

## CURRICULUM VITAE

## **Louis H. Philipson, M.D., Ph.D.**

Professor  
Departments of Medicine and Pediatrics  
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Websites:  
<http://www.kovlerdiabetescenter.org/>  
<http://diabetes.bsd.uchicago.edu>  
<http://drtc.bsd.uchicago.edu>  
[www.kovlerdiabetescenter.org/registry](http://www.kovlerdiabetescenter.org/registry)  
[www.monogenicdiabetes.org](http://www.monogenicdiabetes.org)

Date of Birth: Sept. 22, 1954  
US Citizen

## **CURRENT APPOINTMENTS/POSITIONS**

2006 – present: Director, University of Chicago Kovler Comprehensive Diabetes Center  
2003 - present: Professor, Department of Medicine; effective 7/1/08, Joint appointment, Pediatrics  
2002 - present: Scientific Director, cGMP laboratory  
2002 - present: Committee on Molecular Medicine  
2000 - present: Committee on Molecular Metabolism and Nutrition  
2000 - present: Director, Program in Islet Cell Transplantation Biology  
1991 - present: Attending Physician, Department of Medicine (Endocrinology)  
1995 - present: Associate Director, Markey Graduate Program in Molecular Medicine  
1991 - 2010: Committee on Cell Physiology (disbanded 2010)

## PREVIOUS EXPERIENCE

Nov. 1999 - Sept. 2000      Acting Section Chief, Section of Endocrinology, University of Chicago  
1998-03      Associate Professor, Dept. of Medicine (Endocrinology)  
1991-98      Assistant Professor, Dept of Medicine, University of Chicago  
1990-91      Instructor in Medicine, University of Chicago  
1988-91      Fellow in Endocrinology, with Dr. D. F. Steiner; University of Chicago  
1987-88      Resident (Medicine), University of Chicago, (Clinical Investigator Pathway)  
1986-87      Internship in Medicine, University of Chicago

PHILIPSON, LOUIS, M.D., Ph.D. November 2010

1977-78 Research in Heparin Biochemistry, Sidney Farber Cancer Center, Boston, MA. (R.D. Rosenberg, Dept. of Hemostasis and Thrombosis)

## **EDUCATION**

Primary and secondary education in Syosset, New York

1972-76 A.B., Harvard College, Cambridge, MA (cum laude, Biochemistry)

1975-76 Undergraduate thesis, Massachusetts General Hospital, Boston, MA with Dr. R. Jeanloz, Laboratory for Carbohydrate Research

1978-82 Ph.D., University of Chicago (Biochemistry)

1982-86 M.D. (with honors) University of Chicago Pritzker School of Medicine

## **HONORS and AWARDS**

1971 National Science Foundation Summer Research Award

1972 National Merit Semifinalist

1975 Dreyfus Foundation grant for support of undergraduate research

1978-82 Molecular and Cell Biology Training Grant (Univ. of Chicago)

1986 Alpha Omega Alpha Medical Honor Society

1986 John Van Prohaska Award and Honorarium, University of Chicago

1990- 91 Fellow - Juvenile Diabetes Foundation

1990 Young Investigator Award, American Diabetes Association, Illinois Section

1991-94 Research and Development Award, American Diabetes Association

1996-98 Faculty Teaching Award and Course Development Grant

1999 Mary Jane Kugel Award from the Juvenile Diabetes Foundation International

2001-05 Mentor-Based Post-Doctoral Fellowship award, American Diabetes Association

2002 Mentor-Based Minority Post-Doctoral Fellowship award, American Diabetes Association

2007 "2007 Fathers of the Year," Chicago Chapter, American Diabetes Association

2007 "Scientist of the Year, 2007," National Disease Research Interchange, May 15, 2007, Philadelphia, PA

2008 "Walter Cohen Lectureship in Diabetes," Drexel University, November 19, 2008

2009 Fellow, American College of Physicians

2009 Max Miller Lectureship, Central Society for Clinical Research (Sugar Club/Midwest Metabolism Dinner) April 23, 2009

2010 Jack Crawford Lecturer, Department of Pediatric Endocrinology, Massachusetts General Hospital, Boston, May 11, 2010

2010 Bo Koster Lecturer, The Department of Cell Biology and Physiology, Washington University, St. Louis, Mo., June 1, 2010

## **LICENSURE AND BOARD CERTIFICATION**

1987 Diplomate, National Board of Medical Examiners

1987-08 State of Illinois License #036-079044, exp 7/31/2011

1989 Diplomate, American Board of Internal Medicine

1991-01 Board Certification: Endocrinology, Diabetes and Metabolism

2002-12 Board Re-Certification: Endocrinology, Diabetes and Metabolism

## **ORGANIZATIONS and SOCIETIES**

American College of Physicians  
American Diabetes Association  
The Endocrine Society  
AAAS  
ARRL  
American Society for Biochemistry and Molecular Biology (1991)  
Biophysical Society (1993)  
European Association for the Study of Diabetes (1995)  
Central Society for Clinical Research (1995)

### **PEER REVIEW**

1996-99      Editorial Board, *Diabetes*  
2001-06      Editorial Board, *American Journal of Physiology: Endocrinology and Metabolism*  
2007 -        Editorial Board, *Journal of Biological Chemistry*  
2008 -        Editorial Board, *Diabetes*

Representative Journal Reviews: Science, Nature, Journal of Biological Chemistry, Diabetes, American Journal of Physiology, Journal of Clinical Investigation, Perspectives in Biology and Medicine, Cell, Cell Metabolism, PLoS

### **NIH Committees:**

1998      NIH: NIDDK Cell biology of the Beta Cell Study Section  
1998      NIH Conference Grant Review and ad hoc member Metabolism Study Section  
1998      NIH Cellular Biology and Physiology 2 study section ad hoc member  
1999      NIH special Study section on Centers of Excellence in Diabetes Research  
2000      NIH SBRI review panel  
2000      NIH special emphasis panel: Beta Cell Imaging  
2002      NIH NIDDK special emphasis panel: Beta Cell Biology  
2002      NIH Endocrinology Study Section, ad-hoc member  
2003      NIH NRSA review Study Section ad-hoc member  
2003      NIH Endocrinology Study Section, ad-hoc member  
2004-05    NIH Metabolism / CADO Study Section ad-hoc member  
2005-07    NIH Cellular Aspects of Diabetes and Obesity (CADO) member  
2008-9     NIH special emphasis panels  
2009 -     NIH External Evaluation Committee, Islet Resources Center consortium, NIDDK  
2010 -     NIH Review Panel ZRG1 EMNR-Q(02) Member Conflicts: Diabetes and Obesity

### **National Committees**

1997-99    Scientific Review Committee, Juvenile Diabetes Foundation  
1997-06    Research Grant Review Panel, American Diabetes Association  
1998-99    Abstract Review Committee, American Diabetes Association National Meeting  
2007-08    American Diabetes Association Annual Meeting Organizing Committee, islet cell biology section, and abstract reviewer  
2007-8, 9-   Juvenile Diabetes Research Foundation Grant Review Committee

**American Diabetes Association Volunteer Activities**

2007	Speaker, Pinnacle Society, Chicago ADA National Meeting
2007	Recipient, Fathers of the Year award, Northern Illinois
2008	Chair, "Fathers of the Year" committee, Northern Illinois
2008-	Fathers of the Year Committee
2008-	Leadership Council/ Board of Directors, Northern Illinois
2008	Speaker, Pinnacle Society, Atlanta, GA, February 9, 2008
2008	WGN-TV Channel 9 Circle of Care panel discussant, March 8, 2008
2009 -	American Diabetes Association National Board of Directors
2009-	American Diabetes Association National Meeting oversight committee
2010-	President, Chicago / Northern Illinois Community Leadership Board

**Other Board Memberships**

National Disease Research Interchange (NDRI) 2009-

**PRESENTATIONS**

1. Damp, Germany, Fifth International Symposium on Glycoconjugates. 1979
2. St. Louis, Missouri, Federation Meeting. 1980
3. Philadelphia, Pennsylvania, Society for Complex Carbohydrates. October 1981
4. Gordon Conference on Glycoconjugates 1982
5. Galveston, Texas, National Student Research Forum. 1983
6. *(Presentations 1-5 were related to Ph.D. thesis studies on chondroitin sulfate and hyaluronate biosynthesis)*
7. NIH, "K<sup>+</sup> channels expressed in human insulinoma," Sulfonylurea Conference, February, 1990
8. Stonybrook, S.U.N.Y. April, 1990
9. The Upjohn Company, April, 1990
10. Lilly Corporation, May, 1990
11. University of Miami, Diabetes Section, January, 1991
12. Department of Endocrinology and Metabolism, St. Louis, Washington University, April 1991
13. Washington, D.C., International Diabetes Federation, June 1991
14. San Antonio, American Diabetes Association, June 1992
15. Glaxo Corporation, September and January 1993
16. American Diabetes Association - Council Presentation and oral abstract, June 1993
17. Rush Medical Center, Cell Physiology, October 1993
18. Baylor University, Cell Biology, September, 1993
19. Rahway, NJ, Merck, Inc., February, 1994
20. Vanderbilt University, March, 1994
21. Biophysical Society, March, 1994
22. Pfizer, Groton, CN, November, 1994
23. Washington, DC, IBC K Channel Conference, January, 1995
24. Biophysical Society, February, 1995 (co-chair of K Channel II session)
25. American Diabetes Association - June, 1995

26. Stockholm, Sweden, European Association for the Study of Diabetes, September, 1995
27. Sigtuna, Sweden, Islet Cell Study Group, September, 1995
28. Durango, Co, Keystone Conference: Ion Channels as Therapeutic Targets, February 1996
29. Biophysical Society, Baltimore, MD, February, 1996
30. University of Virginia-Charlottesville, Dept of Biophysics, March, 1996
31. Washington University, St Louis, Diabetes Research Seminar Series, December, 1996
32. American Diabetes Association Annual Meeting, Symposium on Calcium Signaling, Boston, June, 1997
33. Abbott Labs, Neuroscience Division, August, 1997
34. University of Pennsylvania, "George Raiziss Biochemical Noon Rounds", October, 1997
35. GlaxoWellcome Research Institute, December, 1997
36. Third Seattle Islet Symposium: "Recent Advances in Signaling Mechanisms Common to the Nervous System and Islets" invited Lecture: "Ion Channels in islet cells." May, 1998
37. St. Charles, IL, 2<sup>nd</sup> International Conference on KATP, September, 1998. Chair of  $\beta$ -cell calcium section and invited lecture: "Why and How  $\beta$ -cells Burst"
38. "Diabetes," Howard Hughes Medical Institute Outreach Program, University of Chicago, December 1999
39. University of Washington, Seattle, Division of Endocrinology, "Beta cell Imaging," January, 2000
40. "Insulins: Old and New," Department of Medicine Grand Rounds, University of Chicago, May 2000
41. Biophysical Society Meeting, February 2000 – Chair of Session "Imaging and Detecting Cell Signaling"
42. Amylin Corp, "Functional imaging of beta cells," August, 2000
43. Vanderbilt University, Nashville, TN, "Dangerous Visions – Imaging pancreatic islets," December, 2000
44. Biophysical Society Meeting Feb 2001 – Co-Chair of Session "Intracellular Calcium Signalling" and talk "Role of SK Channels in Insulin secreting cells"
45. St. Jean Cap-Ferrat, Nice, France, Servier Symposium, March 2001 TRP channels in pancreatic Islets"
46. American Diabetes Association Northern Illinois Chapter Meeting, March, 2001 "Pancreatic Islet Cell Transplantation"
47. Southern Illinois University, Carbondale, IL – First Annual Graduate-Student Sponsored-Invited Lecture, Department of Physiology, April 20, 2001
48. University of Wisconsin, Dept of Medicine, "Functional Imaging of Pancreatic Islets" Nov. 2001
49. Congress on Beta-Agonists: New Understandings of Nonbronchodilator Actions, April, 2002, "Beta Adrenergic Effects on Metabolism"
50. San Francisco, CA, American Diabetes Association Annual Meeting, June 2002: Three presentations in beta cell poster discussion:
  51. "SK channels in insulin secreting cells"
  52. "Modeling physiological events in beta cell physiology"
  53. "Imaging gap junctional networks in islets"
54. "ROS imaging in beta cells," Takeda of North America, Lincolnshire, IL, November 2002
55. "Recent Advances in Diabetes Research" Northern IL. ADA meeting March 2003
56. "New Agents in the Management of Diabetes" University of Chicago Diabetes 2003: An Update for Clinicians December 13, 2003
57. "Mitochondria in the beta cell", National Diabetes Education Initiative Beta cell conference, Chicago, May 7, 2004

58. "Calcium Cameleons" ADA symposium June, 2004
59. "Insulin Pump Therapy" speaker for Medtronics seminar, Oakbrook, IL November 4, 2004
60. "Beta cell Functional Mass", invited speaker NovoNordisk Diabetes Dialogues 2005, March, 2005, Copenhagen, Denmark
61. "Imaging beta cell function," Minneapolis City wide Endocrinology grand rounds, Univ of Minnesota, April 14, 2005
62. Invited speaker "Lipid & Diabetes Research Symposium," Washington University, St. Louis April 21, 2005
63. "Functional Optical Imaging of Pancreatic islets: Insight and Dangers," Center for Research on Occupational & Environmental Toxicology, Oregon Health Sciences University, Portland, OR November 21, 2005
64. "Imaging the Pancreatic Beta Cell," NovoNordisk Diabetes Update 2006, Xi'an, China, February 10, 2006
65. "Functional Imaging of the Beta Cell," "Imaging the Pancreatic Beta Cell in Health and Disease, 3rd NIH Workshop", April 24-25 2006 Washington, DC
66. "Imaging the beta cell," Department of Biochemistry & Molecular Biology, Center for Diabetes Research, Indiana University, October 30, 2006
67. "Permanent Neonatal Diabetes and KCNJ11 Mutations", Dept of Medicine Grand Rounds, University of Chicago, Chicago, IL, February 6, 2007
68. "Beta Cell Mitochondrial Dynamics", Dept of Structural and Cell Biology, University of Texas Health Sciences, San Antonio, TX, March 27, 2007
69. "New Technology for Diabetes", Diabetes Day, University of Chicago Comprehensive Diabetes Center, Chicago, IL March 3, 2007
70. "Kv2.1 null mouse: beta cell function." IGIS symposium, Nice, France. March 8-11, 2007
71. "Beta Cell K<sup>+</sup> channel mutations in mouse and man:" Diabetes Grand Rounds, University of Michigan, Ann Arbor, May 3, 2007
72. "Neonatal Diabetes," Department of Pediatrics Grand Rounds, University of Chicago, Chicago, August 23, 2007
73. "Oscillations in Beta Cells," European Association for the Study of Diabetes, Amsterdam, September 19, 2007
74. "Permanent Neonatal Diabetes," Hillblom Visiting Scholar, Hillblom Center for Islet Research, University of California, Los Angeles Nov 28-30, 2007
75. "Imaging the Pancreatic Beta Cell," Daiichisankyo Diabetes Roundtable. Tokyo, January 12, 2008.
76. "Imaging the Pancreatic Beta Cell," Daiichisankyo Diabetes Roundtable. Osaka, January 12, 2008.
77. "Permanent Neonatal Diabetes," Kobe University Center for Excellence in Diabetes Research, January 15, 2008.
78. "Optical Metabolism of the Beta Cell," Endocrine Research Conference, University of Pittsburgh, February 28, 2008
79. "Neonatal Diabetes," Endocrine University-Wide Conference, Division of Endocrinology and Metabolism, University of Pittsburgh, February 28, 2008.
80. "Permanent Neonatal Diabetes and Monogenic Diabetes," Combined Rush-UIC-Cook County Endocrinology Grand Rounds, Chicago, March 11, 2008
81. Panelist, CME activity: First Annual Comprehensive Update on Preventive Cardiology, The University of Chicago, March 28, 2008
82. "Monogenic and Neonatal Diabetes," and CME course director for Diabetes Section, Annual Midwest Clinical Conference (MCC) of the Chicago Medical Society, Oakbrook, IL, March 28, 2008.

83. "Neonatal Diabetes," University of Chicago Department of Pathology Grand Rounds, April 8, 2008
84. "Neonatal Diabetes: From Bedside to Bench," Combined Medicine-Pediatrics Grand Rounds, University of North Carolina, Chapel Hill, NC, May 22, 2008
85. "Imaging the Pancreatic Beta Cell," Endocrinology Rounds, University of North Carolina, Chapel Hill, NC, May 22, 2008
86. "Insulin mutations as a Cause of Neonatal Diabetes," invited plenary speaker, the 90<sup>th</sup> meeting of the Endocrine Society, San Francisco, CA, June 18, 2008
87. "Monogenic and Neonatal Diabetes," New Drug Discoveries and Therapies Symposium, Midwestern University, Downers Grove, IL July 18, 2008
88. "Neonatal Diabetes: from bedside to Bench and Back Again," Banting and Best Diabetes Center, University of Toronto, Toronto, Canada, September 12, 2008
89. "Neonatal Diabetes," Carousel of Hope Scientific Session / Barbara Davis Gala, Beverly Hilton, Los Angeles, October 25, 2008
90. "Monogenic Diabetes," Grand Rounds Dept of Medicine, Drexel University College of Medicine, Philadelphia, November 19, 2008
91. "Insulin gene mutations and Diabetes," Walter Cohen Lecture, Drexel University, Philadelphia, November 19, 2008
92. "Diabetes and Obesity: Role of Glycemic Control," The University of Chicago Pritzker School of Medicine First Annual Comprehensive Review for the Management of the Obese Patient," Chicago, IL, December 6, 2008
93. "The Incretin Effect," CME review, sponsored by MediKinetics LLC, St. Louis, MO, January 8, 2009
94. "Diabetes Research Update", American Diabetes Association Northern Illinois Community Board Meeting, Chicago, IL, January 12, 2009
95. "Monogenic diabetes and implications for the beta cell", beta Cell Advisory Group, Takeda Pharmaceuticals, Tokyo, Japan, January 17, 2009
96. Update on Clinical Research in Diabetes, Kovler Diabetes Center Patient Update, Chicago, March 7, 2009
97. "Monogenic Diabetes," Barbara Davis Diabetes Center, University of Colorado, Denver, CO, March 12, 2009
98. "The University of Chicago Pritzker School of Medicine: Second Annual Comprehensive Update on Preventive Cardiology Pre-ACC CME Symposium," Orlando, FL, March 27, 2009,
99. "The Second Annual University of Chicago Pritzker School of Medicine Preventive Cardiology Summit, Series 1: Comprehensive Overview of Preventive Cardiology," Chicago, IL, April 17, 2009
100. Invited Participant, "Individualizing Therapy in Type 2 Diabetes," sponsored by the American Diabetes Association and the Endocrine Society, Leesburg, VA, April 16, 2009
101. "Max Miller Lecture," plaque and honorarium – "Neonatal and Monogenic Diabetes," Midwest Metabolism / Sugar Club APCR meeting, Chicago, IL, April 23, 2009
102. "Frontiers in Diabetes Research," invited Lecture, Diabetes EXPO sponsored by the American Diabetes Association, Chicago, IL, April 24, 2009
103. Johnson McGuire Lectureship, Department of Medicine, University of Cincinnati, June 24, 2009
104. "Genetics of Diabetes," "Update in Type 2 Diabetes: Diabetes, Insulin and Cancer," "Diabetes Therapy and Cardiovascular Diseases," lectures for the University of Chicago CME and Practice Improvement Initiative Scientific Sessions and Clinical Review 2009: Entering the Era of Personalized Medicine, Napa, CA, August 6-8, 2009

105. "Monogenic Diabetes," Combined Endocrine Grand Rounds, University of Indiana, Indianapolis, IN. October 21, 2009.
106. "Genetics of Diabetes," Medical Grand Rounds, Loyola University Chicago, Maywood, IL, November 10, 2009
107. "Lessons from Monogenic Diabetes," Joslin Diabetes Center, Boston, MA, December 3, 2009
108. Course Director and Lecturer, "First Annual Comprehensive Review of the Management of Type 2 Diabetes," Chicago, IL December 12, 2009
109. "Noninvasive imaging of the beta cell," Takeda beta cell advisory group, Tokyo, Japan, January 27, 2010
110. "Genetics of Diabetes," Kao Corporation, Tokyo, Japan, January 29, 2010
111. "Monogenic Diabetes," Diabetes Grand Rounds, Mt. Sinai Medical Center, New York, New York, March 11, 2010
112. "Research Update in Diabetes," Living Well with Diabetes Seminar, Kovler Diabetes Center, April 17, 2010
113. "Imaging the Beta Cell," and "Monogenic Diabetes," Jack Crawford Lectureship, Pediatric Endocrinology, Massachusetts General Hospital Harvard Medical School, Boston, MA, May 11, 2010
114. Bo Koster Lecture, "Monogenic Diabetes," The Department of Cell Biology and Physiology, Washington University, St. Louis, June 1, 2010
115. "Monogenic Diabetes" at "Meet the Professor" lecture, Endocrine Society annual meeting, San Diego, CA., June 19, 2010
116. "The Dynamic Beta Cell," lecture in the Insulin Secretion Symposium, annual scientific meeting of the American Diabetes Association, Orlando, Florida, June 29, 2010
117. "Diabetes, the beta cell, and career Development," invited guest faculty "NIDDK Medical Student Research Symposium, Vanderbilt University, Nashville, TN, August 4-5, 2010.
118. "Monogenic Diabetes," Endocrinology Grand Rounds, Loyola Medical Center, Maywood, IL, September 3, 2010
119. "Monogenic Diabetes," DECAADE Diabetes Educators Symposium, Willowbrook, IL, September 24, 2010
120. Visiting Professor of the Endocrine Society at Upstate Medical University, Syracuse, NY. "Functional Imaging of the Pancreatic Beta Cell," and "Monogenic Diabetes," October 5-7, 2010.
121. "Through the looking glass: imaging of pancreatic beta cell dynamics," Endocrine Rounds Seminar, CME, University of Chicago, October 11, 2010
122. Faculty CME Speaker, Diabetes and Obesity Impact Pilot Program, "Guidelines for the Management of T2DM – Goals of Therapy," Chicago, IL December 4, 2010

## **TEACHING**

1998 Faculty Teaching Award and Course Development Grant: for reorganizing and teaching in Biochemistry and Molecular Biology 302 (Fall, 1996-2002) Co-course Director with Dr. Stephen Meredith

### **Courses Directed:**

Course Director

“Molecular Biology of the Cell,” course director MNM 302, winter 2005-7

“Molecular Basis of Metabolic Diseases,” course director, fall, 2003 and 2004

“The Making of a Pancreas,” course co-Director, winter 2003

### **HHMI Med into Grad Initiative Project 4/2010-**

#### **Co-Director. With N.B. Schwartz, Director.**

The Howard Hughes Medical Institute supports this grant to build on a unique program that prepares scientists to translate laboratory discoveries into new medical treatments. The intent is to support the development of U.S. graduate training programs that "incorporate an understanding of the principles of medicine and disease into the education of PhD researchers." The University of Chicago is one of 23 universities granted funding for this translational program in the 2009 competition, the first competition having taken place in 2005. This HHMI-UC Translational Training Program recruits PhD students in their first year at UC, from programs in Cancer Biology, Immunology, Microbiology, Molecular Metabolism and Nutrition, Molecular Pathogenesis and Molecular Medicine, Neurobiology and Computational Neuroscience. Courses will include an introduction to translational research with didactic and laboratory sessions culminating in a R21 grant written by the students.

### **Mentor in the Post-graduate Research Education Program (PREP) - 2008 –**

This Program is designed to support the research and education of recent baccalaureate graduates from groups underrepresented in biomedical and behavioral research areas, who plan to pursue PhD degrees. Role is to mentor one of these students in the lab, whom the Program supports as lab technicians for approximately 70% of their time. <http://gradprogram.bsd.uchicago.edu/prep.html>

### **Course Lecturer**

Lecturer, Molecular and Cell Biology (5 lectures, spring 1997-2000).

Lecturer, Cell Physiology 311, 3 lectures, December 1997

(carbohydrate metabolism, insulin action, regulation of insulin secretion)

Lecturer, Biochemistry 302,

1991-92 term, 3 lectures; 92-93 term, 4 lectures; 94-96: 5 lectures.

Lecturer, Biochemistry 301, “Intermediary Metabolism”, 11 lectures, 1998-2001

Lecturer, Third year student Medicine Rotation –

Clinical Orientation Lecture Series, 1991-1998

Lecturer, Biochemistry 301, Fall and Winter 1993-94 (4 lectures)

Lecturer, Pharmacology of Ion Channels, 1992-96 (“K<sup>+</sup> Channels”)

Lecturer, Medical Neurobiology, 1995 (“Neuroendocrinology”)

Lecturer, MSTP Anatomy Course (Dr. R. Singer), 1994-2002 (“The Pancreas”)

Group Preceptor, Physical Diagnosis Course, 1993

Section Participant, Endocrine Section of Pathophysiology Course

Lecturer, MSTP review course “Endocrinology” 1999-2007, 2010-

Lecturer, “Vignettes in Physiology – Diabetes” 4<sup>th</sup> yr, 4 hours, October, 2001

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Lecturer, MedBio 304 Physiology- Obesity, Glucose Metabolism and Diabetes, March 2002-4  
Lecturer, 2<sup>nd</sup> year Pharmacology – “Approach to the Management of Diabetes Mellitus” April, 2002, and November 2002 - 4  
Lecturer, Clinical Correlations, Biochem 302, Winter 2002 and 3, 4 lectures  
Lecturer, Medical Nutrition Course, 4/2004 and 4/2005-9 “Macronutrients”  
Lecturer, College Immunology course, B. Jabri and A. Bandalac, directors, “Diabetes” April 2004 and 2005, 9  
Lecturer, Med777 – “Diabetes and Dyslipidemia,” 2004 -

### **Ph.D. Students**

1995 – 2000 Feng Qian (Pharmacology and Physiology),  
Feng Qian was supported by the Markey Program in Molecular Medicine  
L. Marubio (PhD, 1995), L. Shekter, and L. Sun with Dr. R. Miller  
T. Lee (PhD, 1994), with Dr. D. Nelson  
A. Martin 2004 - 5 (MSTP)  
J. Lopez 2004 -2010 (Ph.D. Committee on Molecular Metabolism, NIDDK F32)  
Steffi Eames - 2006, (Ph.D. Candidate, Committee on Molecular Metabolism)

### **Ph.D. Thesis Committees**

T. Lee, J. Zigman, L. Marubio, I. Pittman, L. Shekter, W. Chutkow, L. Sun, C. Lee, K. Tempel, B. Simen, Y. Zhou, B.S. Jahromi, R. Guzy (Schumacker); S. Russell (Graves); S. Alcoser (Bell); J. Jureller (Scherer, Dept of Chemistry),  
2007: G. Vlacic CMMN (Webb); A. Arata (Roe)  
2009: D. Chen (Chemistry, R. Ismagilov)  
2010: A. H. Kim (Chemistry, N. Scherer)

### **Sponsor, Undergraduate Honors Research in Biology**

Turi Larson, 1992; Nat Blair, 1995-1996; Emily Sternberg (Duke), 1997; Mohammad H. Nayeri (1998); C. Fosco (2004); H. Feng (2009); K. McNerney (2009-10); Marc-Andre Allen (2010- )

### **Sponsor, College Research Opportunities Program**

Anita Teng, 1992-3 (2<sup>nd</sup> year college student)

### **Undergraduate Summer Students**

1999-01 E. Okrafor (MIT), 1999-00; T. Campbell (Notre Dame), 2002-03; S. Goldman (Univ. of Chicago); 2003 M. Jurkewicz (Univ of Chicago), 2004; C. Fosco (Univ of Chicago), 2004-5; Madeline Shapiro (Harvard), 2005, S. Bugenhagen, (Milwaukee) 2006; Ashley Bright, (Augustana) 2006, Julie Waldman (U Michigan) 2006, Shayla Wilson and Shawn Call (BYU) 2007; M. Thompson (Univ of Chicago; K. McNerney (University of Chicago); D. Hormth II (Rose Hulman Institute of Technology) 2008; MnNerney, M. Thompson, P. Eich, 2009; C. Draganich, M. A. Allen, P. Eich 2010.

### **Sponsor, Summer Research for First Year Medical Students**

Carter Beck, 1990; Christy Chang, 1991; JooHa Wang, 1992; Barbra McDonagh, 1996; SaeJin Han, 1997; Abiola Awe, 2002; Cindy Madsen, 2003.

### **Sponsor, Fourth Year Medical Student Research**

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- 1995 Ed Gardner (Leon Jacobson Prize, Senior Scientific Session)
- 1996 DeeLeng Teng
- 1997 Jordana Friedman, (Calvin Fentress Research Fellowship Award)
- 1996-97 Maureen McMahon
- 2001 Raymond Liu, (Calvin Fentress Research Fellowship Award)
- 2001 Alon Kahana, (Best Overall Presentation, Senior Scientific Session)

**Fourth Year Medical Student Faculty Advisor**

- 1996-97 DeeLeng Teng, Jordana Friedman, Jeffrey Zigman
- 1998 Barbra McDonagh, Robert Litt, Isaiah Pittman IV
- 1999 Hugh Black
- 2000-01 Ray Liu, William Chutkow
- 2002 Dawn Belt Davis

**Fellows and Research Associates**

**Current:**

- Natalia Tamarina, Ph.D.
- Leonid Fridliand, Ph.D.
- David Jacobson, Ph.D. (K award)
- Sindhu Rajan, Ph. D. (K award)
- Siri Atma Greeley, M.D., Ph.D.
- Rochelle Naylor, M.D.
- Matthew Wise, M.D.

**NIH K01 awards**

- 2008- Sindhu Rajan, PhD
- 2009-2011 David Jacobson, PhD

### **UNIVERSITY and DIVISIONAL COMMITTEES**

1995-present	Associate Director, Markey Graduate Program in Molecular Medicine
1998	Dean's Committee to Review the Committee on Genetics
1998-present	Dean's Faculty Awards Committee
1996-present	Pediatrics MD-PhD training grant selection committee
2000	Search Committee, Director of Laboratories, Dept. of Pathology
2000	Search Committee, Molecular Cardiology
2001-2	Co-Chair, Committee to Review the Dept. of Pediatrics
2001-2006	Institutional Biosafety Committee
2000-2	Co-Chair, and Acting Chair Fall 2001, Dean's Divisional Committee on Research Resources
2002 - 2007	Chair, BSD Committee on Research Resources
2003	Search Committee for Chair of Department of Ophthalmology
2003 - 2006	Dean's Research Advisory Council
2005 - 2007	Committee on Appointments and Promotions
2003 -	Medical Scientists Training Program Committee
2004 - 2009	Physician Credentials and Privileges Committee
2006-07	Pritzker Curriculum Initiative Steering Committee
2006	University Committee to Review the Dean of the Division of the Biological Sciences
2006-07	Pritzker School of Medicine Promotions Committee
2008-09	Committee to Review Pre-Medical Education in the College
2009-	Chicago Career In Health Professions: Health & Medicine Interview Committee

### **CLINICAL SERVICE**

Endocrinology Clinic, 2 half-days/week

Diabetes Genetics Clinic (Combined Adult-Pediatrics) 2009-

Attending Physician, In-Patient General Medicine Service - 1 month / year to 2004

Attending Physician, Endocrinology Consultation Service - 1 month / year

Director, Kovler Comprehensive Diabetes Center, 2006 – present

Supervision of Students, Residents, and Endocrinology Fellows

## **PUBLICATIONS**

### **Peer Reviewed**

1. Isenberg, H.D., Painter, B.O., Berkman, J.I., Philipson, L., and Tucci, V. The post-mortem microbiological analysis as an indicator of nosocomially significant microorganisms in the hospital environment. *Health Lab. Science* 11:85-89, 1974.
2. Philipson, L., Coudron, C., Ellis, K., and Schwartz, N.B. Preliminary characterization of a xylose acceptor 7protein prepared by HF treatment of proteoglycan core protein. In: *Glycoconjugates, Proceedings of the Fifth International Symposium*, p 151, R. Schauer et al (eds), 1979.
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On Line

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**SELECTED RESEARCH SUPPORT**

**R01 DK48494-11A1** (L. Philipson)

NIH/NIDDK

06/01/95 – 4/30/12 - 30%

\$250,000/yr

“K<sub>+</sub> channel Expression in Pancreatic Beta-Cells”

Objective to study how specific ion channels regulate intracellular calcium concentration and thereby insulin secretion in pancreatic  $\beta$ -cells in normal and diabetic states, using both molecular biological, and biophysical techniques.

**P60 DK-20595** (G. I. Bell)

NIH/NIDDK

4/15/03-1/31/13 10%

\$1,601,258/yr

Diabetes Research and Training Center

The aims of the center are to foster diabetes and endocrinology research.

Role: Core Director

**Seeding Collaborative Research in Beta Cell Biology (SCRBCB)** 18 month award

Beta Cell Biology Consortium - NIH / NIDDK \$350,000 / 18 months

“*Imaging Metabolic and Signaling Targets in the Pancreatic Beta Cell*”

Role: PI

**JDRC 9-2008-177**

Juvenile Diabetes Research Foundation (L. Philipson)

11/1/2007 – 10/31/09 - NCE 2%

\$94,413/yr

“Registry for Neonatal Diabetes”

Innovative Grant

The overall goal of this project is to develop national registry of patients with neonatal diabetes.

Role: PI

**TOLERX, Inc**

Philipson (PI)

4/22/08-4/21/2010

2%

\$582,400

TRX4 Therapeutic Evaluation of Different Multi-Dose Regimens in Type 1 Diabetes Mellitus (TTEDD)

The primary objective is to evaluate the tolerability and safety of administering TRX4 over infusion times of 30, 15, and 5 minutes using a dose regimen previously determined to be reasonably safe and well tolerated.

**5K01 DK075706-02** Rajan (PI)

8/1/07-7/31/12

NIH/NIDDK

\$117,996

Towards understanding the role of sumoylation in ion channel regulation

This study aims at expanding the understanding of sumoylation as a physiologically relevant regulatory mechanism with the help of various molecular, biochemical and electrophysiological methods.

Role: Mentor

**U01 DK072473**

Magnuson (PI)

03/01/09 – 08/31/10

1.2 cal mo

NIH/NIDDK/Vanderbilt University \$233,000

Coordinating Center for Beta Cell Biology Consortium

Imaging Metabolic and Signaling Targets in the Pancreatic Beta Cell

We will carry out comprehensive studies evaluating multiple in vivo imaging modalities to assess the changes of beta-cell mass and functional properties: 1. magnetic resonance imaging (MRI), 2. single-photon-emission computed tomography (SPECT), and 3. radio-scintigraphy.

Role: PI on subcontract

**DE-SC0001271** Woloschak (PI) 09/01/09-08/31/14 0.6 cal mo  
Department of Energy/Northwestern University \$279,000  
Effects of Low Dose Irradiation on NFkB signaling Networks and Mitochondria  
This project will investigate the involvement of NF-kB in thiol induced pro-survival behavior of cells in mice and cells in culture.  
Role: Co-Investigator on subcontract

**W. M. Keck Foundation** Dinner (PI) 01/01/10 – 12/31/12 0.672 cal mo  
\$340,504  
Development of a Chemical Perturbation Spectroscopy  
The overall project goal is to develop a robust systematic chemical perturbation spectroscopy.  
Role: Co-Investigator

**56006772** Schwartz (PI) 04/01/10-03/31/14 0.24 cal mo  
HHMI \$175,000  
HHMI Med into Grad Initiative Project  
To improve the understanding of medicine and pathobiology by PhD students in the biomedical sciences  
Role: Co-Director

American Diabetes Association 01/01/11 – 12/31/14  
Minority Postdoctoral Fellowship Award  
Role: PI

#### **Previous Research Support Highlights:**

**ADA 1-07-RA-143**  
American Diabetes Association (L. Philipson) 1/01/07 – 12/31/09 5%  
\$86,956/yr  
“Beta cell damage due to reactive oxidative stress: mitochondria and endoplasmic reticulum”  
This study aims to correlate ER and mitochondrial ROS with changes in the structure and function associated with insulin secretion and diabetes.

**5F31 DK076171-02** Lopez (trainee) 12/1/06-11/30/09  
NIH/NIDDK \$52,783  
Minority Predoctoral Fellowship Program  
Role: Mentor

**Takeda Pharmaceuticals North America**  
Fellowship in Beta Cell Research 9/01/05 – 9/01/2008

**“Islet Transplantation”** (J. Madara) 7/1/00 – 6/30/08 10%  
State of Illinois \$6.6M

Objective: Human islet transplantation and studies in islet immunology. To operate cGMP facility and to study and transplant human islets.

**Novo Nordisk** (L. Philipson) 11/4/08-11/3/09 3%  
\$100,000.

Liraglutide regulation of pancreatic beta cell calcium channels and Lirgalutide effects on insulin biosynthesis: studies on human and mouse mutations causing human diabetes mellitus.

This proposal seeks to determine the effect of liraglutide on the calcium channels in the pancreatic beta cell that control insulin secretion using electrophysiology and calcium measurements. In addition, the possible beneficial effects of liraglutide on diabetes, insulin trafficking and beta cell death in animal and cell lines caused by expression of mutations in the proinsulin gene will be determined.

**R01 DK063493-02** (L. Philipson) 9/30/02 – 6/30/06 – pending review 30%  
NIH/NIDDK \$220,000/yr  
“Imaging human beta cell function with biosensors”

**Juvenile Diabetes Research Foundation** (L. Philipson) 4/1/2007 – 3/30/2008  
“Regeneration Fate Mapping in NOD mice” Innovative Grant  
Role: PI

**American Diabetes Association** 7/01/01 – 6/30/06 0%  
“Mentor Based Post-Doctoral Fellowship Award” \$35,000/yr  
Mentor: L. Philipson  
Objective: Support post-doctoral fellowship training in beta cell / islet biology and biophysics.

**R01 NS25946-14A1** (L. M. McDonald) 8/1/02 - 5/31/06 2%  
NIH/NINDS \$400,000/yr  
”Pathophysiology of Chronic Cerebral Vasospasm”  
The long-term objective of this proposal is to determine the mechanism of vasospasm after subarachnoid hemorrhage and thereby to develop treatments that will prevent and/or reverse it. Dr. Philipson is a Resource Person on this project.

**Takeda Pharmaceuticals North America** (L. Philipson) 6/3/03-6/3/05 10%  
“Effect of Pioglitazone on Islet Function” \$335,000

Juvenile Diabetes Foundation Research Award, co-PI with Dr. D.F. Steiner, \$100,000, 8/90-8/92. Molecular Mechanisms of Insulin Secretion: Cloning and Expression of Beta Cell Potassium Channels. Project involved characterization of human beta cell potassium channel genes and expression in Xenopus oocytes.

Pilot and Feasibility award, University of Chicago Program in Gastrointestinal Research “The effect of insulin and glucagon on hepatocyte calcium oscillations. \$19,000 (1996-1997) **Co-PI** with M. Roe.

E. Lilly Award, 3/91 - 12/30/92, \$81,000. Cloning and Expression of Potassium Channels. Project involved determination of tissue distribution and characterization of CNS-derived potassium channel genes.

Block Award, 1991. Competitive intramural funding for junior faculty. \$25,000. 1991.

American Diabetes Association Research and Development Award. "Role of Potassium Channel Genes in Insulin Secretion," 7/91 - 7/94 80% effort. \$195,000. Project involved expression of cloned potassium channel genes in beta cell lines and determination of the effect of glycemia on channel gene expression.

NIH R01 NS33502-01: Properties and regulation of  $\alpha 1_E$ , a novel neuronal calcium channel, Co-investigator with R. Miller (PI), 10% effort. total direct costs: \$719,000.

NIH R01 DA02121 Neuropharmacology of Opiate Peptides. Co-investigator (R. Miller, PI). 5% effort. total direct costs: 950,000.

Collaborator on NIH R01 GM54266 with PI Dr. Deborah Nelson: Molecular Analysis of the Muscarinic Atrial  $K^+$  Channel (Active 7/1/96-6/31/00).

R21 AI55465 (M. Peter) 09/30/02 - 08/31/04 5% NIH/NIAID \$250,000 "Fas Internalization and Beta Cells" Objective: to determine the role of internalization of Fas/FasL for tumor growth *in vivo*, test whether a signaling deficient mutant of Fas inhibits internalization of Fas in human  $\beta$ -cells and test the effects of non-internalizing Fas on islet transplant rejection and autoimmune diabetes.

**P01 DK44840** (G. Bell) 7/1/97 - 11/30/03 0%

NIH/NIDDK \$3,473,983

"Molecular Mechanisms of Beta Cell Dysfunction in Diabetes"

Objective to study the molecular mechanisms underlying the beta cell dysfunction observed in animal models of beta cell dysfunction

**American Diabetes Association** 7/01/02 – 6/30/04 0%

"Mentor Based Minority Post-Doctoral Fellowship Award" \$35,000

Mentor: L. Philipson

Objective: Support post-doctoral minority fellowship training in beta cell / islet biology and biophysics.