic Studies of the Active Site of Myoglobin in Various Ligated States: Models for Macromolecule-Substrate Binding and Advancement of Paramagnetic NMR Techniques; *CEO of Diagnostics Development (DxD) Hub and Senior Advisor at A*ccelerate (Singapore).*

MS 1992 Dietmar Leitner

Dynamic NMR Study of Bond Rotational Activation Parameters in Micelles
Ph.D. in Chemistry at Berlin; still a researcher there.

COMMUNITY OUTREACH

I was a TEDx:Portland presenter on 27 April, 2019.

Presentations (Very incomplete list; also excluding local College/University talks)

“Reversed-chloroquine drug development”

October 25, 2019 Departmental Seminar at University of Nebraska Medical School

“DesignMedix, PSU, and Me”

University of Oregon inaugural talk for their National Academy of Inventors (NAI) Chapter
November 16, 2018 (Eugene, OR)

- “Ex vivo studies of a ‘reversed chloroquine’ candidate against field isolates from Uganda”
November 13-17, 2016 The American Society of Tropical Medicine & Hygiene
Atlanta, GA (poster)
- “Effect of the quinoline ring substitution pattern on the activity of RCQ compounds”
October 25-29, 2015 The American Society of Tropical Medicine & Hygiene
Philadelphia, PA (poster)
- “Asymmetrical bis-quinolines as chemotherapeutic agents for malaria”
October 25-29, 2015 The American Society of Tropical Medicine & Hygiene
Philadelphia, PA (poster)
- “Overcoming Drug Resistance in Malaria By Inhibiting Efflux”
June 29-July 1, 2015 Beating Malaria Conference, London U.K., (oral presentation)
- “Progress in the Preclinical Development of Antimalarial DM1157”
November 2-6, 2014 The American Society of Tropical Medicine & Hygiene
New Orleans, LA (poster)
- “Late preclinical developmental work on PL69/DM1157”
September 22-24, 2014 Challenges in Malaria Research, Oxford, U.K. (poster)
- “Selection of Cytotoxic Resistance to a Reversed Chloroquine Compound in *Plasmodium falciparum*”
December 13-16, 2013 The American Society of Tropical Medicine & Hygiene
Washington, DC (poster)
- “Development of Second-Generation Reversed Chloroquine Drugs”
December 4-8, 2011 The American Society of Tropical Medicine & Hygiene
Philadelphia, PA (poster)
- “Early-stage preclinical development of Reversed Chloroquine (RCQ) hybrid drugs”
December 4-8, 2011 The American Society of Tropical Medicine & Hygiene
Philadelphia, PA (poster)
- “Overcoming drug resistance in malaria”
September 16, 2011, Institut Pasteur, Montevideo, Uruguay
- “Malaria drug development to overcome resistance using Reversed Chloroquine hybrid drugs”
June 1-2, 2011 RESEARCH ADVANCES IN MALARIA: Resistance to Existing
Drugs and New Drug Development (Abstract submitted), Tres Cantos, Spain
- “NMR-based metabolomic analysis of chloroquine-sensitive and chloroquine-resistant
malaria growth”
November 9, 2010, Society of Environmental Toxicology and Chemistry (SETAC)
National meeting, Portland
- “Progress in the development of Reversed Chloroquine molecules as antimalarial therapy”
October 20-22, 2010, Parasite to Prevention: Advances in the understanding of malaria,
Heriot-Watt University, Edinburgh, UK (oral)
- “Modifying fluoroquinolones to overcome multi-drug resistance in methicillin-resistant
Staphylococcus aureus”
March 21, 2010, American Chemical Society Meeting, San Francisco (poster)
- “Modifications to the quinoline ring system of reversed chloroquinones to enhance activity against
chloroquine-resistant malaria”
March 24, 2010, American Chemical Society Meeting, San Francisco (poster)

- “Molecules Designed to Overcome Drug Resistance in Malaria”
February 11, 2010, Invited Lecture, La Trobe University
- “Molecules Designed to Overcome Drug Resistance in Malaria”
February 11, 2010, Invited Lecture, Australia National University, Canberra, Australia
- “Molecules Designed to Overcome Drug Resistance in Malaria”
February 24, 2010, Invited Lecture, Novartis Institute for Tropical Disease, Singapore
- “Initiating Preclinical Evaluations of Reversed Chloroquines” November 21, 2009, The American Society of Tropical Medicine & Hygiene, Washington DC (poster)
- “Trifluoromethyl Derivatives of Reversed Chloroquines have activity against *P. falciparum* malaria” November 19, 2009, The American Society of Tropical Medicine & Hygiene Washington DC (poster)
- “Reversed chloroquines: Molecules that overcome malaria's resistance to chloroquine”
March 25, 2009, American Chemical Society Meeting, Salt Lake City (poster)
- “Reversed Chloroquines: Remodeling Chloroquine to Combat Chloroquine-Resistant *Plasmodium falciparum* Malaria”
October 16, 2008, Modern Drug Discovery & Development, 4th Annual Summit, San Diego, CA (Poster)
- “Development of Reversed Chloroquines as Antimalarial Drugs: Efficacy in an animal model”
December 10, 2008, The American Society of Tropical Medicine & Hygiene, New Orleans (poster)
- “Remodeling Chloroquine to Combat Multidrug-Resistant Malaria”
February 11, 2008, Invited Lecture, Washington State University
- “Toward Optimization of ‘Reversed Chloroquines’: Improvements and new scaffolds”
November 7, 2007, The American Society of Tropical Medicine & Hygiene (oral)
- “Reversed Chloroquines: Remodeling Chloroquine to Combat Chloroquine-Resistant *Plasmodium falciparum* Malaria”
October 9 – 11, 2007, ACS Western Regional Meeting, San Diego (Poster)
- “Molecules Designed to Overcome the Resistance to CQ found in *P. falciparum* Malaria”
August 16, 2007, Invited lecture to Walter Reed (WRAIR), Washington DC
- “Antimalarial Agents Designed to Overcome Chloroquine Resistance”
June 19, 2007, Invited lecture to ACS (NW)/AAAS (Pacific Rim) conference; symposium on therapeutics for infectious diseases
- “Syntheses and Evaluations of Reversed Chloroquines”
November 13-5, 2006, The American Society of Tropical Medicine & Hygiene (poster)
- “Reversed Chloroquines: An update on molecules designed to subvert chloroquine resistance in *P. falciparum*”
November 13-5, 2006, The American Society of Tropical Medicine & Hygiene (poster)
- “Synthesis and Evaluation of Antimalarials Formed by Linking Chloroquine to Dibenzylamines”
December 12-4, 2005, The American Society of Tropical Medicine & Hygiene (poster)
- “Diphenylamino-modified Chloroquines That Are Effective Against Chloroquine Resistant Malaria” December 12-4, 2005, The American Society of Tropical Medicine & Hygiene (poster)

- “Reversed Chloroquines: Molecules designed to reverse the resistance to CQ found in *P. falciparum* malaria” December 13, 2005, The American Society of Tropical Medicine & Hygiene (lecture)
- “Collagen-like peptide stabilities”
March 11, 2004, University of Tsukuba, Japan
- “NMR Studies of Mixed-spin and High-spin metMb Complexes”
Experimental NMR Conference, Asilomar, 1996 (Poster)
- “Assigning Heme Protons of metMb Complexes by 2D Exchange Spectroscopy (EXSY)”
Experimental NMR Conference, Boston, 1995 (Poster)
- “Heme-Hemopexin by NMR”
Hemopexin-1994, Cornell University Medical College, New York City, 1994
- “Nuclear Magnetic Resonance Spectroscopic Investigation of Hemin-Hemopexin and a Model for this Complex, Metmyoglobin Imidazole”
Clinically Oriented Symposium on Porphyrins: Porphyrins and Hematoporphyrins, Göttingen, Germany, October 24, 1992 (Invited Lecture)

SERVICE

University committees:

- | | |
|---------|--|
| 2020/21 | University Biosafety Committee
PSU NMR Laboratory Director
Chemistry Department Promotion & Tenure Committee |
| 2019/20 | University Biosafety Committee (Chair)
PSU NMR Laboratory Director
Chemistry Executive Committee
SB1/SRTC Transition Committee
Chemistry Department Promotion & Tenure Committee (Chair) |
| 2018/19 | University Biosafety Committee
PSU NMR Laboratory Director
President’s Academic Advisory Council
I was on sabbatical leave from Dec 2017 – Dec 2018 |
| 2017/18 | University Biosafety Committee
PSU NMR Laboratory Director
I was on sabbatical leave from Dec 2017 – Dec 2018 |
| 2015/16 | University Faculty Development Committee (Chair)
University Core Theme Advisory Committee (supporting the University Accreditation Committee)
Local Industry Liaison (Chemistry) Committee
PSU NMR Laboratory Director
Chemistry Department Promotion & Tenure Committee (Chair) |

2014/15	University Faculty Development Committee (Chair) Local Industry Liaison (Chemistry) Committee Chemistry Space Committee PSU NMR Laboratory Director Chemistry Department Promotion & Tenure Committee
2013/14	University Faculty Development Committee Local Industry Liaison (Chemistry) Committee Chemistry Space Committee PSU NMR Laboratory Director Chair, Chemistry Department Promotion & Tenure Committee
2012/13	University Research Advisory Committee University Faculty Development Committee Departmental Research Administrator Search Committee Local Industry Liaison (Chemistry) Committee Chemistry Space Committee PSU NMR Laboratory Director Chair, Chemistry Department Promotion & Tenure Committee
2011/12	University Research Advisory Committee University/CLAS Department RA (DRA) Search Committee (interview stage) University ERA Evaluation Core Committee University Faculty Development Committee Departmental Research Administrator Search Committee Local Industry Liaison (Chemistry) Committee Chemistry Space Committee PSU NMR Laboratory Director Chair, Chemistry Department Promotion & Tenure Committee
2010/11	Associate VP of Research Search Committee University Research Advisory Committee Chemistry Undergraduate Curriculum Committee Chemistry Space Committee Seminar Committee PSU NMR Laboratory Director Chemistry Department Promotion & Tenure Committee
2016/17	University Search Committee for the Vice President for Research Local Industry Liaison (Chemistry) Committee PSU NMR Laboratory Director Chemistry Department Undergraduate Curriculum Committee Chemistry Department Promotion & Tenure Committee (Chemistry)
2009/10	Sabbatical year
2007/8	Chemistry Department Instrumentation Committee, Chair Chemistry Department Graduate Curriculum Committee PSU NMR Laboratory Director ORSP Innovation Associate Search Committee
2008/9	Chemistry Department Graduate Curriculum Committee, Chair PSU NMR Laboratory Director Chemistry Department Promotion & Tenure Committee

2005/6	Chemistry Department Undergraduate Curriculum Committee Chemistry Department Transfer Student Advisor Chemistry Department Seminar Committee PSU NMR Laboratory Director Chemistry Department Organic Faculty Search Committee
2004/5	Chemistry Department Undergraduate Curriculum Committee Chair Chemistry Department Transfer Student Advisor PSU NMR Laboratory Director Chemistry Department Promotion & Tenure Committee Chair
2003/4	Chemistry Department Undergraduate Curriculum Committee Chair Chemistry Department Seminar Committee (Winter term) Chemistry Department Transfer Student Advisor PSU NMR Laboratory Director Chemistry Department Promotion & Tenure Committee Chair
2002/3	Chemistry Department Undergraduate Curriculum Committee Chair Chemistry Department Transfer Student Advisor Chemistry Department Seminar Committee (Winter term) Chemistry Department Organic Chemist Search Committee PSU NMR Laboratory Director Chemistry Department Promotion & Tenure Committee Chair
2006/7	Chemistry Department Undergraduate Curriculum Committee Chemistry Department Graduate Curriculum Committee PSU NMR Laboratory Director Chemistry Department Promotion & Tenure Committee
2000	Sabbatical year
2001/2	Chemistry Department Undergraduate Curriculum Committee Chair Chemistry Department Transfer Student Advisor Chemistry Department Seminar Committee (Spring term) Chemistry Department Scheduling Committee PSU NMR Laboratory Director Chemistry Department Promotion & Tenure Committee Chair
1999/2000	Chemistry Department Graduate Curriculum Committee College of Liberal Arts & Sciences Promotion and Tenure Committee PSU NMR Laboratory Director Chemistry Department Transfer Student Advisor Chemistry Department Scheduling Committee
1998/9	Chemistry Department Graduate Curriculum Committee College of Liberal Arts & Sciences Promotion and Tenure Committee PSU NMR Laboratory Director Chemistry Department Transfer Student Advisor Chemistry Department Scheduling Committee

1997/8	Chair, Chemistry Department Chair, Chemistry Department Awards Committee Chemistry Department Transfer Student Advisor PSU NMR Laboratory Director College of Liberal Arts & Sciences Promotion and Tenure Committee Pauling Medal Committee (regional American Chemical Society)
1995/96	Chair, Chemistry Department Chair, Chemistry Department Awards Committee Chemistry Department Graduate Admissions Committee PSU NMR Laboratory Director
1994/95	Chair, Chemistry Department Chair, Chemistry Department Awards Committee Chemistry Department Graduate Admissions Committee PSU NMR Laboratory Director
1993/94	Chair, Chemistry Department Graduate Student Advising Committee Chair, Chemistry Department Awards Committee Chemistry Department Graduate Admissions Committee Chemistry Department Promotion and Tenure Committee PSU NMR Laboratory Director
1992/93	Chair, Chemistry Department Graduate Student Advising Committee Chair, Chemistry Department Awards Committee Chemistry Department Graduate Admissions Committee Chemistry Department Promotion and Tenure Committee Search Committee for Dean of CLAS PSU NMR Laboratory Director
1991/92	Chair, Chemistry Department Chair Selection Procedures Committee Chair, Chemistry Department Graduate Student Advising Committee Chemistry Department Graduate Admissions Committee Chair, Chemistry Department Awards Committee Chemistry Department Seminar Committee PSU NMR Laboratory Director
1990/91	Chair, Chemistry Department Graduate Student Advising Committee Chemistry Department Graduate Admissions Committee Chair, Chemistry Department Awards Committee PSU NMR Laboratory Director
1989/90	Chair, Chemistry Department Graduate Student Advising Committee Chemistry Department Graduate Admissions Committee Chair, Chemistry Department Awards Committee PSU Campus Screening Committee for President Search PSU NMR Laboratory Director
1988/89	Chair, Chemistry Department Graduate Student Advising Committee Chemistry Department Graduate Admissions Committee Member of Organizing Committee for Portland Metropolitan Area Conference on Environmental Sciences and Resources, April 13 and 14, through ESR Program.

1996/97 Chair, Chemistry Department
 Chair, Chemistry Department Awards Committee
 Chemistry Department Graduate Admissions Committee
 Chemistry Department Transfer Student Advisor
 PSU NMR Laboratory Director
 College of Liberal Arts & Sciences Promotion and Tenure Committee

Study Section Reviewer:

2023 NIH Member of Special Panel to evaluate FDA/NIH National Centers:
 CASEL: RFA-OD-22-003: Center for Coordination of Analysis, Science, Enhancement,
 and Logistics (CASEL) in Tobacco Regulatory Science
 TCORS: RFA-OD-22-004: Tobacco Centers of Regulatory Science (TCORS) for
 Research Relevant to the Family Smoking Prevention and Tobacco Control Act

2022 NIH Member of Contract Panel/Scientific Review Group NIAID 2022 DMID Omnibus BAA
 (HHS-NIH-NIAID-BAA2022-1) Research Area 002 - Development of Therapeutic
 Candidates for Biodefense, Antimicrobial Resistant (AMR) Infections and Emerging
 Infectious Diseases (N01)

2022 NIH Member of Special Emphasis Panel/Scientific Review Group ZAI1-NKD-M (S1)
 Identification and Characterization of Persistence Mechanisms of Select Protozoan
 Pathogens

2021 NIH Member of Special Emphasis Panel/Scientific Review Group ZRG1 AIDC-K (83)
 Antiviral Therapeutics and Resistance

2020 NIH Member of Special Emphasis Panel/Scientific Review Group ZAI1_RG_W_S2_1
 Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome
 Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19)
 NIH Special Emphasis Panel/Scientific Review Group 2021/05 ZAI1 MSA-W (M1) 2
 Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome
 Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19)

2019 NIH Panel member of Special Emphasis Review Panel ZRG1 IDM-W 50 U.S. South
 African Program for Collaborative Biomedical Research – Phase II
 (Infectious Diseases)

2018 NIH Panel member of PHS2018-1 (contracts for detection of inf. diseases)
 NIH Emphasis Panel: 2018/10_ZAI1_TS-M(S1)1
 NIH Centers of Excellence for Translational Research (U19) – RFA AI-17-042

2017 ARMY Panel member of MIDRP Study Section Panel Q (Anti-parasitic Drugs)
 DOD Panel member of CDMRP Study Section (PRMRP: MAL (malaria))

2016 NIH Emphasis Panel: 2016/01 ZAI1-LRM-S (01)
 NIH Emphasis Panel: ZAI1-LG-M-J1 (Internat'l Centers for Malaria Research: ICEMR)
 NIH Emphasis Panel: ZAI1-LG-M-J2 (Internat'l Centers for Malaria Research: ICEMR)

2015 DOD Panel member of CDMRP Study Section (PRMRP: MAL (malaria))
 NIH Emphasis Panel: 2015/02 ZRG1 IDM-N (02)
 NIH Emphasis Panel: 2016/01 ZRG1 IDM-N (02) M

2014 DOD Panel member of CDMRP Study Section (PRMRP)

2013 NIH Ad-hoc member of National Institute of General Medical Sciences Special
 Emphasis Panel: ZGM1 TWD-7 (DF) (SCORE Panel)

- 2012 NIH Ad-hoc member of Study Section Non-HIV Anti-Infective Therapeutics Special Emphasis Panel: ZRG1 IDM-U(10)B
- Italian Invited reviewer for the Italian Ministry of Health's "Competition for Targeted Research Funding" program
- 2011 NIH Ad-hoc member of Study Sections ZRG1IMM-GB, ZRG1IMM-GM, & ZRG1IMM-12B (Non-HIV Microbial Vaccine Development)
- 2010 A-Star Ad-hoc reviewer for this Singapore-based grant mechanism
- NIH Ad-hoc member of NIH Study Sections ZRG1IMM-GB & ZRG1IMM-GM (Non HIV Microbial Vaccine Development)
- 2009 NIH Ad-hoc member of NIH Study Sections ZRG1-IMM-E & ZRG1-IMM-G (Non-HIV Microbial Vaccine Development)
- 2008 NSF MRI (Major Research Infrastructure), Arlington, VA
- 1996 NSF ILI (Undergraduate Laboratory Infrastructure), Arlington, VA
- 1995 NSF ILI (Undergraduate Laboratory Infrastructure), Arlington, VA
- 1994 NIH Molecular and Cellular Biosciences (Ad Hoc Reviewer), Chevy Chase, MD
- NSF ARI (Academic Research Infrastructure), Arlington, VA

Journal Reviewer & other:

I am, or have been, a regular reviewer of submitted journal articles in the fields of Biochemistry, Analytical Chemistry, Environmental Chemistry, Physical Chemistry, Parasitology, Inorganic Chemistry, Pharmaceutical Chemistry, etc.

I am a member of the joint Scientific Advisory Committee for the NIH South Asia and India International Centers of Excellence for Malaria Research (ICEMRs) 2018 - ongoing. These are major efforts (>\$10M each) sponsored by NIH: NIAID.

I was the chief scientific coordinator in bringing a drug candidate discovered in the Peyton lab at PSU, via DesignMedix (of which I am a co-Founder) to its NIH-sponsored Phase 1 Clinical Trial (First in-Human Evaluation for Safety/Toxicity): "A Phase 1, Randomized, Double-Blind, Placebo-Controlled Trial to Evaluate the Safety and Pharmacokinetics of Single and Multiple Ascending Doses and Effect of Food on the Pharmacokinetics of DM1157 in Healthy Adults": NCT03490162