

**CURRICULUM VITAE**

**DANIEL MAX RABEN**

**DEMOGRAPHIC INFORMATION**

***CURRENT APPOINTMENTS***

2007 Professor, Department of Biological Chemistry  
The Johns Hopkins University, Baltimore, Maryland

Professor, Department of Physiology  
The Johns Hopkins University, Baltimore, Maryland

Professor; Department of Oncology  
The Johns Hopkins University, Baltimore, Maryland

***PERSONAL DATA***

Laboratory Address: The Johns Hopkins University School of Medicine  
Department of Biological Chemistry  
725 N. Wolfe Street,  
Baltimore, Maryland 21205  
(410) 955-1289  
(410) 614-8729 (Fax)  
Email: [draben@jhmi.edu](mailto:draben@jhmi.edu)

***EDUCATION***

	<u>Degree/Year</u>	<u>Institution</u>	<u>Discipline</u>
Undergraduate	B.S./1976	University of Michigan	Chemistry/Biology
Graduate	Ph.D./1981	Washington University	Biochemistry
Post-Doctoral Fellow	1981-1986	University of California-Irvine	Biochemistry

## **PROFESSIONAL EXPERIENCE**

<u>Position</u>	<u>Institution</u>	<u>Dates</u>
Teaching Assistant	Washington University	1978- 1979
Postgraduate Researcher	Department of Microbiology University of California-Irvine Research Advisor: Dr. Dennis Cunningham	1981- 1986
Assistant Professor	Department of Physiology The Johns Hopkins University-School of Medicine	1986- 1992
Associate Professor	Department of Physiology The Johns Hopkins University-School of Medicine	1992- 2006
Associate Professor	Department of Oncology The Johns Hopkins University-School of Medicine	1996- 2006
Associate Professor	Department of Biological Chemistry The Johns Hopkins University-School of Medicine	2002- 2006
Professor	Department of Biological Chemistry The Johns Hopkins University-School of Medicine	2007- Present
Professor	Department of Physiology The Johns Hopkins University-School of Medicine	2007- Present
Professor	Department of Oncology The Johns Hopkins University-School of Medicine	2007- Present

## **PUBLICATIONS**

### **Peer-Reviewed**

1. Whittenberger, B. **Raben, D.** Lieberman, M.A., and Glaser, L. (1978) Inhibition of growth of 3T3 cells by extract of surface membranes. *Proc. Natl. Acad. Sci. U.S.A.* **75**:5457-5461.
2. Bunge, R., Glaser, L., Lieberman M.A., **Raben, D.M.**, Salzer, J., Whittenberger, B., and Woolsey, T. (1979) Growth Control By Cell To Cell Contact *J. Supramol. Struct.* **11**:175-187.

3. Whittenberger, B. **Raben, D.** Lieberman, M.A., and Glaser, L. (1979) Regulation of the cell cycle of 3T3 cells in culture by a surface membrane-enriched cell fraction. *J. Supramol. Struct.* **10**:307-327.
4. Lieberman, M.A., **Raben, D.** Whittenberger, B., and Glaser, L. (1979) Effect of plasma membranes on solute transport in 3T3 cells. *J. Biol. Chem.* **254**:6347-6361.
5. Lieberman, M.A., Whittenberger, B., **Raben, D.**, and Glaser, L. (1979) Cell density is determined by a diffusion limited process-Reply *Nature* **278**:284.
6. Lieberman, M.A., Rothenberg, P., **Raben, D.**, and Glaser, L. (1980) Effect of 3T3 plasma membranes on cells exposed to epidermal growth factor. *Biochem. Biophys. Res. Commun.* **92**:696-702.
7. Lieberman, M.A., **Raben, D.**, and Glaser, L. (1981) Cell surface-associated growth inhibitory proteins. *Exp. Cell Res.* **133**:413-419.
8. **Raben, D.**, Lieberman, M.A., and Glaser, L. (1981) Growth inhibitory protein(s) in the 3T3 cell plasma membrane. Partial purification and dissociation of growth inhibitory events from inhibition of amino acid transport. *J. Cell Physiol.* **108**:35-45.
9. **Raben, D.M.**, Yasuda, K., Cunningham, D.D. (1987) Modulation of thrombin-stimulated lipid responses in cultured fibroblasts. Evidence for two coupling mechanisms. *Biochemistry* **26**(10):2759-2765.
10. **Raben, D.M.**, Yasuda, K.M., Cunningham, D.D. (1987) Relationship of thrombin-stimulated arachidonic acid release and metabolism to mitogenesis and phosphatidylinositol synthesis. *J. Cell Physiol.* **130**(3):466-473.
11. Wright, T.M., Rangan, L.A., Shin, H.S., **Raben, D.M.** (1988) Kinetic analysis of 1,2-diacylglycerol mass levels in cultured fibroblasts. Comparison of stimulation by  $\alpha$ -thrombin and epidermal growth factor. *J. Biol. Chem.* **263**(19):9374-9380.
12. Pessin, M.S., **Raben, D.M.** (1989) Molecular species analysis of 1,2-diglycerides stimulated by  $\alpha$ -thrombin in cultured fibroblasts. *J. Biol. Chem.* **264**(15):8729-8738.
13. Wright, T.M., Shin, H.S., **Raben, D.M.** (1990) Sustained increase in 1,2-diacylglycerol precedes DNA synthesis in epidermal-growth-factor-stimulated fibroblasts. Evidence for stimulated phosphatidylcholine hydrolysis. *Biochem. J.* **267**(2):501-507.
14. **Raben, D.M.**, Pessin, M.S., Rangan, L.A., and Wright, T. M. (1990) Kinetic and Molecular Species Analysis of Mitogen-induced Increases in Diglycerides: Evidence for Stimulated Hydrolysis of Phosphoinositides and Phosphatidylcholine. *J. Cell. Biochem.* **44**:117-125.
15. Pessin, M.S., Baldassare, J.J., **Raben, D.M.** (1990) Molecular species analysis of mitogen-stimulated 1,2-diglycerides in fibroblasts. Comparison of  $\alpha$ -thrombin, epidermal growth factor, and platelet-derived growth factor [published erratum appears in *J Biol Chem* **265**(25): 15347]. *J. Biol. Chem.* **265**(14):7959-7966.
16. Leach, K.L., Ruff, V.A., Wright, T.M., Pessin, M.S., **Raben, D.M.** (1991) Dissociation of protein kinase C activation and sn-1,2-diacylglycerol formation. Comparison of

- phosphatidylinositol- and phosphatidylcholine-derived diglycerides in  $\alpha$ -thrombin-stimulated fibroblasts. *J. Biol. Chem.* **266**(5):3215-3221.
17. Rangan, L.A., Wright, T.M., and **Raben, D.M.** (1991) Differential dependence of early and late increases in 1,2-diacylglycerol on the presence of catalytically active  $\alpha$ -thrombin: evidence for regulation at the level of 1,2-diacylglycerol generation. *Cell Regulation* **2**:311-316.
  18. Pessin, M.S., Altin, J.G., Jarpe, M., Tansley, F., Bradshaw, R.A., and **Raben, D.M.** (1991) Carbachol stimulates a different phospholipid metabolism than nerve growth factor and basic fibroblast growth factor in PC12 cells. *Cell Regulation* **2**:383-390.
  19. Borchardt, R.A., Bishop, W.R., Bocckino, S.B., Loomis, C.R., **Raben, D.M.**, Ramer, J.K., Van Veldhoven, P.P., and Bell, R.M. (1991) Quantification of diracylglycerols: a reply. *Biochem. J.* **280**:830-831.
  20. Wright, T.M., Willenberger, S., and **Raben, D.M.** (1992) Activation of phospholipase D by  $\alpha$ -thrombin contributes to the formation of phosphatidic acid but not to observed increases in 1,2-diglycerides. *Biochem. J.* **285**:395-400.
  21. Leach, K.L., Ruff, V.A., Jarpe, M.B., Fabbro, D., Adams, L.D., and **Raben, D.M.** (1992)  $\alpha$ -Thrombin stimulates nuclear diglyceride levels and differential nuclear localization of protein kinase C isozymes in IIC9 cells. *J. Biol. Chem.* **267**:21816-21822.
  22. Leach, K.L., **Raben, D.M.** (1993) Nuclear Localization of Protein Kinase C. *Biochem. Soc. Trans.* **21**(4):879-883.
  23. Doering, T.L., Pessin, M.S., Hoff, E.F., Hart, G.W., **Raben, D.M.**, and Englund, P.T. (1993) Trypanosome metabolism of myristate, the fatty acid required for the variant surface glycoprotein membrane anchor. *J. Biol. Chem.* **268**:9215-9222.
  24. Smith, B.L., Baumgarten, R., Nielsen, S., **Raben, D.M.**, Zeidel, M.L., and Agre, P (1993) Concurrent expression of erythroid and renal aquaporin CHIP and appearance of water channel activity in perinatal rats. *J. Clin. Invest.* **92**:2035-2041.
  25. Leach, K.L., **Raben, D.M.** (1993)  $\alpha$ -Thrombin-stimulated 1,2-diacylglycerol formation: the relationship between phospholipid hydrolysis and protein kinase C activation. *Neuroprotocols* **3**: 120-132.
  26. **Raben, D.M.**, Jarpe, and Leach, K.L. (1994) Nuclear lipid metabolism in NEST: Nuclear Envelope Signal Transduction. *Memb. Biol.* **142**: 1-7.
  27. Jarpe, M.B., Leach, K.L., and **Raben, D.M.** (1994)  $\alpha$ -Thrombin-induced nuclear *sn*-1,2-diacylglycerols are derived from phosphatidylcholine hydrolysis in cultured fibroblasts. *Biochemistry* **33**:526-534.
  28. Doering, T.L., Pessin, M.S., Hart, G.W., **Raben, D.M.**, and Englund, P.T. (1994) The fatty acids in unremodeled Trypanosome glycosyl phosphatidylinositols. *Biochem. J.* **299**:741-746.
  29. Quest, A.F.G., **Raben, D.M.**, and Bell, R.M. (1996) Diacylglycerols: Biosynthetic Intermediates and Lipid Second Messengers In: *Handbook of Lipid Research* **8**: pp1-58.

30. Baldassare, J.J., Jarpe, M.B., Alferes, L., and **Raben, D.M.** (1997) Nuclear translocation of RhoA mediates the mitogen-induced activation of PLD involved in nuclear envelope signal transduction. *J. Biol. Chem.* **272**:4911-4914.
31. Weber, J., **Raben, D.M.**, Phillips, J., and Baldassare, J.J. (1997) Sustained activation of ERK1 is required for the continued G<sub>1</sub> expression of cyclin D1. *Biochem. J.* **326**:61-68.
32. Cheng, J., Weber, J.D., Baldassare, J.J. and **Raben D.M.** (1997) Ablation of G<sub>o</sub>  $\alpha$ -subunit results in a transformed phenotype and constitutively active phosphatidylcholine-specific phospholipase C. *J. Biol. Chem.* **272**: 17312-17319.
33. Weber, J., Cheng, J., **Raben, D.M.**, and Baldassare, J.J. (1997) Ablation of G<sub>o</sub> $\alpha$  overrides G<sub>1</sub> restriction point control through Ras/ERK/cyclin D1 activities. *J. Biol. Chem.* **272**: 17320-17326.
34. Weber, J., Hu, W., Jefcoat Jr, S.C. and **Raben, D.M.**, and Baldassare, J.J. (1997) Ras-stimulated ERK and RhoA activities coordinate PDGF-induced G<sub>1</sub> progression through the independent regulation of cyclin D1 and p27<sup>kip1</sup> expression. *J. Biol. Chem.* **272**: 32966-32971.
35. Wattenberg, B. and **Raben, D.M.** (1998) Signaling Spaces Out, Meeting Report, *Immunol. Cell Biol.* **76**:318-322.
36. Cheng, J., Baldassare, J.J., and **Raben, D.M.** (1999) Dual Coupling of the  $\alpha$ -Thrombin Receptor to signal transduction Pathways Involving Phosphatidylinositol and Phosphatidylcholine Metabolism. *Biochem. J.* **337**: 97-104.
37. **Raben, D.M.** and Baldassare, J.J. (2000) Phospholipid Metabolism and Nuclear Envelope Signaling, *Advances in Enzyme Regulation* **40**:97-123.
38. Phillips-Mason, P.J., **Raben D.M.**, Baldassare, J.J. (2000) Phosphatidylinositol 3-kinase activity regulates  $\alpha$ -thrombin-stimulated G<sub>1</sub> progression by its effect on Cyclin D1 expression and CDK4 activity. *J. Biol. Chem.* **275**:18046-18053.
39. **Raben, D.M.** (2000) Signal Transduction. *McGraw-Hill Encyclopedia of Science and Technology 9<sup>th</sup> Edition. Volume 16.*
40. **Raben, D.M.**, and Baldassare, J.J. (2000) Nuclear Envelope Signaling-Role of Phospholipid Metabolism. *European Journal of Histochemistry* **44**: 67-80.
41. Baldassare, J.J., Klaus, J., Phillips, P.J., and **Raben, D.M.** (2001) HamPLD1b in IIC9 Fibroblasts is Selectively Activated in the Nucleus But Not Golgi. *Cell Biol. Int.* **25**: 1207-1212.
42. Bregoli, L., Baldassare, J.J., **Raben, D.M.** (2001), Nuclear DGK- $\theta$  Is Activated in Response to  $\alpha$ -Thrombin. *J. Biol. Chem.* **276**: 23288-23295.
43. Gardner, A, Phillips-Mason, P.J., **Raben, D.M.**, and Baldassare, J.J. (2002) A Novel Role for G<sub>q</sub> $\alpha$  in  $\alpha$ -thrombin-mediated Mitogenic Signaling Pathways. *Cellular Signaling* **14**:499-507.
44. Bregoli, L, Tu-Sekine, B., and **Raben, D.M.** (2002) DGK and Nuclear Signaling: Nuclear Diacylglycerol Kinases in IIC9 Cells. *Advances in Enzyme Regulation* **42**: 213-226.

45. **Raben, D.M.** and Baldassare, J.J. (2002) *Invited Review: Mitogen Receptors and Signaling in the Nucleus. Trends in Endo and Metab.* **13**:93-94.
46. Goel, R. Phillips-Mason, P. J., **Raben, D.M.**, and Baldassare, J.J. (2002)  $\alpha$ -Thrombin Induces Rapid and Sustained Akt Phosphorylation by  $\beta$ -Arrestin1-dependent and - independent Mechanisms, and Only the Sustained Akt Phosphorylation is Essential for G1 phase Progression. *J. Biol. Chem.* **277**: 18640-18648.
47. Tu-Sekine, B, Baldassare, J.J., and **Raben, D.M.** (2003) Nuclear Signal Transduction: Nuclear PLD and diacylglycerol kinases. In *Nuclear Lipid Metabolism and Signaling* (Research Signpost), 2003: 123-136.
48. **Raben, D. M.** (2004) Phosphofructokinase-2/Fructose Bisphosphatase-2. IN: *Encyclopedia of Biological Chemistry*, **3**: 277-280.
49. Tu-Sekine, B. and **Raben, D.M.** (2004) Nuclear production and metabolism of diacylglycerol. *Eur J Histochem.*; **48**(1):77-82.
50. Goel, R., Phillips-Mason, P.J., Gardner, A., **Raben, D.M.**, and Baldassare, J.J. (2004)  $\alpha$ -Thrombin Mediated PI 3-kinase Activation Through Release of  $G\beta\gamma$  Dimers From  $G\alpha_q$  and  $G\alpha_i2$ . *J. Biol. Chem.* **279**(8):6701-6710.
51. Ostroski, M., Tu-Sekine, B., and **Raben, D. M.** (2005) Analysis of a Novel Diacylglycerol Kinase from *Dictyostelium discoideum*: DGKA. *Biochemistry*, **44**(30):10199-207.
52. **Raben, D.M.** and Baldassare, J.J. (2005) *Invited Review A New Lipase in Regulating Lipid Mobilization-Hormone-sensitive Lipase Is Not Alone. Trends in Endo and Metabolism* **16**(2):35-36.
53. Tu-Sekine, B., Ostroski, M. and **Raben, D.M.** (2006) Analysis of Two Diacylglycerol Kinase Activities in Mixed Micelles. *Advances in Enzyme Regulation* **46**:12-24.
54. Wattenberg, B.W., Piston, S.M., and **Raben, D.M.** (2006) The Sphingosine and Diacylglycerol Kinase Superfamily of Signaling Kinases. Localization As A Key to Signaling Function. *J Lipid Res.* **47**(6):1128-1139.
55. **Raben, D.M.** (2006) Lipid Signaling in the Nucleus. *Biochem Biophys Acta* **1761**(5-6):503-4.
56. Tu-Sekine, B., Ostroski, M, and **Raben, D.M.** (2007) Modulation of DGK $\theta$  Activity by  $\alpha$ -Thrombin and Phospholipids. *Biochemistry*, **46**(3): 924 -932.
57. Wattenberg, B.W. and **Raben, D.M.** (2007) Diacylglycerol Kinases Put the Brakes on Immune Function. *Sci. STKE* (398) pe43.
58. **Raben, D.M.** and Tu-Sekine (2008) Nuclear Localization Of Diacylglycerol Kinases: Regulation And Roles. *Frontiers in Bioscience* **13**: 590-597.
59. **Raben, D.M.** and Wattenberg, B.W. (2009) Signaling at the Membrane Interface by the DGK/SK Enzyme Family. *J Lipid Res 50<sup>th</sup> Anniversary Edition: J. Lipid Res.* **April Supplement**: S35-S39.
60. Tu-Sekine and **Raben D.M.** (2009) Regulation of DGK- $\theta$  J. Cell Physiol. **220**(3):548-52.

61. Link, T.M., Park, U., Vonakis, B.M., **Raben, D.M.**, Soloski M.J., Caterina, M.J. (2010) TRPV2 Plays a Pivotal Role in Macrophage Particle Binding and Phagocytosis. *Nature Immunology* Mar;11(3):232-9. Epub 2010 Jan 31
62. Tu-Sekine, B. and **Raben, D.M.** (2010) Characterization of Cellular DGK- $\theta$ . *Advances in Enzyme Reg.* 50:81-94.
63. Mohan S, Tse CM, Gabelli SB, Sarker R, Cha B, Fahie K, Nadella M, Zachos NC, Tu-Sekine B, **Raben D**, Amzel LM, Donowitz M. (2010) NHE3 Activity Is Dependent on Direct Phosphoinositide Binding at the N Terminus of Its Intracellular Cytosolic Region. *J. Biol. Chem.* 285(45): 34566-78.
64. Tu-Sekine, B. and **Raben, D.M.** (2011) Regulation and Roles of Neuronal Diacylglycerol Kinases: a Lipid Perspective. *Crit. Rev. Biochem. Mol. Biol.* Oct;46(5):353-64.
65. **Raben, D.M.** and Bond, J.S. (2011) Cookie-cutter Curriculum is No Recipe For Success. *Science.* 2011 Oct 28;334(6055):452.
66. Tu-Sekine B, and **Raben, D.M.** (2012) Dual Regulation of DGK- $\theta$ : Polybasic Proteins Promote Activation by Phospholipids and Increase Substrate Affinity. *J. Biol. Chem.* 287(50):41619-41627.
67. Tu-Sekine, B., Goldschmidt, H., Petro, E, and **Raben, D.M.** (2013) Diacylglycerol Kinase Theta: Regulation and Stability. *Adv. Biol. Reg.* Jan;53(1):118-26.
68. Bolduc, D., Rahdar, M., Tu-Sekine, B., Sivakumaren, S.C., **Raben, D.**, Amzel, L.M., Devreotes, P, Gabelli, S.B., and Cole, P. (2013) Phosphorylation-mediated PTEN conformational closure and deactivation revealed with protein semisynthesis. *Elife* 2013 Jul 9;2:e00691.
69. Ueda S., Tu-Sekine, B. Yamanoue, M., **Raben, D.M.**, and Shirai, Y. (2013) The expression of diacylglycerol kinase theta during the organogenesis of mouse embryos. *BMC Developmental Biology* 2013, **13**:35.
70. Petro, E., and **Raben, D.M.** (2013) Bacterial expression strategies for several *Sus scrofa* diacylglycerol kinase alpha constructs: solubility challenges. *Scientific Reports* 2013;3:160.

### Editorial Activities

2013-2018	Editor-in-Chief, <i>Journal of Bioenergetics and Biomembranes</i>
2013	Editorial Board, <i>Current Cancer Drug Targets</i>
2011	Editorial Board, <i>Advances in Biological Regulation</i> (formerly <i>Advances in Enzyme Regulation</i> )
2010	Editorial Advisory Board, <i>Progress in Lipid Research</i>
2010-2015	Editorial Board, <i>The Journal of Biological Chemistry</i>

2006	Editor of Special Edition of <i>Biochem Biophys Acta</i> on Nuclear Signaling
2003-Present	Editorial Board, <i>The Journal of Biological Chemistry</i> (end 6/30/08) Editorial Advisor, <i>The Biochemical Journal</i>
2002-Present	Review Panel for the FIRB Italian Ministry of Education and Research
1992-2007	Editorial Advisor, <i>The Biochemical Journal</i>
1995-2000	Editorial Board, <i>The Journal of Biological Chemistry</i>

***Journal Peer Review Activities (Alphabetical)***

Ad Hoc Reviewer for:

*Analytical Biochemistry*  
*Biochemistry*  
*Biochimica Biophysica Acta-Lipids*  
*Cancer Research*  
*Cell Biology International*  
*Circulation Research*  
*Current Biology*  
*Current Cancer Drug Targets*  
*FASEB Journal*  
*Journal of Lipid Research*  
*Journal of Cellular Biochemistry*  
*Journal of Cellular Physiology*  
*Oncogene*  
*Organic Letters*  
*Molecular Biology of the Cell*  
*Molecular and Cellular Biology*  
*Molecular and Cellular Proteomics*  
*Nature*  
*Neurochemistry*  
*Proceedings of the National Academy of Science*  
*Proteomics*  
*Trends in Biochemical Science*



## **ORGANIZATIONAL ACTIVITIES:**

### **Institutional Administrative Appointments**

- 2008- Present Associate Professor Promotion Committee
- 2006- Present Associate Director MSTProgram
- CMM Policy Committee  
BCMB Policy Committee
- 2005- present Instructor and Assistant Professor Reappointment Review Committee
- Scientific Foundations of Medicine Committee (for new curriculum)  
Endocrinology Committee (for new curriculum)  
MSTP (Medical Scientist Training Program)- Screening Committee
- 2004- present Co-Director of Metabolism Section (until 2012)
- MSTP (Medical Scientist Training Program) Admissions Committee (1992-present)  
IRG (Institutional Research Grants) Review Committee 1998-present)
- 2003- present Co-Director-Pathways and Regulation (BCMB Course)(to 2005)
- Biological Chemistry Graduate Program Admissions Committee  
MSTP (Medical Scientist Training Program) Admissions Committee (1992-present)  
IRG (Institutional Research Grants) Review Committee 1998-present)
- 2002 Co-Director of Graduate Biochemistry and Cell Biology (BCMB Course-last year of course)  
BCMB Admissions Committee (2002-2011)  
MSTP (Medical Scientist Training Program) Admissions Committee (1992-present)  
IRG (Institutional Research Grants) Review Committee 1998-present)
- 1992-2001 Director of Admissions, BCMB (Biochemistry, Cellular and Molecular Biology Graduate Program) (1992-2000)  
Director of Endocrinology Section of Organ Systems Course (1993-2001)  
BCMB Policy Committee (2000-2002)

BCMB Steering Committee (1987-2000)  
MSTP (Medical Scientist Training Program) Admissions Committee (1992-present)  
IRG (Institutional Research Grants) Review Committee 1998-present)

1986-1994 Director, Physiology Graduate Program (1988-1994)

BCMB Admissions Committee (1986-1992)  
BCMB Steering Committee (1987-2000)  
MA/PhD Programs Committee (1988-1994)  
Co-Chairman of BCMB 1990 Retreat Committee  
Medical School Council (1990-1992)  
BCMB Rotations Committee (1990-1992)  
BCMB Curriculum Review Committee (1987-1992)  
BCMB Examination Committee (1987-1990)  
BCMB 1989 Retreat Committee

#### **CONFERENCE ORGANIZER, SESSION CHAIR**

- 2013 Gordon Research Conference on “Molecular & Cellular Biology of Lipids”  
Session Chair
- 2011 Program co-Chair for 2011 Annual ASBMB Meeting
- 2010 Lipid Theme Organizer and Session Chair for 2010 Annual ASBMB Meeting,  
April 24-28, 2010, Anaheim California.
- 2009 Fiftieth International Symposium on Regulation of Enzyme Activity And  
Synthesis in Normal and Neoplastic Tissues, Bologna Italy, September 2009-  
Session Chair
- 2005 Gordon Research Conference on “Signal Transduction Within the Nucleus”,  
Buellton CA, 2005-Chairman
- Forty Sixth International Symposium on Regulation of Enzyme Activity And  
Synthesis in Normal and Neoplastic Tissues, Bologna Italy, October 2005-  
Session Chair
- 1998 Co-Organizer, International Symposium on Compartmentation of  
Intracellular Signaling, Victor Harbour, Australia, March 1998

### **ADVISORY COMMITTEES, REVIEW GROUPS**

- 2014 NIH Ad Hoc Reviewer, BMCT, OTC (SBIR)
- 2013 NIH Ad Hoc Reviewer BMCT, BBM, OTC (SBIR)
- 2013- Present FASEB Subcommittee on Training and Career Opportunities
- 2012 NIH Ad Hoc Reviewer-BMCT and OTC (SBIR)
- 2012- 2015 Chair, ASBMB Meetings Committee
- 2011- 2016 KERN Lipid Conference Board of Directors
- 2010 Lipid Theme Organizer and Session Chair for 2010 Annual ASBMB Meeting, April 24-28, 2010, Anaheim California.
- 2009- 2012 ASBMB Meetings Committee
- 2009- 2013 Founder and Director of the ASBMB Lipid Research Division
- 2008 NIH Site Visit for the Hollings Cancer Center, MUSC, Sept 2008  
NIH Site Visit for the Salk Cancer Center, May 2008  
NIH Ad Hoc Reviewer for Arthritis, Connective Tissue and Skin Sciences, Dermatology and Rheumatology, Sept 2008  
NIH Ad Hoc Reviewer for Arthritis, Connective Tissue and Skin Sciences, Small Business Grants, Nov. 2008
- 2007- 2011 NIH National Study Group Member-Basic Mechanisms of Cancer Therapeutics (BMCT-ONC-Q)-Chartered Member
- 2005- 2006 NIH National Study Group Member-Basic Mechanisms of Cancer Therapeutics (BMCT-ONC-Q)-Ad Hoc
- 2006 NIH National Study Group Drug Discovery and Molecular Pharmacology (DMP)-Ad Hoc

- NIH National Study Group Member-Basic Mechanisms of Cancer  
Therapeutics (ONC-Q)-Ad Hoc
- 2003-2005 AHA National Study Group: Cell Function and Metabolism –Chairman
- NIH National Study Group Member-Basic Mechanisms of Cancer  
Therapeutics (ONC-Q)-Ad Hoc
- 2003-2007 Scientific Advisory Board for University of Louisville NIH COBRE Grant
- 2001-2003 AHA National Study Group: Cell Function and Metabolism -Co-Chairman
- 1998-2003 NIH Special Review Committee Member-NIAMS
- 1993-1998 American Cancer Society Personnel B Study Section
- 1990 External Reviewer of the Graduate Physiology Program-  
Howard University, August, 1990

### **PROFESSIONAL SOCIETIES**

American Chemical Society  
American Society for Biochemistry and Molecular Biology  
American Society for Cell Biology  
The Biochemical Society

### **RECOGNITION**

- 2009 Corresponding Member, Class of Physical Sciences, Academy of Sciences of  
the Università di Bologna (Institute of Bologna Academy of Sciences)

### **INVITED SEMINARS at National and International Conferences** (selected)

- 2014 55<sup>th</sup> International Symposium on Biological Regulation, University of Bologna,  
Bologna Italy, September 2014
- 2013 Argentine Society for Biochemistry and Molecular Biology (SAIB) Lipid  
Symposium, November 5-7, 2013, Buenos Aires Argentina

- Gordon Research Conference, Molecular and Cellular Biology of Lipids, Waterville Valley NH, July 2013 (asked to fill in for absent speaker)
- 2012 Fifty Third International Symposium on Regulation of Enzyme Activity And Synthesis in Normal and Neoplastic Tissues, *Enzymology and Physiological Role of Diacylglycerol Kinase-Theta in the Central Nervous System*, University of Bologna, Bologna Italy, September 2012
- 2010 FASEB Summer Conference on “*Phospholipid Metabolism in Disease, Cell Signaling, and Membrane Dynamics*” Vermont Academy, Snow Mass CO, July 18-23, 2010
- 2009 Gordon Research Conference on Molecular and Cellular Biology of Lipids, Waterville Valley Resort, July 2009
- Fiftieth International Symposium on Regulation of Enzyme Activity And Synthesis in Normal and Neoplastic Tissues, University of Bologna, Bologna Italy, September 2009
- Department of Biochemistry and Biomedical Sciences, McMaster University, Hamilton ON, Canada, October 2009
- 2008 Conference on “*Phospholipid-Mediated Signaling*”, Pohang University of Science and Technology (POSTECH), Pohang, Korea Feb 2008.
- 2007 Gordon Research Conference on “*Signal Transduction Within the Nucleus*”, Crowne Plaza, Ventura, CA
- 2006 FASEB Summer Conference on *Phospholipases*, Vermont Academy, Saxtons River VT
- 2005 *Enzymology of Diacylglycerol Kinases*, Forty Sixth International Symposium on Regulation of Enzyme Activity And Synthesis in Normal and Neoplastic Tissues, University of Bologna, Bologna Italy, October 2005
- 2004 *Nuclear Diacylglycerol Kinases*, 58<sup>th</sup> Congress of the Italian Society for Anatomy and Cell Biology, Symposium, Chieti Italy
- 2001 *Reciprocal Regulation of Nuclear PLD and DGK- $\theta$* , Forty Second International Symposium on Regulation of Enzyme Activity And Synthesis in

Normal and Neoplastic Tissues, September, 2001

*Role of G $\alpha$  in Cellular Transformation*, First Annual Opinion Leaders Roundtable on "Targeted Therapies in the Treatment of Lung Cancer, Aspen CO, January, 2001

1999 *Reciprocal Regulation of Nuclear PLD and DGK- $\theta$* , Italian Society for Histochemistry and Cell Biology, Symposium on Nuclear Signals, Camerino, Italy, June 1999

*Regulation of Nuclear PLD*, Fortieth International Symposium on Regulation of Enzyme Activity And Synthesis in Normal and Neoplastic Tissues, October 1999

1998 *Regulation of Nuclear PLD by RhoA*, 1998 FASEB Conference on Phospholipases, Vermont Academy, June

1997 *Thrombin-stimulated PC Metabolism in Fibroblasts*, 1997 Gordon Research Conference on Lipid Metabolism:

1994 *Thrombin-stimulated Nuclear PKC*, Keystone Symposium, Protein Kinase C: Regulation, Structure, Function and Role in Human Disease, February 1994

1992 *Thrombin-stimulated Nuclear PKC*, International Conference on Second Messengers and Phosphoproteins, August 1992 (presented by K. Leach)

*Thrombin-stimulated Nuclear PC Metablism*, ASBMB/Biophysical Society Symposium: Lipid-Mediated Signal Transduction, February 1992 (presented by Mathew B. Jarpe)

1991 *Molecular Species Analysis of Mitogen-induced Diacylglycerols*, Second International Conference on Nerve Growth Factor and Related Substances, Australia, July 1991

1990 *Molecular Species Analysis of Mitogen-induced Diacylglycerols*, UCLA Symposium on Molecular and Cellular Neurobiology: Neurotrophic Factors, April 1990

*Molecular Species Analysis of Induced Diacylglycerols*, ASBMB/AAI Symposium: Phosphatidylcholine and Cell Signalling, June 1990

*Molecular Species Analysis of Induced Diacylglycerols*, Sixth International Symposium on Cellular Endocrinology: Receptor-Mediated Stimulation of Phosphoinositide Metabolism and Protein Kinase C August 1990

*Thrombin-stimulated Lipid Metabolism*, ASN Meeting; Receptors, Post-receptor Events and Signalling,, November 1990

### **INVITED SEMINARS at Universities and Institutes (selected)**

#### **External:**

Medical College of South Carolina, Charleston SC, 2013  
University of Maryland, Department of Chemistry, College Park MD, 2013  
Georgia Health Sciences University, Augusta Georgia, 2011  
St. Louis University, Department of Biochemistry-2009  
Medical College of South Carolina, Department of Biochemistry and Molecular Biology- 2007  
St. Louis University, Department of Pharmacological and Physiological Sciences- 2007  
The Netherlands Cancer Institute, Division of Cellular Biochemistry, Amsterdam, The Netherlands-2005  
The University of Louisville, Department of Biochemistry-2005  
National Centre of Biotechnology, Department of Immunology and Oncology, Madrid Spain- 2004  
University of Arkansas, Department of Physiology- 2002  
University of Pennsylvania Medical Center- Institute for Environmental Medicine-1999  
Cleveland Clinic, Department of Molecular Cardiology- 1999  
Kansas State University, Department of Biochemistry- 1999  
Hanson Cancer Research Center, Department of Biochemistry, Adelaide Australia- 1998  
Children's Medical Research Center-Sydney, Department of Biochemistry- 1998  
The UpJohn Company, Department of Cell Biology- 1996  
St. Louis University, Department of Pharmacological and Physiological Sciences- 1995  
UpJohn Company, Department of Cell Biology- 1994  
University of Pennsylvania School of Medicine-Hershey, Department of Biochemistry- 1994  
NIH-Gordon Guroff- 1993  
Washington University, Department of Biochemistry- 1993  
NIH- Aging Institute- 1992  
Kansas State University, Department of Biochemistry- 1986  
Kansas State University, Department of Biology- 1986  
University of Mississippi, Department of Biochemistry- 1986  
University of Mississippi, Department of Pharmacology- 1986  
University of Tennessee-Memphis, Department of Biochemistry- 1986

East Tennessee State University, Department of Biochemistry- 1986

### **Internal-Johns Hopkins University**

Johns Hopkins University, Department of Oncology 2013.

Johns Hopkins University, Department of Biological Chemistry- 2006

Johns Hopkins University, Department of Biological Chemistry- 2004

Johns Hopkins University, Department of Biological Chemistry- 2002

Johns Hopkins University, Department of Internal Medicine- 1994

Johns Hopkins University, Department of Oncology- 1992

Johns Hopkins University, Department of Physiology- 1986

### **Current Active Extramural Sponsorship**

Title: "Biochemistry and Physiological Role of Diacylglycerol Kinase Theta"

Dates: 5/13-5/18

Sponsor: NIH

Identification Number: RO1 NS077923

Total Direct Costs: \$1,250,000

Role: P.I.

Percent Effort: 70%

### **Previous Extramural Sponsorship**

Title: *Coordinate Regulation of Nuclear DGK- $\theta$  and PLD (this is a renewal of Signaling Cascade of RhoA-mediated PLD Activation)*

Dates: 9/05-9/09

Sponsor:NIH

Identification Number: 2R01 GM059251

Total Direct Costs: \$760,000

Role: P.I.

Percent Effort: 50%

Title: *Intracellular S1P & Signaling in Lung Endothelial Cells*

Dates: 12/04-11/09

Sponsor:NIH

Identification Number: R01 HL079396

Total Direct Costs: \$72,454

Role:Co-P.I.

Percent Effort: 10%

Title: *Gordon Research Conference: Signal Transduction Within The Nucleus*



Dates: 2/06/05-2/011/05  
Sponsor: NIH  
Identification Number: 1R13GM074550-01  
Total Direct Costs: \$13,750  
Role: PI-Meeting Chair  
Percent Effort: N/A

Title: *Signaling Cascade of RhoA-mediated PLD Activation*  
Dates: 7/00-6/05  
Sponsor:NIH  
Identification Number: R01 GM059251  
Total Direct Costs: \$77,175  
Role: P.I.  
Percent Effort: 50%

Title: Regulation of  $\alpha$ -Thrombin-induced Nuclear DKG-0  
Dates: 7/01-6/04  
Sponsor: AHA  
Identification Number: 0151583U  
Total Direct Cost: \$120,00  
Role: P.I.  
Percent Effort: 10%

Title: Regulation of  $\alpha$ Thrombin-induced Nuclear DKG-0  
Dates: 7/01-6/04  
Sponsor: AHA  
Identification Number: 0151583U  
Total Direct Cost: \$120,000  
Role: P.I.  
Percent Effort: 10%

Title: *Nuclear PLD Activity in NEST*  
Dates: 5/99-4/00  
Sponsor: Page and Otto Marks Foundation Research Award.  
Identification Number:  
Total Direct Costs: \$50,000  
Current Year Direct Costs: \$50,000.  
Role:P.I.  
Percent Effort: 5%

Title: *PC Metabolism in Nuclear Envelope Signaling*

Dates: 5/95-4/97

Sponsor:NIH

Identification Number: R21 GM51593

Total Direct Costs: \$124,834

Role:P.I.

Percent Effort: 10%

Title: *Molecular Species of Mitogen Induced Diglycerides*

Dates: 8/89-7/94

Sponsor:NIH

Identification Number: RO1 GM39086

Total Direct Costs: \$465,548

Role:P.I.

Percent Effort: 60%

Title: *Mechanism of Stimulated Arachidonic Acid Release*

Dates: 6/88-5/90

Sponsor: American Heart Association Investigator Award

Identification Number: M880256

Total Direct Costs: \$44,000

Role:P.I.

Percent Effort: 10%

### ***Training Grant Participation***

*Biochemistry Cellular and Molecular Biology*

1986-Present.

Director of Admissions (1993-2000)

*Medical Scientist Training Program*

Associate Director (2006-Present)

Screening Committee (2005).

Admissions Committee (1992-Present)

### ***Teaching***

Graduate Courses

Pathways and Regulation

Marcromolecular Structures

The Nucleus  
Graduate Biochemistry and Cell Biology  
Surface Receptors and Sensory Transduction  
Selected Topics in Membrane Biochemistry  
Enzymes, Receptors, and Cellular Regulation  
Method and Logic (BCMB Curriculum)  
Biological Principles for Physical Scientist (IPMB Program)

#### Medical School Courses

Medical Biochemistry Course-Metabolism (Director )  
Recipient of the Medical School Alumni Teaching Award, 2008  
Medical Macromolecules-Lecturer (Membranes)  
Endocrinology Section of Organ Systems Course  
GI Section of Organ Systems Course and Laboratories

#### ***Mentorship***

##### Current Graduate Students

Ms. Hana Goldschmidt (Biochemistry Cellular and Molecular Biology)  
Ms. Elizabeth Petro (Biological Chemistry)

##### Graduate Students Trained

Dr. Melissa Pessin (Medical Scientist Training Program)  
Ph.D. 1991 Professor, Chair, Department of Laboratory Medicine, Mem. Sloan Kettering  
Dr. Leela Rangan (Biochemistry Cellular and Molecular Biology)  
Ph.D. 1994 Science writer  
Dr. Matt Jarpe (Biochemistry Cellular and Molecular Biology)  
Ph.D. 1995 Director of Biology, Acetylon Pharmaceuticals  
Dr. Jie Cheng (Cellular and Molecular Physiology)  
Ph.D. 1997 Research Associate JHMI  
Dr.. Becky Tu-Sekine (Biochemistry Cellular and Molecular Biology)  
Ph.D. 2006. Research Associate JHMI

##### Post-Graduate Students

Dr. Timothy M. Wright (Physician Scientist)  
Director of Immunology and Transplant Science, Novartis Chemical Company  
Dr. Lisa Bregoli (Postdoctoral Fellow, PhD from the University of Bologna)  
Senior Researcher, Veneto Nanotech  
Dr.. Becky Tu-Sekine (PhD from Biochemistry Cellular and Molecular Biology)  
Research Associate

***Thesis Committees (Alphabetical)***

David Bolduc  
Pui Butkinaree  
Rebecca Cassidy  
Suchismita Chandran  
Lingfeng Chen  
Win Cheung  
Brian Collins  
Tamara Doering  
Mon-Chou Fann  
Tiffany Frey  
Zachary Gerhart  
Michael Housley  
Chuan-Hsiang Huang  
Zhiyuan Hu  
Adam Hughes  
Basil Hussain  
Rahki Jattani  
Elizabeth Kolar  
Janett LeBron  
Jieun Lee  
Soo Hee Lee  
Yangjian Liu  
Fred Lo  
Ya-Wen Lu  
Jennifer McKee-Johnson  
Niraj Mehta  
Sachin Mohan  
Marcel Estévez Montero  
Michael Myceka  
Jillian Prendergast  
Meenakshi Rao  
Adam Resnick  
Kaoru Sakabe  
Roberta Scherr  
Beiye Shen  
Dale Schumaker  
Marcus Seldin  
Kyoung Sook  
Ji Sun

Stephanie Tan (Ying-Lin Stephanie Tan)

Michelle Tang

Ming Tang

Zihao Wang

David Wasserman

Brice Wilson

Ye Ching Wu

Tzu-Lan Yeh

Jr-Ming Yang

Shan Zha