

## Paul R Thompson

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### PROFESSIONAL PREPARATION

<u>Institution</u>	<u>Major Area</u>	<u>Degree &amp; Year</u>
McMaster University	Biochemistry	Honors B.S.c. – 1994
McMaster University	Biochemistry	Ph.D. – 2000
Johns Hopkins University SOM	Pharmacology	PDF – 2000-2003

### PROFESSIONAL EXPERIENCE

<u>Dates</u>	<u>Title</u>	<u>Institution</u>	<u>Department</u>
2010-present	Associate Professor with tenure	The Scripps Research Institute, Scripps Florida	Chemistry
2009-2010	Associate Professor with Tenure	University of South Carolina	Chemistry
2004-2008	Assistant Professor	University of South Carolina	Chemistry
2003-2004	Visiting Assistant Professor	University of South Carolina	Chemistry
2000-2003	Postdoctoral Fellow	Johns University SOM	Pharmacology
1994-2000	Teaching and Research Assistant	McMaster University	Biochemistry
1993-1994	Teaching Assistant	McMaster University	Chemistry

### HONORS, AWARDS AND OTHER SIGNIFICANT ACTIVITIES

- Chair, Enzymes, Coenzymes & Metabolic Pathways Gordon Research Conference 2014
- Associate Chair, Enzymes, Coenzymes & Metabolic Pathways Gordon Research Conference 2013
- Symposium Chair, Chemical Biology: Chemical Answers to Biological Questions, SERMACS 2012
- Session Leader, FASEB Conference entitled: "Biological Methylation: From DNA to Histones"
- 2010 South Carolina Governor's Young Scientist Award for Excellence in Scientific Research
- Cofounder Arginomix, 2009
- Mail in reviewer, NIH Challenge Grants, June 2009
- Camille Dreyfus Teacher Scholar Award 2009
- Executive Committee, Department of Chemistry and Biochemistry, University of South Carolina, 08/2008- present.
- Chair of American Chemical Society Division of Biological Chemistry Nominating Committee, 20011-2012
- Member of American Chemical Society Division of Biological Chemistry Nominating Committee, 2008-2011
- Ad Hoc Member, Synthetic Biological Chemistry B (SBCB) Study Section, October 2008
- Member American Chemical Society, 2003-present,
- Departmental Nominee for Mungo Graduate Teaching award, 2008
- Departmental Nominee for Mungo Graduate Teaching award, 2007
- New Investigator of the American Heart Association, 2005
- USC NanoCenter Seed Award, 2005 (with J.J. Lavigne)
- USC Research and Productive Scholarship Award, 2005
- Canadian Institutes for Health Research Post Doctoral Fellowship, 2000-2003
- McMaster University Graduate Scholarship, 1998-2000
- Thomas Neilson Scholarship, McMaster University, 1996

- NSERC Graduate Student Fellowship (PGS B), 1996-1998
- Ontario Graduate Student Fellowship - Declined in Favor of NSERC (PGS B), 1996
- NSERC Graduate Student Fellowship (PGS A), 1994-1996
- Ontario Graduate Student Fellowship - Declined in Favor of NSERC (PGS A), 1994
- Graduated Summa Cum Laude, McMaster University, 1994
- Centennial Award, McMaster University, 1994
- J.L.W. Gill Prize, McMaster University, 1993
- University Scholarship, McMaster University
- Chancellor's Scholarship, McMaster University, 1990
- Dean's Honour List, McMaster University, 1990-1994

## **STUDENTS AND POSTDOCTORAL SCHOLARS**

### Graduate Students Receiving Ph.D. Degrees

1. Monica Bhatia, PhD Dec. 2007 (Scientist, LS9)
2. Tanesha C. Osborne, PhD Aug. 2008 (Instructor Georgia Southern)
3. Dana Broughton, PhD May 2008 (Co-mentored with John Lavigne; PDF St. Judes)
4. Bryan Knuckley, PhD December 2009 (Assistant Professor, University of North Florida)
5. Justin Jones, PhD December 2010 (Postdoc, Emory University)
6. Jessica Slack, PhD December 2010 (US Army)
7. Obiamaka Obianyoye, PhD December 2010 (Postdoc, Emory University)
8. Kevin L. Bicker, PhD December 2010 (Assistant Professor, Middle Tennessee State University)
9. Jing Sun, PhD December 2012 (Instructor Georgia Southern)
10. Heather Rust, PhD August 2013
11. Chunxue Wang, transferred to Lebioda lab at USC
12. Christina J. Dreyton, current
13. Brittani Freesmeier, current

### Graduate Students Receiving M.S. Degrees

1. Yuejiao Zou, M.S. Aug 2006 (Milliken)
2. Joy R. Burleyson, M.S. Aug 2009

### Postdoctoral Scholars

1. Mary Glascock, 11/01/03-04/30/2004
2. Yuan Luo, 01/01/05-02/15/07
3. Corey P. Causey, 08/13/2007-06/30/2010 (Assistant Professor University of North Florida)
4. Larry E. Jones, Jr., 01/01/2009-07/31/2010 (USC Pharmacy School)
5. Bryan Knuckley, 01/01/2010-07/31/2010 (Postdoc with Thomas Kodadek, Scripps Florida)
6. Venkataraman Subramanian, 08/15/2010 – present
7. Daniel Lewallen, 10/25/2010 – present
8. Justin E. Jones, 11/01/2010 – 10/31/2011 (Postdoc, Emory University)
9. Jessica L. Slack, 01/01/2011- 06/30/2011 (US Army)
10. Obiamaka Obianyoye, 01/01/2011- – 10/31/2011 (Postdoc, Emory University)
11. Kevin L. Bicker, 01/15/2011 – 06/15/2013 (Assistant Professor, Middle Tennessee State University)
12. Daniel Slade, 08/01/2011 – present
13. Jakob Furrmann, 01/15/2012 – present
14. Min Wang, 01/15/2012 – present
15. Kate Clancy, 08/27/2012-present
16. Richard Brust, 08/16/2013-present

### Undergraduate Students

1. Sean Courtney, 1 academic year, 1 summer, 10/01/03-08/01/04 (Grad School, Georgia State University, Biology)
2. Joseph Gnanashekar, 1 semester, 01/15/04-05/15/04

3. Erin Stuckey, 01/15/04-05/15/04
4. Kristen Catchings, 1 summer, 1 academic year, 06/01/04-05/31/05 (Pharmacy School, South Carolina School of Pharmacy, Columbia)
5. David Smith, 2 summer, 3 semesters, 01/15/05-09/15/06
6. Ahmad Ismail, 1 academic year, 08/15/05-05/15/06
7. Zachary Coffman, 1 academic year, 08/15/06-05/15/07
8. Wendy Lin, 1 semester, 08/15/07-12/15/07
9. Kimberly Wright, 1 semester, 08/15/07-12/15/07
10. Heather Flick, 2 summers, 1 academic year, 06/01/07-12/15/08 (Shire Pharmaceuticals)
11. Hamer Manning, 2 summers, 1 academic year, 06/01/07-08/15/08
12. Christina Dreyton, 3 summers, 2.5 academic year, 06/01/07-05/31/2010 (Grad School, Scripps Florida)
13. Heather Rust, 1 summer, 06/20/08-08/15/08 (Grad School, USC)
14. Mindi Thommes, 1 semester, 01/15/09-05/31/09
15. Lori Meyer, 1 semester, 09/15/09-05/31/2010.
16. Ngozika Obianyo, 1 summer, 06/01/2011-08/12/2011
17. Sergine Brutus, 1 summer, 06/01/2012-08/12/2012
18. Hafeez S. Haniff, 1 summer, 06/01/2013-08/12/2013

#### Other Research Supervision

1. Patricia Kearney (technician), 05/15/04-06/15/05 (MD-PhD Program, Medical University of South Carolina)
2. Obiamaka Obianyo (PREP Scholar), 08/15/06-12/31/07 (Grad School, USC, Chemistry)
3. Rune H Evjenth (Visiting Postdoc from Bergen University), 01/01/11-06/30/11
4. Havard Foy (Visiting Grad student from Bergen University), 11/15/11-06/30/12

#### **PUBLICATIONS (82 total)**

1. Dillon, M.B.C., Rust, H.L., **Thompson, P.R.** and Mowen, K.A. (2013). Automethylation of Protein Arginine Methyltransferase 8 Regulates Activity by Impeding AdoMet Sensitivity. *J. Biol. Chem.*, **in press**.
2. Wang, M., Xu, R.-M., **Thompson, P.R.** (2013). Substrate Specificity, Processivity, and Kinetic Mechanism of Protein Arginine Methyltransferase 5. *Biochemistry*, **in press**.
3. Fuhrmann, J., Subramanian, V., **Thompson, P.R.** (2013). Targeting the arginine phosphatase YwIe with a catalytic redox-based inhibitor. *ACS Chemical Biology*, **in press**.
4. Knight, JS, Zhao, W, Luo, W, Subramanian, V, O'Dell, AA, Yalavarthi, S, Hodgins, JB, Eitzman, DT, **Thompson, P.R.**, and Kaplan, MJ. (2013). Inhibition of peptidylarginine deiminase activity suppresses neutrophil extracellular trap formation and type I interferons, while improving vascular function and prothrombotic risk in murine lupus. *J. Clin. Invest.* **in press**.
5. Slade, D.J., Subramanian, V., Fuhrmann, J., and **Thompson, P.R.** (2013) Chemical and biological methods to detect posttranslational modifications of arginine. *Biopolymers* **in press**.
6. Khandpur, R., Carmona-Rivera, C., Vivekanandan-Giri, A., Gizinski, A., Yalavarthi, S., Knight, J. S., Friday, S., Li, S., Patel, R. M., Subramanian, V., **Thompson, P.**, Chen, P., Fox, D. A., Pennathur, S., and Kaplan, M. J. (2013) NETs Are a Source of Citrullinated Autoantigens and Stimulate Inflammatory Responses in Rheumatoid Arthritis, *Science Translational Medicine* 5, 178ra140.
7. Foy, H., Jones, J.E., Lewallen, D., Narawane, R., Varhaug, J.E. **Thompson, P.R.**, and Arnesen, T. (2013) Design, synthesis and kinetic characterization of Protein N-terminal acetyltransferase inhibitors. *ACS Chemical Biology* 8, 1121–1127.
8. Cui, X., Witalison, E.E., Chumanovich, A.P., Chumanovich, A.A., Poudyal, D., Subramanian, V., Schetter, A.J., Harris, C.C., **Thompson, P.R.** Hofseth, L.J. (2013) The induction of microRNA-

16 in colon cancer cells by protein arginine deiminase inhibition causes a p53-dependent cell cycle arrest. *PLOS One*, 8, e53791.

9. Bicker, K.L. and **Thompson, P.R.** (2013) The protein arginine deiminases (PADs): Structure, Function, Inhibition, and Disease. *Biopolymers*, 99, 155-163.
10. Rohrbach, A., Slade, D.J., **Thompson, P.R.**, Mowen, K.A. (2012) Activation of PAD4 in NET formation. *Frontiers in Molecular Innate Immunity*, 3, 360.
11. McElwee, J.L., Mohanan, S., Griffith, O.L., Breuer, H.C., Anguish, L.J., Cherrington, B.D., Palmer, A.M., Howe, L.R., Subramanian, V., Causey, C.P., **Thompson, P.R.**, Gray., J.W., Coonrod, S.A. (2012) Identification of PADI2 as a potential breast cancer biomarker and therapeutic target. *BMC Cancer*, 12, 500.
12. Bicker, K.L., Anguish, L., Chumanevich, A.A., Cameron, M.D., Cui, X., Witalison, E., Subramanian, V., Zhang, X., Chumanevich, A.P., Hofseth, L.J., Coonrod, S.A., **Thompson, P.R.** (2012) D-amino acid based protein arginine deiminase inhibitors: Synthesis, pharmacokinetics, and in cellulo efficacy. *ACS Med Chem Lett* 3, 1081-1085.
13. Bicker, K.L., Subramanian, V., Chumanevich, A., Hofseth, L.J., and **Thompson, P.R.** (2012) Seeing Citrulline: Development of a phenylglyoxal-based probe to visualize protein citrullination. *J Am Chem Soc*, 134, 17015-17018. **Highlighted by C&E News, NIGMS, Florida Weekly, ACS Chemical Biology.**
14. Mohanan, S., Cherrington, B.D., Horibata, S., McElwee, J.L., **Thompson, P.R.** and Coonrod, S.A. (2012) Potential Role of Peptidylarginine Deiminase Enzymes (PADs) and Protein Citrullination in Cancer Pathogenesis. *Biochemistry Research International* 2012, 895343.
15. Zhang, X., Bolt, M., Guertin, M. J., Chen, W., Zhang, S., Cherrington, B. D., Slade, D. J., Dreyton, C. J., Subramanian, V., Bicker, K. L., **Thompson, P.R.**, Mancini, M. A., Lis, J. T., and Coonrod, S. A. (2012) Peptidylarginine deiminase 2-catalyzed histone H3 arginine 26 citrullination facilitates estrogen receptor alpha target gene activation, *Proc Natl Acad Sci U S A* 109, 13331-13336. PMID: 22853951
16. Kan, R., Jin, M., Subramanian, V., Causey, C.P., **Thompson, P.R.** and Coonrod, S.A. (2012) Potential role for PADI-mediated histone citrullination in preimplantation development. *BMC Developmental Biology* 12, 19.
17. Lewallen, D.M., Steckler, C.J., Knuckley, B. Chalmers, M.J. and **Thompson, P.R.** (2012) Probing adenylation: Using a fluorescently labelled ATP probe to directly label and immunoprecipitate VopS substrates. *Mol. Biosyst.* 8, 1701-1706. PMID: 22456874; PMCID: *in process*.
18. Evjenth, R.H., Brenner, A.K., **Thompson, P.R.**, Thomas Arnesen, T., Froystein, N.A., and Lillehaug, J.R. (2012) The human protein N-terminal acetyltransferase hNaa50p (hNat5/hSan) follows an ordered sequential catalytic mechanism: A combined kinetic and NMR study. *J. Biol. Chem.* 287, 10081-10088.
19. Mohamed, B.M., Verma, N.K., Davies, A.M., McGowan, A., Staunton, K.C., Prina-Mello, A., Kelleher, D., Botting, C.H., Causey, C.P., **Thompson, P.R.**, Pruijn, G.J.M., Kisin, E.R., Tkach, A.V., Shvedova, A.A., Volkov, Y. (2012) Citrullination of proteins: a common post-translational modification pathway induced by different nanoparticles in vitro and in vivo. *Nanomedicine*, 7, 1181-1195.
20. Obianyo, O., and **Thompson, P.R.** (2012). Kinetic mechanism of protein arginine methyltransferase 6. *J. Biol. Chem.* 287, 6062-6071.
21. Bicker, K.L. Sun, J., Harrell, M., Zhang, Y., Pena, M.M., **Thompson, P.R.** and Lavigne, J.J. (2012). Synthetic Lectin Arrays for the Detection and Discrimination of Cancer Associated Glycans and Cell Lines. *Chemical Sciences*, 3, 1147-1156.
22. Dwivedi, N.; Upadhyay, J.; Neeli, I.; Khan, S.; Pattanaik, D., Myers L., Kirou K.A., Hellmich B., Knuckley, B., **Thompson, P.R.**, Crow M.K., Mikuls, T.R., Csernok, E., Radic, M. (2012) Felty's

syndrome autoantibodies bind to deiminated histones and neutrophil extracellular traps. *Arthritis Rheum*, *64*, 982-992.

23. Jones, J.E., Slack, J.L., Fang, P., Zhang, X., Subramanian, V., Causey, C.P., Coonrod, S.A., Guo, M., **Thompson, P.R.** (2012) Synthesis and screening of a haloacetamide containing library to identify PAD4 selective inhibitors. *ACS Chem Biol.*, *7*, 160-165.
24. Causey, C.P., Jones, J.E., Slack, J.L., Kamei, D., Jones, L.E., Subramanian, V., Knuckley, B., Ebrahimi, P., Chumanevich, A.A., Luo, Y., Hashimoto, H., Sato, M., Hofseth, L.J., and **Thompson, P.R.** (2011) The development of *N*- $\alpha$ -(2-carboxyl)benzoyl-*N*<sup>5</sup>-(2-fluoro-1-iminoethyl)-L-ornithine amide (*o*-F-amidine) and *N*- $\alpha$ -(2-carboxyl)benzoyl-*N*<sup>5</sup>-(2-Chloro-1-iminoethyl)-L-ornithine amide (*o*-Cl-amidine) as second generation Protein Arginine Deiminase (PAD) inhibitors. *J. Med. Chem.* *54*, 6919-6935.
25. Taki, H., Gomi, T., Knuckley, B., **Thompson, P.R.**, Vugrek, O., Hirata, K., Miyahara, T., Shinoda, K., Hounoki, H., Sugiyama, E., Usui, I., Urakaze, M., Tobe, K., Ishimoto, T., Inoue, R., Tanaka, A., Mano, H., Ogawa, H., Mori, H. (2011) Purification of enzymatically inactive peptidylarginine deiminase type 6 from mouse ovary that reveals hexameric structure different from other dimeric isoforms. *Advances in Bioscience and Biotechnology*, *2*, 304-310.
26. Obianyo, O., Causey, C.P., Jones, J.E., **Thompson, P.R.** (2011) Activity-Based Protein Profiling of Protein Arginine Methyltransferase 1, *ACS Chem Biol.*, *6*, 1127-1135.
27. Rust, H.L., and **Thompson, P.R.** (2011) Kinase Consensus Sequences: A Breeding Ground for Crosstalk, *ACS Chem Biol.* *6*, 881-892.
28. Lange, S., Goegel, S., Leung, K-Y., Nicholas, A.P., Causey, C.P., **Thompson, P.R.**, Greene, N.D.E., and Ferretti, P. (2011) Protein deiminases: New players in the developmentally regulated loss of neural regenerative ability. *Developmental Biology* *355*, 205-214.
29. Zhang, X., Gamble, M.J., Stadler, S., Cherrington, B.D., Causey, C.P., **Thompson, P.R.**, Allis, C.D., Kraus, W.L., and Coonrod, S.A. (2011) Genome Wide Analysis Reveals PADI4 to be Predictive of Subsets of Actively Transcribed Genes in Breast Cancer Cells. *PLoS Genetics* *7*, e1002112. PMID: 21655091. PMID: in process.
30. Slack, J.L., Jones, L.E., Bhatia, M., and **Thompson, P.R.** (2011) Autodeimination of Protein Arginine Deiminase 4 alters protein-protein interactions but not activity. *Biochemistry* *50*, 3997-4010. PMID: PMC3091952
31. Rust, H.L., Zurita-Lopez, C.I., Clarke, S., and **Thompson, P.R.** (2011). Mechanistic studies on the transcriptional coactivator Protein Arginine Methyltransferase 1. *Biochemistry* *50*, 3332-3345.
32. Bicker, K., Sun, J., Lavigne, J.J., and **Thompson, P.R.** (2011) Boronic acid functionalized peptidyl synthetic lectins: Combinatorial library design, peptide sequencing, and selective glycoprotein recognition. *ACS Combinatorial Science*, *13*, 232-243.
33. Chumanevich, A.A., Causey, C. P., Knuckley, B. A., Jones, J. E., Poudyal, D., Chumanevich, A. P., Davis, T., Matesic, L. E., **Thompson, P.R.**, and Hofseth, L. J. (2011) Suppression of colitis in mice by Cl-amidine: a novel peptidylarginine deiminase (PAD) inhibitor. *American Journal of Physiology - Gastrointestinal and Liver Physiology*, *300*, G929-38. PMID: 21415415. PMID: PMC3119113.
34. Slack, J., Causey, C.P., Luo, Y, **Thompson, P.R.** (2011) The Development and Use of Clickable Activity Based Protein Profiling Agents for Protein Arginine Deiminase 4. *ACS Chem Biol.* *6*, 466-476. PMID: PMC3098906
35. Willis, V, Gizinski, A., Knuckley, B., Causey, C.P., Luo, Y., Banda, N., Holers, V.M., **Thompson, P.R.** (2011) Efficacy of Cl-amidine in the collagen induced model of rheumatoid arthritis. *J. Immuno* *186*, 4396-4404. PMID: PMC3085980

36. Slack, J.L., Causey, C.P., and Thompson, P.R. (2011) Protein arginine deiminase 4: a target for an epigenetic cancer therapy, *Cell Mol Life Sci.* 68, 709-720. PMID: 20706768. PMCID in process.
37. Bicker, K.L., Obianyano, O., Rust, H.L., and **Thompson, P.R.** (2011) A combinatorial approach to characterize the substrate specificity of protein arginine methyltransferase 1, *Mol Biosyst* 7, 48-51. PMCID: PMC2999663
38. Dreyton, CJ, Jones, JE, Knuckley, BA, Subramanian, V, Anderson, ED, Brown, SJ, Fernandez-Vega, V, Eberhart, C, Spicer, T, Zuhl, AM, Ferguson, J, Speers, AE, Wang, C, Boger, DL, Thompson, P, Cravatt, BF, Hodder, P, and Rosen, H. (2010) Optimization and characterization of a pan protein arginine deiminase (PAD) inhibitor, In *Probe Reports from the NIH Molecular Libraries Program*, Bethesda (MD).
39. Jones, J.E., Dreyton, C.J., Flick, H., Causey, C.P., and **Thompson, P.R.** (2010) Mechanistic studies of agmatine deiminase from multiple bacterial species, *Biochemistry* 49, 9413-9423.
40. Obianyano, O., Causey, C.P., Osborne, T.C., Jones, J. E., Lee, Y.H., Stallcup, M.R., and **Thompson, P.R.** (2010) A chloroacetamide-based inactivator of protein arginine methyltransferase 1: design, synthesis, and in vitro and in vivo evaluation, *Chembiochem* 11, 1219-1223. PMCID: PMC3060404
41. Knuckley, B., Jones, J.E., Bachovchin, D.A., Slack, J., Causey, C.P., Brown, S.J., Rosen, H., Cravatt, B.F., and **Thompson, P.R.** (2010) A fluopol-ABPP HTS assay to identify PAD inhibitors, *Chem Commun (Camb)* 46, 7175-7177. PMID: 20740228. PMCID: in process.
42. Knuckley, B., Causey, C.P., Pellechia, P.J., Cook, P.F., and **Thompson, P.R.** (2010) Haloacetamide-based inactivators of protein arginine deiminase 4 (PAD4): evidence that general acid catalysis promotes efficient inactivation, *Chembiochem* 11, 161-165. PMCID: PMC3056394
43. Knuckley, B., Causey, C.P., Jones, J.E., Bhatia, M., Dreyton, C.J., Osborne, T.C., Takahara, H., and **Thompson, P.R.** (2010) Substrate specificity and kinetic studies of PADs 1, 3, and 4 identify potent and selective inhibitors of protein arginine deiminase 3, *Biochemistry* 49, 4852-4863. PMCID: PMC2884139.
44. Jones, J.E., Causey, C.P., Lovelace, L., Knuckley, B., Flick, H., Lebioda, L., and **Thompson, P.R.** (2010) Characterization and inactivation of an agmatine deiminase from *Helicobacter pylori*, *Bioorg Chem* 38, 62-73.
45. Jones, J.E., Causey, C.P., Knuckley, B., Slack, J.L., and **Thompson, P.R.** (2009) Protein arginine deiminase 4 (PAD4): Current understanding and future therapeutic potential, *Curr Opin Drug Discov Devel* 12, 616-627.
46. Malinowski, R., Higgins, R., Luo, Y., Piper, L., Nazir, A., Bajwa, V., Clouse, S.D., **Thompson, P.R.**, Stratmann, J.W. (2009) The tomato brassinosteroid receptor BRI1 increases binding of systemin to tobacco plasma membranes, but is not involved in systemin signaling. *Plant Mol. Biol.* 70, 603-616.
47. Obianyano, O., Osborne, T.C., and **Thompson, P.R.** (2008) Kinetic mechanism of Protein Arginine Methyltransferase 1. *Biochemistry* 47, 10420-10427. PMCID: PMC2933744
48. Yao, H., Li, P., Venters, P., Zheng, S., **Thompson, P.R.**, Pugh, B.F., and Wang, Y. (2008) Histone Arg modifications and p53 regulate the expression of OKL38, a mediator of apoptosis. *J. Biol. Chem.*, 283, 20060-20068.
49. Li, P., Yao, H., Zhang, Z., Li, M., Luo, Y, **Thompson, P.R.**, Gilmour, D. and Wang, Y. (2008) Targeting peptidylarginine deiminase 4 by p53 for gene regulation. *Mol. Cell. Biol.*, 28, 4745-4758.
50. Arnesen, T. **Thompson, P.R.**, Varhaug, J.E., and Lillehaug, J.R. (2008) The protein acetyltransferase ARD1: a novel cancer drug target? *Current Cancer Drug Targets.* 8, 545-553.

51. Causey, C., and Thompson, P.R. (2008) An improved synthesis of haloacetamidine-based inactivators of protein arginine deiminase 4 (PAD4). *Tetrahedron Lett*, **49**, 4383-4385.
52. Osborne, T.C., Weller, R., Rajski, S.R., and **Thompson, P.R.** (2008) *In Situ* Generation of a Bisubstrate Analog for Protein Arginine Methyltransferase 1. *J Am Chem Soc*, **130**, 4574-4575. **Highlighted in Faculty of 1000 – Biology** PMID: PMC2723811
53. Knuckley, B., Luo, Y., and **Thompson, P.R.** (2008) Profiling Protein Arginine Deiminase 4 (PAD4): A Novel Screen to Identify PAD4 Inhibitors. *Bioorg Med Chem* **16**, 739-745.
54. Liu, X., Wang, L., Zhao, K., **Thompson, P.R.**, Hwang, Y., Marmorstein, R., Cole, P.A. (2008) The Structural Basis of Protein Acetylation by the p300/CBP Transcriptional Coactivator. *Nature* **451**, 846-850.
55. Hwang, Y., **Thompson, P.R.**, Wang, L., Jiang, L., Kelleher, N.L., and Cole, P.A. (2007) A Selective Chemical Probe for Coenzyme-A Requiring Enzymes. *Angew Chem Int Ed Engl* **46**, 7621-7624.
56. Osborne, T.C., Obiany, O., Zhang, X., Cheng, X., and **Thompson, P.R.** (2007) Protein Arginine Methyltransferase 1: Positively charged residues in substrate peptides distal to the site of methylation are important for substrate binding and catalysis. *Biochemistry* **46**, 13370-13381.
57. Zou, Y., Broughton, D.L., Bicker, K., **Thompson, P.R.**, and Lavigne, J.J. (2007) Peptide Boronolactams (PBLs): New Glycomics Tool for Cancer Diagnostics. *Chembiochem* **8**, 2048-2051. **Highlighted in Faculty of 1000 – Biology**
58. Bhatia, M., **Thompson, P.R.** (2007) Methyl lysine analogs: rewriting the code. *Nature Chem. Biol.* **3**, 249-250.
59. Knuckley, B., Bhatia, M., **Thompson, P.R.** (2007) Protein Arginine Deiminase 4: Evidence for a reverse protonation mechanism. *Biochemistry* **46**, 6578-6587.
60. Luo, Y., Knuckley, B., Bhatia, M., **Thompson, P.R.** (2006) Activity Based Protein Profiling Reagents for Protein Arginine Deiminase 4 (PAD4): Synthesis and in vitro Evaluation of a Fluorescently-labeled Probe. *J Am Chem Soc* **128**, 1092-1093. **Highlighted in Faculty of 1000 – Biology**
61. Luo, Y., Arita, K., Bhatia, M., Knuckley, B., Lee, Y.H., Stallcup, M.R. Sato, M., **Thompson, P.R.** (2006) Inhibitors and Inactivators of Protein Arginine Deiminase 4: Functional and structural characterization. *Biochemistry* **45**, 11727-11736. **Highlighted by ACS Chemical Biology**
62. **Thompson, P.R.** and Fast, W. (2006) Histone citrullination by protein arginine deiminase: Is arginine methylation a green light or a roadblock? *ACS Chem. Biol* **1**, 433-441.
63. Luo, Y., Knuckley, B., Lee, Y.H., Stallcup, M.R., and **Thompson, P.R.**, (2006). A Fluoro-Acetamidine Based Inactivator of Protein Arginine Deiminase 4 (PAD4): Design, Synthesis, and in vitro and in vivo Evaluation. *J Am Chem Soc* **128**, 1092-1093. **Highlighted in Faculty of 1000 – Biology**
64. Kearney, P.L., Bhatia, M., Jones, N.G., Yuan, L., Glascock, M.C., Catchings, K.L., Yamada, M., and **Thompson, P.R.**, (2005). Kinetic characterization of protein arginine deiminase 4: a transcriptional corepressor implicated in the onset and progression of rheumatoid arthritis. *Biochemistry* **44**, 10570-10582.
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(Patents)

1. Y. Luo, and **P. R. Thompson**. Inhibitors of Protein Arginine Deiminases. Patent Pending.



2. Y. Luo, and **P. R. Thompson**. Inhibitors of Protein Arginine Deiminases. Invention disclosure, USCRF No. 518. Oct. 06, **2005**.1.

(Non-Peer Reviewed)

1. "Mechanistic Insights into the Regulation of Protein Arginine Deiminases 2 and 4," 23<sup>rd</sup> Enzyme Mechanisms Conference, Coronado, CA, January 5<sup>th</sup>, 2013
2. **Thompson, P.R.** (2009) "Chemical approaches to studying PAD4 function," Abstracts of Papers, 237<sup>th</sup> ACS National Meeting, Salt Lake City, UT, USA, March 22-26, 2009.
3. Obianyano, O., Osborne, T.C., Causey, CP, Young Ho Lee, Michael Stallcup, and **Thompson, P.R.** "Mechanism and Inhibition of Protein Arginine Methyltransferase 1," 21<sup>st</sup> Enzyme Mechanisms Conference, Tucson, AZ, January 3-7, 2009.
4. Knuckley, B. and **Thompson, P.R.** (2008) "Mechanism and Inhibition of Protein Arginine Deiminases," 21<sup>st</sup> Enzyme Mechanisms Conference, Tucson, AZ, January 3-7, 2009.
5. **Thompson, P.R.**, Osborne, T.C. and Obianyano, O. Kinetic characterization of Protein Arginine Methyltransferase 1. Gordon Research Conference: Enzymes, coenzymes, and Metabolic Pathways, University of New England, Biddeford, ME, July 8-13, 2007.
6. Bhatia, M, and **Thompson, P.R.** Kinetic characterization and substrate specificity studies of Protein Arginine Deiminase (PAD4). *FASEB J.* **21**, A642, FASEB Meeting, Washington, DC, USA, April 28 - May 2, 2007
7. **Thompson, P.R.**, Bhatia, M., Luo, Y., Knuckley, B., Arita, K., Sato, M., Lee, Y.H., and Stallcup, M.R. Haloacetamide based inactivators and activity based protein profiling reagents for Protein Arginine Deiminase 4. Gordon Research Conference: Enzymes, coenzymes, and Metabolic Pathways, University of New England, Biddeford, ME, July 16-21, 2006.
4. Broughton, D.L., Zou, Y., Lavigne, J.J., and **Thompson, P.R.** Peptide-based borono-lectins (PBLs) as selective saccharide sensors. Abstracts of Papers, 231<sup>st</sup> ACS National Meeting, Atlanta, GA, USA, March 26-30, 2006.
5. Zou, Y., Lavigne, J.J., Broughton, D.L., and **Thompson, P.R.** Synthesis and development of Peptide-based Borono-Lectins (PBLs) for selective saccharide sensing. Abstracts of Papers, 231<sup>st</sup> ACS National Meeting, Atlanta, GA, USA, March 26-30, 2006.
6. **Thompson, P.R.**. Inhibitors/Inactivators of Protein Arginine Deiminase 4. Abstracts of Papers, 231<sup>st</sup> ACS National Meeting, Atlanta, GA, USA, March 26-30, 2006
7. Luo, Y., and **Thompson, P.R.**. Protein Arginine Deiminase 4: Synthesis of Mechanism-based Inactivators. Abstracts of Papers, 230<sup>th</sup> ACS National Meeting, Washington, DC, United States, August 28-September 01, 2005.
8. **Thompson, P.R.**, Bhatia, M., Luo, Y., Jones, N., Glascock, M., Kearney, P. Protein Arginine Deiminase 4: Purification and initial kinetic and mechanistic characterization. Gordon Research Conference: Enzymes, coenzymes, and Metabolic Pathways, Kimball Union Academy, Meriden, NH, July 17-22, 2005.
9. **Thompson, P.R.**, Bhatia, M., Jones, N., Glascock, M., Kearney, P., Craft, J., and Ferguson, P.L. Protein Arginine Deiminase 4: Purification and initial kinetic and mechanistic characterization. Gordon Research Conference: Enzymes, coenzymes, and Metabolic Pathways, Kimball Union Academy, Meriden, NH, July 18-23, 2004.
10. **Thompson, P.R.**, Wang, D., Wang, L., Fulco, M., Pediconi, N., Ge, Q., Levvero, M., Sartorelli, V., Cotter, R., and Cole, P.A.. Regulation of the p300 HAT Domain via a Novel Activation Loop. Gordon Research Conference: Enzymes, coenzymes, and Metabolic Pathways, Kimball Union Academy, Meriden, NH, July 13-18, 2003.
11. **Thompson, P.R.** and Cole, P.A. Transcriptional coactivator protein p300: Kinetic characterization of its histone acetyltransferase activity. Gordon Research Conference: Enzymes, coenzymes, and Metabolic Pathways, Kimball Union Academy, Meriden, NH, July 21-26, 2001.

12. DeLaBarre, B., **Thompson, P.R.**, Wright, G.D., and Berghuis, A.M. The Structure of Homoserine Dehydrogenase Reveals a Novel Oxidoreductase Fold Thirteenth Symposium of the Protein Society, Boston, MA, 1999.
13. **Thompson, P.R.** and Wright, G.D. Mechanism of Phosphoryl Transfer by Aminoglycoside (3')-Phosphotransferase ASBMB Symposia: Phosphoryl Transfer: A Molecular Basis for Signaling, Lake Tahoe, California 1998.
14. **Thompson, P.R.**, Hughes, D.W., Cianciotto, N.P., and Wright, G.D. Characterization of Spectinomycin phosphotransferase from Legionella pneumophila, Canadian Bacterial Disease Network Centre of Excellence Annual Meeting, Banff, Alberta 1998.
15. McKay, G.A., **Thompson, P.R.**, and Wright, G.D. Molecular mechanism of the 3'-aminoglycoside phosphotransferase-IIIa, Keystone Symposium on Antibiotic Resistance, March 2006.
16. **Thompson, P.R.**, Hughes, D.W., and Wright, G.D. Regiospecificity of Phosphorylation by Aminoglycoside Phosphotransferase APH(3')-IIIa, 78th Canadian Society for Chemistry Conference, Guelph, Ont, 2005.

## **RESEARCH SUPPORT:**

### Agencies that have supported Thompson's research at TSRI and the University of South Carolina

1. National Institutes of Health/National Institute of General Medical Sciences (RO1 GM079357: 20012-2016) – \$2,000,000
2. Department of Defense (W81XWH-11-PCRP-SIDA: 2012 - 2015) – \$750,000
3. National Institutes of Health/National Cancer Institute (RO1 CA151304: 2011-2016) – \$542,040
4. National Institutes of Health/NIH Heart Lung Blood Institute (RO1: 2013-2017) – \$304,180
5. Camille Dreyfus Teacher Scholar Award (2009-2016) – \$75,000
6. National Institutes of Health/National Institute of General Medical Sciences (RO1: 2007-2012) – \$1,028,390
7. National Institutes of Health/National Center for Research Resources/COBRE (P20: 2007-2010) – Candidate's portion ~ \$275,000
8. National Institutes of Health/National Institute of General Medical Sciences (RO1 Supplement: 2007-2008) – \$53,265
9. National Institutes of Health/National Institute of General Medical Sciences (RO1 Supplement: 2007-2008) – \$15,717
10. National Institutes of Health/National Institute of General Medical Sciences (RO1 Supplement: 2009-2011) – \$73,920
11. National Institutes of Health/National Institute of General Medical Sciences (RO1 Supplement: 2009-2011) – \$56,550
12. American College of Rheumatology: Within Our Reach Campaign (2008-2010) – \$400,000
13. American Heart Association (2005-2007) – \$132,000
14. National Science Foundation (CRC: 2005-2008) – Candidate's portion ~ \$18,915
15. USC sponsored funding (USC Research Foundation Award (2006), Research and Productive Scholarship Award (2005), NanoCenter Seed Award (2005), COBRE Seed Award (2006), and Magellan Scholars (2006)) – \$127,000 total

**Total – \$ 5,833,062**

### Active Research Support

1. National Institutes of Health/National Institute of General Medical Sciences (RO1 GM079357: 20012-2016) – \$2,000,000
2. Department of Defense (W81XWH-11-PCRP-SIDA: 2012 - 2015) – \$750,000
3. National Institutes of Health/National Cancer Institute (RO1: 2011-2016) – \$542,040
4. National Institutes of Health/NIH Heart Lung Blood Institute (RO1: 2013-2017) – \$304,180
5. Camille Dreyfus Teacher Scholar Award (2009-2016) – \$75,000

### **SEMINARS PRESENTED (61 total):**

1. "Chemical Probes targeting Protein Arginine Deiminase activity: Seeing the Citrillinome," Bioorganic Gordon Research Conference, Proctor Academy, June 11, 2013.
2. "Picking the PADlock," Department of Pharmacology, University of Florida School of Medicine, Gainesville, FL, February 21, 2013.
3. "Picking the PADlock," School of Pharmacy, University of North Carolina, January 22, 2013.
4. "Picking the PADlock," Gerard D Wright 20<sup>th</sup> Anniversary Symposium, Department of Biochemistry, McMaster University, Hamilton, ON, Canada, January 25<sup>th</sup>, 2013.
5. "Picking the PADlock," Department of Chemistry, The Scripps Research Institute, La Jolla, CA, January 8<sup>th</sup>, 2013.
6. "Mechanistic Insights into the Regulation of Protein Arginine Deiminases 2 and 4," 23<sup>rd</sup> Enzyme Mechanisms Conference, Coronado, CA, January 5<sup>th</sup>, 2013
7. "Validating the Protein Arginine Deiminases as therapeutic targets for Rheumatoid Arthritis, Colitis, and Cancer," Institute for Biological Chemistry, Academia Sinica, Taipei, Taiwan, October 18, 2012.
8. "Chemical Probes targeting Protein Arginine Deiminase activity: Seeing the Citrillinome," ASBMB Symposium: Transcriptional Regulation: Chromatin and RNA polymerase II, October 6, 2012, Snowbird, UT.
9. "Chemical Probes of Protein Arginine Methyltransferase Function," FASEB Summer Research Conference entitled: "Biological Methylation: From DNA to Histones", Aspen, Colorado, August 15, 2012.
10. "Validating the Protein Arginine Deiminases as therapeutic targets for Rheumatoid Arthritis, Colitis, and Cancer," Roche Pharmaceuticals, April 13, 2012, Rutherford, NJ.
11. "Validating the Protein Arginine Deiminases as therapeutic targets for Rheumatoid Arthritis, Colitis, and Cancer," Takeda San Diego, March 2, 2012, San Diego, CA.
12. "The Protein Arginine Deiminases," Epizyme, November 8, 2011, Boston, MA.
13. "The Protein Arginine Deiminases," Constellation Pharma, November 7, 2011, Boston, MA.
14. "Chemical Probes of Arginine Modifying Enzymes," Department of Chemistry, University of North Florida, October 21, 2011, Jacksonville, FL.
15. "The Protein Arginine Deiminases," Department of Chemistry, The Scripps Research Institute, March 23, 2011, Jupiter, FL.
16. "PAD Inhibition: A novel Therapeutic Approach for Rheumatoid Arthritis, Colitis, Cancer, Neural Regeneration, and Multiple Sclerosis: Five Diseases, One Drug" Merck Research Laboratories, NJ.
17. "PAD Inhibition: A novel Therapeutic Approach for Rheumatoid Arthritis, Colitis, Cancer, Neural Regeneration, and Multiple Sclerosis: Five Diseases, One Drug" SGC Oxford Symposium on Epigenetic Mechanisms in Health and Disease, December 10, 2010, Oxford, UK.
18. "PAD Inhibition: A novel Therapeutic Approach for Rheumatoid Arthritis, Colitis, Cancer, Neural Regeneration, and Multiple Sclerosis: Five Diseases, One Drug" Society for Neuroscience 2010 annual meeting, November 16, 2010, San Diego, CA.

19. "Cl-amidine: A novel Therapeutic for Rheumatoid Arthritis, Colitis, and Cancer," Department of Biomedical Sciences, College of Veterinary Medicine, Cornell University, October 19, 2010.
20. "Cl-amidine: A novel Therapeutic for Rheumatoid Arthritis, Colitis, and Cancer," Johnson and Johnson/Centocor, Radnor, PA, September 17, 2010.
21. "Chemical Probes for Protein Arginine Methyltransferase 1" FASEB Summer Research Conference entitled: "Biological Methylation: From DNA to Histones", Carefree, Arizona, June 10, 2010
22. "Cl-amidine: A novel Therapeutic for Rheumatoid Arthritis?," Within Our Reach Meeting, American College of Rheumatology, Fort Worth, TX, June 4, 2010.
23. "Chemical Probes for Arginine Modifying Enzymes," University of Minnesota, Department of Chemistry, Minneapolis, MN, February 24th, 2010.
24. "PAD Inhibition: A novel Therapeutic Approach for Rheumatoid Arthritis." Johns Hopkins University School of Medicine, Division of Rheumatology, Baltimore, MD, December 11<sup>th</sup>, 2009.
25. "Chemical Probes for Arginine Modifying Enzymes," Scripps Florida, Jupiter, FL, November 11<sup>th</sup>, 2009.
26. "Chemical Probes for Arginine Modifying Enzymes," Wake Forest, Department of Chemistry, Winston-Salem, NC, October 28<sup>th</sup>, 2009.
27. "Chemical Probes for Arginine Modifying Enzymes," University of South Carolina, School of Medicine, Columbia, SC, September 26<sup>th</sup>, 2009.
28. "Design and Synthesis of PRMT1 selective inhibitors and chemical probes" University of South Carolina, Department of Chemistry and Biochemistry, Columbia, SC, September 8<sup>th</sup>, 2009.
29. "Chemical approaches to studying PAD4 function," Sanofi-Aventis, Bridgewater, NJ, August 6, 2009.
30. "Chemical Probes for Arginine Modifying Enzymes," Enzymes, coenzymes, and metabolic pathways, Gordon Research Conference, Waterville Valley Resort, NH, July 8, 2009.
31. "Cl-amidine: A novel Therapeutic for Rheumatoid Arthritis?," Within Our Reach Meeting, American College of Rheumatology, San Diego, CA, June 29, 2009.
32. "Chemical approaches to studying PAD4 function," 237st ACS National Meeting, Salt Lake City, UT, USA, March 23, 2009.
33. "Chemical Approaches to Studying PAD4 Function," *Webinar for Johnson & Johnson Pharmaceuticals*, March 5, 2009.
34. "Chemical Approaches to Studying PAD4 Function," Albert Einstein School of Medicine, Department of Biochemistry, New York, NY, February 24, 2009.
35. "Cl-amidine: A novel Therapeutic for Rheumatoid Arthritis?" University of Colorado School of Medicine, Division of Rheumatology, Denver, CO, October 14, 2008.
36. "Chemical Approaches to Studying PAD4 Function," University of South Carolina, Department of Chemistry and Biochemistry, Columbia, SC, August 29, 2008.
37. "Haloacetamidine Based Inactivators and Activity Based Protein Profiling Reagents for Protein Arginine Deiminase 4: A Novel Target for the Treatment of Rheumatoid Arthritis" Bioorganic Chemistry, Gordon Research Conference, Proctor Academy, Andover, NH, June 16, 2008.
38. "Design and Synthesis of PRMT1 selective inhibitors" FASEB Summer Research Conference entitled: "Biological Methylation: From DNA to Histones", Carefree, Arizona, June 5, 2008
39. "Mechanism and Inhibition of Protein Arginine Deiminase 4 – A novel drug target for Rheumatoid Arthritis," Duke University, Department of Chemistry, Durham, NC, March 20, 2008.

40. "Mechanism and Inhibition of Protein Arginine Deiminase 4 – A novel drug target for Rheumatoid Arthritis," Medical University of South Carolina, South Carolina College of Pharmacy, Charleston, SC, February 12, 2008.
41. "Mechanism and Inhibition of Protein Arginine Deiminase 4 – A novel drug target for Rheumatoid Arthritis," Georgia State University, Department of Chemistry, Atlanta, GA, November 2, 2007.
42. "Mechanism and Inhibition of Protein Arginine Deiminase 4 – A novel drug target for Rheumatoid Arthritis," Johns Hopkins University School of Medicine, Department of Pharmacology and Molecular Sciences, Baltimore, MD, October 17, 2007.
43. "Mechanism and Inhibition of the N $\alpha$ -Acetyltransferases," N $\alpha$ -Acetyltransferase Symposium, University of Bergen, Bergen, Norway, May 24, 2007.
44. "Mechanism and Inhibition of Protein Arginine Deiminase 4 – A novel drug target for Rheumatoid Arthritis," University of Michigan, Department of Biological Chemistry, Ann Arbor, MI, April 10, 2007.
45. "Mechanism and Inhibition of Protein Arginine Deiminase 4 – A novel drug target for Rheumatoid Arthritis," Georgia Southern University, Department of Chemistry, Statesboro, GA, February 26, 2007.
46. "Mechanism and Inhibition of Protein Arginine Deiminase 4," McMaster University, Department of Biochemistry, Hamilton, Ontario, Canada, January 9, 2007.
47. "Haloacetamidine based inactivators and activity based protein profiling reagents for Protein Arginine Deiminase 4," Enzymes, coenzymes, and metabolic pathways, Gordon Research Conference, University of New England, July 17, 2006.
48. "Mechanism and Inhibition of Protein Arginine Deiminases," Division of Medicinal Chemistry, School of Pharmacy, University of Texas at Austin, Austin, TX, February 7, 2006.
49. "Mechanism and Inhibition of Protein Arginine Deiminases," School of Pharmacy, University of South Carolina, Columbia, SC, March 28, 2005.
50. "Target-Based Drug Design: Theory and its application to the development of rheumatoid arthritis treatments," Department of Chemistry & Biochemistry, College of Charleston, Charleston, SC, April 1, 2004.
51. "The molecular mechanism of p300: A transcriptional co-activator with histone acetyltransferase activity," Department of Molecular Pharmacology & Chemistry, Sloan-Kettering Institute, New York, NY, March, 2003.
52. "The molecular mechanism of p300: A transcriptional co-activator with histone acetyltransferase activity," Department of Medical Science, Indiana University, Bloomington, IN, February, 2003.
53. "The molecular mechanism of p300: A transcriptional co-activator with histone acetyltransferase activity," Department of Chemistry & Biochemistry, University of South Carolina, Columbia, SC, January, 2003.
54. "The molecular mechanism of p300: A transcriptional co-activator with histone acetyltransferase activity," Department of Biochemistry, Weill Medical College of Cornell University, New York, NY, January, 2003.
55. "The molecular mechanism of p300: A transcriptional co-activator with histone acetyltransferase activity," Department of Biochemistry & Molecular Biology, University of Nebraska Medical School, Omaha, NE, January, 2003.
56. "The molecular mechanism of p300: A transcriptional co-activator with histone acetyltransferase activity," Department of Pharmacology, Uniformed Services University of the Health Sciences, Bethesda, MD, January, 2003.
57. "The molecular mechanism of p300: A transcriptional co-activator with histone acetyltransferase activity," Department of Biochemistry, University of Ottawa, Ottawa, Ont., Canada, December 2002.
58. "The molecular mechanism of p300: A transcriptional co-activator with histone acetyltransferase activity," Department of Chemistry, Syracuse University, Syracuse, NY, December, 2002.

59. "The molecular mechanism of p300: A transcriptional co-activator with histone acetyltransferase activity," Department of Biochemistry and Molecular Pharmacology, University of Massachusetts Medical School, Worcester, MA, November, 2002.
60. "The molecular mechanism of p300: A transcriptional co-activator with histone acetyltransferase activity," Department of Chemistry, McMaster University, Hamilton, Ont., Canada, April, 2002.
61. "The molecular mechanism of p300: A transcriptional co-activator with histone acetyltransferase activity," Department of Biochemistry, McMaster University, Hamilton, Ont., Canada, March, 2002.

## **OTHER PROFESSIONAL ACTIVITIES**

### Journal Refereeing

1. Nature
2. Proceedings of the National Academy of Sciences
3. Nature Communications
4. Biochemistry
5. Journal of the American Chemical Society
6. Proceedings of the National Academy of Sciences USA
7. Nature Structural and Molecular Biology
8. Chemistry & Biology
9. Bioorganic and Medicinal Chemistry
10. Journal of Biological Chemistry
11. Journal of Inorganic Biochemistry
12. BBA Proteins and Proteomics
13. Bioorganic and Medicinal Chemistry Letters
14. ChemMedChem
15. Journal of Antibiotics
16. ChemBioChem
17. Wiley Encyclopedia of Chemical Biology
18. Laboratory Investigation
19. Aging Cell
20. Journal of Proteome Research
21. Molecular Biosystems
22. Journal of Medicinal Chemistry
23. Structure
24. Molecular Biosystems
25. Epigenomics
26. Acta Crystallographica D
27. Current Opinion in Chemical Biology

### Grant proposal reviewing

1. Biotechnology and Biological Sciences Research Council UK
2. Sheffield Hospitals Charitable Trust, UK
3. USC Research Foundation
4. NIH – SBCB Study Section (Ad Hoc Member: October, 2008; June 2013)
5. American College of Rheumatology Within Our Reach Campaign (Ad Hoc Member, March, 2009)
6. NIH – Challenge Grants (Mail in Reviewer, July 2009)
7. National Research Foundation of UAE (Mail in Reviewer October 2009)

### Committee service

1. Florida Theme Committee for Graduate Program Accreditation, The Scripps Research Institute, Scripps Florida, 2010 to present.
2. Curriculum Committee, The Scripps Research Institute, 2011 to present.
3. Admissions Committee, The Scripps Research Institute, Scripps Florida, 2010 to 2013.
4. Department of Biology, USC, Faculty Search Committee, 2009
5. Center of Economic Excellence Cancer Biology Search Committee, South Carolina College of Pharmacy, 2009
6. Admissions Committee, Integrated Biomedical Graduate Program, current
7. Magellan Scholar Program, current
8. Industrial Advisory Board, current
9. Department of Chemistry & Biochemistry, Executive Committee, 07/01/08 - current
10. Ad Hoc Committee on Graduate Education
11. Mass Spectrometry Committee, current
12. Development of an Integrated Biomedical Graduate Program
13. Department of Chemistry & Biochemistry, Admissions Committee
14. Department of Chemistry & Biochemistry, Library Committee
15. Department of Chemistry & Biochemistry Chair Search Committee
16. Department of Chemistry & Biochemistry, Biochemistry Faculty Search Committee
17. Department of Chemistry & Biochemistry, Proteomics Faculty Search Committee

Other synergistic activities

1. Development of an Undergraduate Biochemistry Major
2. Judge, Undergraduate Research Poster Competition, USC
3. Judge, Graduate Student Poster Competition, Department of Chemistry and Biochemistry, USC
4. Judge, Newton Symposium for Graduate Research, USC School of Medicine

**CLASSES TAUGHT**

1. CHEM D650 – Medical Biochemistry (1<sup>st</sup> year Medical Students) (USC)
2. CHEM 701 – Biochemistry Seminar (Graduate) (USC)
3. CHEM 752/BIOL718 – Regulation and Integration of Metabolism (Graduate) (USC)
4. CHEM 759 – Special Topics in Gene Regulation (Graduate) (USC)
5. CHEM 759/739 – Organic Biochemistry (Graduate) (USC)
6. ERM331 – Enzyme Reaction Mechanisms (Graduate) (TSRI)