

Alvin Carter Powers, M.D.

Office Address: Vanderbilt Diabetes Center, Room 8435 MRBIV
Vanderbilt University, Nashville, TN 37232-0202
Email: Al.powers@vanderbilt.edu

Office Phone Number: (615) 936-7678; Fax: (615) 936-0063
Date and Place of Birth: June 21, 1954; Memphis, TN

Education:

1976 B.A. University of Virginia, Charlottesville, VA
1979 M.D. University of Tennessee Center for Health Sciences, Memphis, TN

Postdoctoral Training:

Internship and Residencies

1979-80 Intern in Medicine, Duke University Medical Center, Durham, NC
1980-82 Resident in Medicine, Duke University Medical Center, Durham, NC
1981 Assistant Chief Resident in Medicine, Duke University Medical Center,
Durham, NC

Fellowships

1982-83 Research Fellow in Medicine, Joslin Diabetes Center, Boston, MA
1982-87 Research Fellow in Medicine, Harvard Medical School, Boston, MA
1983-87 Clinical and Research Fellow in Medicine, Massachusetts General
Hospital, Boston, MA

Licensure and Certification:

1980 National Board of Medical Examiners, No. 224289
1981 North Carolina Board of Registration, No. 25402
1982 Massachusetts Board of Registration, No. 50054
1982- Diplomat, American Board of Internal Medicine, No. 087991
1986- Board Certification, Endocrinology and Metabolism, No. 087991
1982- Tennessee Board of Registration, No. MD0000018885

Academic Appointments:

1987-88 Instructor in Medicine, Harvard Medical School, Boston, MA
1988-96 Assistant Professor of Medicine, Vanderbilt University School of
Medicine, Nashville, Tennessee
1991-95 Research Associate, VA Medical Center, Nashville, TN
1996-2004 Associate Professor of Medicine (with tenure), Vanderbilt University
School of Medicine, Nashville, Tennessee
1996- Director, Vanderbilt Short-Term Research Training in Diabetes,
Endocrinology, and Metabolism for medical students (NIH T35-DK07383)
1998-2004 Associate Professor, Department of Molecular Physiology and
Biophysics, Vanderbilt University School of Medicine, Nashville,
Tennessee

- 2004- Professor of Medicine, Molecular Physiology and Biophysics, Vanderbilt University School of Medicine, Nashville, Tennessee
- 2004-2007 Ruth K. Scoville Professor of Medicine, Molecular Physiology and Biophysics, Vanderbilt University School of Medicine, Nashville, Tennessee
- 2000-2005 Chief, Endocrinology and Diabetes Section, Nashville VA Medical Center, Nashville, TN
- 2005- Director, Vanderbilt Diabetes Research and Training Center
- 2007- Director, Vanderbilt Diabetes Center
- 2007- Joe C. Davis Chair in Biologic Science, Vanderbilt University School of Medicine, Nashville, Tennessee
- 2010- Chief, Division of Diabetes, Endocrinology, and Metabolism, Department of Medicine, Vanderbilt University Medical Center, Nashville, Tennessee

Hospital Appointments:

- 1984-1986 Member, Internal Medicine Associates, Massachusetts General Hospital (Medical Evening Unit), Boston, MA
- 1985-88 Member, Thyroid Associates, Massachusetts General Hospital, Boston, MA
- 1987-88 Clinical Assistant in Medicine, Massachusetts General Hospital, Boston, MA
- 1988-96 Assistant Professor of Medicine, Vanderbilt University Medical Center, Nashville, Tennessee
- 1989-97 Director, Vanderbilt Endocrinology Grand Rounds, Vanderbilt University Medical Center, Nashville, Tennessee
- 1991-95 Research Associate, VA Medical Center, Nashville, TN
- 1995- Staff Physician, Tennessee Valley Health System, Nashville VA Medical Center, Nashville, TN
- 1996-2004 Associate Professor of Medicine (with tenure), Vanderbilt University Medical Center, Nashville, Tennessee
- 2004-2007 Ruth K. Scoville Professor of Medicine, Molecular Physiology and Biophysics, Vanderbilt University School of Medicine, Nashville, TN
- 2000-2005 Chief, Endocrinology and Diabetes Section, Nashville VA Medical Center, Nashville, TN
- 2007- Joe C. Davis Chair in Biologic Science, Vanderbilt University School of Medicine, Nashville, Tennessee
- 2007- Director, Vanderbilt Diabetes Center
- 2010- Chief, Division of Diabetes, Endocrinology, and Metabolism, Department of Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee

Professional Organizations:

- 1984 Endocrine Society
- 1986 American Diabetes Association
- 1990 American Federation of Medical Research
- 1992 Juvenile Diabetes Research Foundation, Inc.
- 1996 Southern Society for Clinical Investigation
- 2006 European Association for the Study of Diabetes
- 2009 American Society for Biochemistry and Molecular Biology

2013 Fellow, American College of Physicians
2017 Association of American Physicians

Professional Activities:

Intramural:

1994-97 Chairman, Nashville Veterans Administration Hospital Credentials and Clinical Privileges Committee
1995-2000 Medical Scientist Training Program (M.D./Ph.D.) Committee, Vanderbilt University School of Medicine
1997-1998 Clinical Investigator Track Committee, Department of Medicine Residency Program, Vanderbilt University School of Medicine
2000-2001 Research and Development Committee, Nashville VA Medical Center, Nashville, TN
2002-2006 Member, Promotion Committee for Class of 2006, Vanderbilt University School of Medicine
2002-2006 Member, Pilot and Feasibility Grant Review Committee, Vanderbilt Diabetes Research and Training Center, Nashville, TN
2004-05 Member, Patient-Oriented Research Emphasis Committee as part of curriculum planning for medical students, Vanderbilt University School of Medicine
2004 Member, Intern Selection Committee, Department of Medicine, Vanderbilt University School of Medicine
2005- Interviewer of applicants to Vanderbilt School of Medicine, Vanderbilt Medical Scientist Training Program, Vanderbilt Interdepartmental Graduate Program
2006- Executive Faculty, Vanderbilt University School of Medicine
2010- Executive Committee of Department of Medicine, Vanderbilt University Medical Center
2011-2014 Faculty Senate, Vanderbilt University
2011-2012 Executive Committee of Executive Faculty, Vanderbilt University School of Medicine
2011-2013 Member, LCME Site Visit Steering Committee, Vanderbilt University School of Medicine; Chair, Educational Program – Structure – General Design Subcommittee
2011-2012 Diabetes Thread Group Leader, Curriculum Revision Committee 2.0, Vanderbilt University School of Medicine
2011-2012 Member, Cornelius Vanderbilt Scholarship Selection Committee
2012-2014 Member, Executive Admissions Committee, for Vanderbilt University School of Medicine
2013 Member, ad hoc steering committee for Vanderbilt University School of Medicine initiative in regenerative medicine
2015-2016 Executive Committee of Executive Faculty, Vanderbilt University School of Medicine

Extramural:

1993- Reviewer for journals such as *Diabetes*, *Molecular Endocrinology*, *American Journal of Physiology*, *Journal of Clinical Investigation*, *Diabetologia*, *Biochemistry*, *Endocrinology*, *Lancet*, *Journal of Clinical*

- Endocrinology and Metabolism, Hormone and Metabolic Research, Clinical Science, Nature Medicine, PNAS, American Journal of Transplantation, Cell Metabolism*
- 1994 Review Committee, National Institutes of Health, RFA DK 94-17, "Diabetes Interdisciplinary Research Programs"
- 1995-2000 Member, Tennessee Diabetes Prevention and Control Program (State Task force to reduce burden of diabetes in Tennessee)
- 1996-2001 Ancillary Studies Committee, Diabetes Prevention Trial-Type I (NIH trial to prevent Type 1 diabetes)
- 1997 Review Committee, National Institutes of Health, "Diabetes Interdisciplinary Research Programs"
- 1997 Review Committee for Diabetes Research Centers funded by Veterans Administration/Juvenile Diabetes Foundation, Inc.
- 1997-2000 Annual Meeting Steering Committee, The Endocrine Society
- 1999-2000 Chair, Annual Meeting Steering Committee for 2000 meeting of The Endocrine Society. Toronto, Ontario, Canada
- 2001-2006 Editorial Board, *American Journal of Physiology: Endocrinology and Metabolism*
- 2002-2005 Chair, Meetings & Educational Program Committee, The Endocrine Society
- 2002-2004 Member, International Task Force, The Endocrine Society
- 2002-2010 Member, Medical Science Review Committee, Juvenile Diabetes Research Foundation, International, New York, NY
- 2002-2003 Member, NIH Study Section for Small Business Innovation Research and Small Business Technology Transfer Research-Diabetes and Endocrinology
- 2003 Review Committee, National Institutes of Health, Special Emphasis Panels for Diabetes Interdisciplinary Program Projects
- 2003 Member, Review Committee for Pancreatic Islet Transplantation Centers, Juvenile Diabetes Research Foundation, International, New York, NY
- 2003 Member, NIH Islet Transplantation Advisory Committee, Bethesda, MD
- 2004 Member, NIH Trans-Institute Angiogenic Research Program Workshop, Towson, MD
- 2005 Co-Chair, Annual Meeting Steering Taskforce Committee of The Endocrine Society.
- 2005-06 Ad hoc member, Cellular Aspects of Diabetes & Obesity Study Section (CADO) Study Section, National Institutes of Health, June 2005, October 2005, February 2006
- 2005 Study Section, National Institutes of Health, RFA "Beta Cell Regeneration for Diabetes Therapy", November 2005
- 2005 Chair, Review Committee, National Institute of Diabetes and Digestive and Kidney Diseases Special Emphasis Panel, Podiatry Summer Research Fellowships
- 2006 Co-organizer, Keystone Symposium for 2006, "Pancreatic Islets: From Development to Transplantation"
- 2006 Co-organizer for NIH Meeting in April 2006, "Imaging the Pancreatic Beta Cell in Health and Disease," Washington, D.C.
- 2006-2009 Chair, Steering Committee of Islet Cell Resource Centers of National Center for Research Resources, National Institutes of Diabetes and Digestive Kidney Diseases, Juvenile Diabetes Research Foundation International

- 2006-2010 Member, Cellular Aspects of Diabetes & Obesity Study Section (CADO) Study Section, National Institutes of Health
- 2006 Member, Human Pancreas Development Committee of Juvenile Diabetes Research Foundation International
- 2006-2010 Editorial Board, *Journal of Clinical Endocrinology and Metabolism*
- 2007-2009 Member, Executive Committee of NIH-funded Diabetes Centers (DRTCs/DERCs)
- 2007-2008 Chair, Executive Committee of NIH-funded Diabetes Centers (DRTCs/DERCs)
- 2008-2011 Elected Member of Council of The Endocrine Society (Board of Directors)
- 2009 Co-chair, Juvenile Diabetes Research Foundation Bioengineering RFA Review Panel
- 2009 Grant reviewer, European Research Council of the European Commission
- 2009 Member, NIDDK committee to develop strategic plan for diabetes research (member of beta cell subcommittee and infrastructure subcommittee)
- 2009-2014 Member, Research Policy Committee, American Diabetes Association, Alexandria, VA
- 2009-2011 Member, Beta Cell Therapies Research Portfolio Advisory Committee, Juvenile Diabetes Research Foundation International, New York, NY
- 2009-2011 Member, Foundation for the NIH Biomarkers Consortium related to Beta Cell Mass and Function
- 2010-2016 Co-editor, The Year in Diabetes and Obesity; published by Annals of the New York Academy of Sciences. Founding co-editor with Rexford S. Ahima, University of Pennsylvania
- 2010-2016 Member, Advisory Committee of Integrated Islet Distribution Program, National Institutes of Diabetes and Digestive Kidney Diseases
- 2010-2011 Member, Finance Committee, American Diabetes Association, Alexandria, VA
- 2010-2014 Member, Scientific Statements Taskforce/Committee, The Endocrine Society
- 2010 Chair, Study Section to Review R24 grant, NIDDK
- 2010-2014 Editorial Board, *Endocrinology*
- 2011-2014 Member, Advocacy and Public Outreach Committee, The Endocrine Society
- 2011-2014 Chair, Research Policy Committee, American Diabetes Association, Alexandria, VA
- 2011 Member, Scientific Advisory Panel, Juvenile Diabetes Research Foundation, International, New York, NY
- 2011-2013 Member, Planning Committee for Scientific Program, American Diabetes Association, Alexandria, VA
- 2011 Corporate Chair, Annual fund-raising walk for Middle Tennessee Chapter of Juvenile Diabetes Research Foundation, Nashville, TN
- 2011 Member, Juvenile Diabetes Research Foundation Bioengineering RFA Review Panel
- 2011 Member, Juvenile Diabetes Research Foundation RFA Review Panel, "Pathways and Targets for Beta Cell Regeneration"
- 2011 Co-chair, Organizing Committee, NIDDK Workshop, "Human Tissue for Diabetes Complications Research," Bethesda, MD

- 2011- External advisor (intermittent, ad hoc) for NIH-funded diabetes research centers or training grants (e.g., Yale, Columbia, Duke, Michigan, University of Washington, Stanford, University of Colorado)
- 2011-2018 Member, Scientific Advisory Board, JDRF nPOD (Network for Pancreatic Organ Donors with Diabetes)
- 2013-2014 Member, Executive Committee of NIDDK Beta Cell Biology Consortium
- 2013-2016 Member, Centennial Taskforce of The Endocrine Society
- 2013-2014 Member, International Strategy Task Force of The Endocrine Society
- 2013-2017 Member, Mentor Advisory Committee for "Pathways Program" of American Diabetes Association
- 2014-2017 Member, National Board of Directors, American Diabetes Association
- 2014 Member, American Diabetes Association Governance, Business and Mission Strategic Review Task Force
- 2014 Member, Next Generation Taskforce of The Endocrine Society
- 2014- Member, NIDDK Human Islet Research Network (HIRN) Trans Network Committee
- 2014- Chair, Steering Committee, NIDDK Human Islet Research Network (HIRN) Consortium on Targeting And Regeneration (CTAR)
- 2014- Member, Nashville Community Leadership Board, American Diabetes Association, Middle Tennessee Chapter
- 2016 President-Elect, Medicine & Science, American Diabetes Association
- 2016 Co-organizer, Satellite Meeting of JDRF nPOD 8th Annual Scientific Meeting, "Emerging Technologies to Study the Human Pancreas and Islet: from the Whole Organ to a Single Cell," Miami, FL
- 2016 Advisory Group and Program Planning Committee, "Focus on Fellows," American Diabetes Association
- 2016-2019 Editorial Board, *Journal of the Endocrine Society*
- 2016 Member, Strategic Planning Committee, American Diabetes Association
- 2016 Co-Organizer, Advances in Research Conference, "Metabolic Phenotyping: From Mouse to Man," Satellite of annual meeting of American Society of Nephrology
- 2017 President, Medicine & Science, American Diabetes Association
- 2017 Member, Marketing and Communication Task Force, American Diabetes Association
- 2017 Co-chair, Organizing Committee, NIDDK Workshop, "The Interface of Pancreatic Cancer with Diabetes, Obesity and Inflammation: Research Gaps and Opportunities," Bethesda, MD
- 2017-2018 Member, Insulin Affordability Working Group, American Diabetes Association
- 2017 Member, CEO Search Committee, American Diabetes Association
- 2017- Chair, Steering Committee, NIDDK Trans Network Steering Committee for the Human Islet Research Network
- 2018 Co-chair, Heritage Council, American Diabetes Association
- 2018-2019 Member, Governance Task Force, The Endocrine Society
- 2018- Chair, Membership Advisory Group, American Diabetes Association
- 2019-2022 Member, Finance and Audit Committee, The Endocrine Society
- 2019 Chair, Study Section for Grants to Joint Canada-Israel Health Research Program (JCIHRP)

Awards and Honors:

- 1979 Alpha Omega Alpha
- 1979 Faculty Medal (Valedictorian), University of Tennessee Center for Health Sciences
- 1979 Ciba Community Service Award
- 1979 Upjohn Achievement Award
- 1982 Haskell Schiff Award, Department of Medicine, Duke University Medical Center
- 1995 Young Faculty Award, Southern Section of American Federation for Clinical Research and Southern Society for Clinical Investigation
- 1996 Southern Society for Clinical Investigation
- 2000 Chair, Annual Meeting Steering Committee for 2000 meeting of The Endocrine Society. Toronto, Ontario, Canada
- 2001-2019 Listed by Castle Connolly Medical Ltd, as one of "America's Top Doctors"
- 2008-2011 Elected Member of Council of The Endocrine Society (Board of Directors)
- 2011 David Rumbough Award for Scientific Excellence, Juvenile Diabetes Research Foundation International, New York, NY
- 2011 Charles Hollenberg Lectureship, Banting and Best Diabetes Centre, University of Toronto, Toronto, Canada
- 2011 Kroc Lectureship, Division of Diabetes, Endocrinology & Metabolism, Baylor College of Medicine, Houston, TX
- 2012 Ray A. and Robert L. Kroc Lectureship, Diabetes and Metabolism Seminar Series, University of Washington, Seattle, WA
- 2013 Ray A. and Robert L. Kroc Lectureship in Diabetes and Endocrinology, University of Alabama Birmingham, Birmingham, AL
- 2014-2016 Member, National Board of Directors, American Diabetes Association
- 2015 Ray A. and Robert L. Kroc Lecturer in Diabetes and Endocrinology, Michigan Diabetes Research Center, University of Michigan, Ann Arbor, MI
- 2016 President-Elect, Medicine & Science, American Diabetes Association
- 2016 Living and Giving Award, Tennessee Chapter of JDRF, Nashville, TN
- 2016 Elaine Sanders-Bush Award from the Vanderbilt University School of Medicine for Mentoring Graduate and/or Medical Students in the Research Setting
- 2017 President, Medicine & Science, American Diabetes Association
- 2017 Julio V. Santiago, M.D. Memorial Lecture, Department of Medicine, Washington University, St. Louis, MO
- 2017 Election to Association of American Physicians
- 2017 James R. Givens Distinguished Visiting Professor and Medical Grounds, Division of Endocrinology, Diabetes & Metabolism in the Department of Medicine, University of Tennessee Health Sciences Center, Memphis, TN
- 2017 Banting Medal for Leadership and Service from the American Diabetes Association
- 2017 Ray A. and Robert L. Kroc Lectureship in Diabetes and Endocrinology, Stanford Diabetes Research Center, Stanford University, Palo Alto, CA
- 2018 Harold Rifkin Lectureship in Diabetes and Endocrinology, Montefiore Medical Center, Albert Einstein College of Medicine, New York, NY
- 2018 Kenneth Crispell Memorial Lectureship, University of Virginia Medical Center, Charlottesville, VA

2019 Fellow, American Association for the Advancement of Science (Elected)
2019 Kroc Lectureship, Division of Diabetes, Endocrinology & Metabolism and
Department of Medicine, Baylor College of Medicine, Houston, TX

Teaching Activities:

1989-1997 Director, Vanderbilt Endocrinology Grand Rounds, Vanderbilt University
Medical Center, Nashville, Tennessee

1990-2008 Lecturer, Clinical Management Course for Fourth Year Vanderbilt Medical
Students, Vanderbilt University School of Medicine

1990- Lecturer, Diabetes Summer Student Research Program, Vanderbilt
University School of Medicine

1990 Lecturer, Ambulatory Care Elective for Internal Medicine Residents,
Vanderbilt University School of Medicine

1990-2005 Lecturer, Noon Seminar Series for Internal Medicine Residents,
Vanderbilt University School of Medicine

1991- Attending Physician, General Medical Service, Vanderbilt Internal
Medicine Residents, Nashville VA Medical Center

1991- Consulting Physician, Endocrine Consult Service, Vanderbilt University
and/or VA Medical Center, Nashville, TN

1993-2008 Lecturer, Pharmacology Course for Second Year Vanderbilt Medical
Students, Vanderbilt University School of Medicine

1993-2008 Lecturer, Biochemistry Course for First Year Vanderbilt Medical Students,
Vanderbilt University School of Medicine

1993-1998 Lecturer, Human Physiology Course for Senior Undergraduate Students,
Vanderbilt University

1994-2008 Lecturer, Physiology Course for First Year Vanderbilt Medical Students,
Vanderbilt University School of Medicine

1994 "Thyroid Disease and Ob/Gyn", Vanderbilt Ob/Gyn Residents Lecture
Series, Vanderbilt University School of Medicine, Nashville, TN

1996 "PTH, Vitamin D, and Calcium Balance", Renal Physiology for Nephrology
Fellows, Vanderbilt University Medical Center, Nashville, Tennessee

1996- Director, Vanderbilt Short-Term Research Training in Diabetes,
Endocrinology, and Metabolism for medical students (NIH T35-DK07383)

1996-2008 Small group leader, Physiology Course for First Year Vanderbilt Medical
Students, Vanderbilt University School of Medicine

1996- Thesis committee member for PhD candidates in Department of
Molecular Physiology and Biophysics and Department of Microbiology
and Immunology, Vanderbilt University School of Medicine and for PhD
and Masters candidates, School of Engineering, Vanderbilt University

2000-2002 Preceptor, Ecology of Health Care for First and Second Year Vanderbilt
Medical Students, Vanderbilt University School of Medicine

2002-2009 Clinical Endocrinology Update – Annual Board Review in Endocrinology
organized by The Endocrine Society, "Diabetes Mellitus"

2003-2005 Lecturer, Physiology Course for First Year Vanderbilt Graduate Students
(Interdepartmental Graduate Program), Vanderbilt University School of
Medicine

2004-2005 Patient-Oriented Research Emphasis Committee as part of curriculum
planning for medical students, Vanderbilt University School of Medicine

2004-2012 Mentor for medical student, Emphasis Program (part of curriculum for
medical students), Vanderbilt University School of Medicine

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| 2005-2010 | Lecturer, Molecular Cell Biology & Genetics Course, Meharry Medical School, Nashville, TN |
| 2005-2008 | Lecturer, Vanderbilt Center for Science Outreach, Virtual Scientist Program |
| 2007 | Examiner/opponent for thesis defense of Daniel Nyqvist, "In vivo Imaging of Islet Cells and Islet Revascularization, Rolf Luft Center for Diabetes and Endocrinology, Karolinska Institutet |
| 2007-2009 | Small Group Leader, Molecular Foundations of Medicine Course (required core as part of curriculum for Vanderbilt medical students) |
| 2007- | Lecturer, Molecular Physiology and Biophysics #333, "Molecular Endocrinology of Obesity and Diabetes" |
| 2008-2012 | Lecturer, Molecular Foundations of Medicine Course for First-Year Vanderbilt Medical Students, Vanderbilt University School of Medicine |
| 2008-2012 | Lecturer, Structure, Diabetes Intersession for First-Year Vanderbilt Medical Students, Vanderbilt University School of Medicine |
| 2008-2012 | Lecturer, Structure, Function, and Development Course for First-Year Vanderbilt Medical Students, Vanderbilt University School of Medicine |
| 2008-2012 | Lecturer, Disease, Diagnosis, and Therapeutics for Second-Year Vanderbilt Medical Students, Vanderbilt University School of Medicine |
| 2009- | Organizer, NIDDK Medical Student Research Program in Diabetes – national program where medical students conduct research during summer at NIH-supported Diabetes Centers and then present their research at a symposium at Vanderbilt University, Nashville, TN |
| 2010 | Examiner/opponent for thesis defense of Irene Hadjiyianni, University of Toronto School of Graduate Studies |
| 2015- | Co-Director, Immersion in Diabetes Mellitus Course for 3 rd and 4 th year medical students (Director, Michael Fowler, MD), Curriculum 2.0, Vanderbilt University School of Medicine |

Postdoctoral Fellows/Students Trained:

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| 1990-1992 | Andreas Buchs, M.D., "Identification of Regions of GLUT 2 Responsible for Transport Kinetics" (supported by fellowship award from NIH NRSA) |
| 1990- | Medical students in Vanderbilt Student Research Program in Diabetes and Endocrinology (students during the summer between first and second year of medical school): Shawn Gregory, Matthew Hindman, Karla Pou, Amy McGaha, Cathi Spear, Chad Carr, Michael Blaha, Edward McGillicuddy, John Wilson, Mario Nieto. Brigham Au, Joshua Gilchrist, Shannon Willis, Brian Coleman, Zubair Ahmed, Soorin Kim, Russell Sundby, Michael Spinner, Derek Yee, Vincent de Chavez, Nicholas Sutton, Kelsey Eitel, Scott Wisniewski, Gabriel Perez-Lopez, Aysha Mushtaq, Yasir Bouchi, Kathryn Enriquez |
| 1991-1993 | Hiroshi Morita, M.D. "Co-expression of GLUT 2 and Glucokinase" |
| 1992-1993 | Noriko Ujihara, M.D. "Identification of GAD Autoantibody Heterogeneity" |
| 1994 | Andrea Hayes, M.D. "GAD Autoantibodies and IDDM" |
| 1994-1998 | Lan Wu, M.D. "Engineering of Glucose-regulated Hormone Secretion of Neuroendocrine Cells" (supported by Juvenile Diabetes Foundation, Inc. fellowship award) |
| 1997-1999 | Marcela Brissova, Ph.D. "Design of Immunoisolation Device for Islet Transplantation" (supported by Juvenile Diabetes Foundation, Inc. fellowship award) |

- 1997-1999 Wei Xu, M.D., "Diabetes Associated Insulin Secretary Defects", (supported by fellowship from Vanderbilt University Training Grant in Endocrinology, Diabetes, and Metabolism)
- 2000-2001 Anita Chu, Brown University Medical Student, supported by Medical Student Scholar Award from American Diabetes Association
- 2000-2003 Michael Fowler, M.D., postdoctoral fellow (clinical endocrinology fellow), supported by Vanderbilt NIH training grant
- 2000- Undergraduate students working in our research laboratory – Adam Travis, Suzanne Brown, Marybeth Jewel, Melissa Hodges, Reid Ravin, Chalmers, Ridwan Rahman, Safwan Rahman, Nadia Ansari, Cramer McCullen, Ian McGuinness, Kayela McLeod, Gerald Wakefield, Ariel Helms, Zoya Khan, Alison Von Deylen, Ariella Saslafsky
- 2002- Rotating graduate students in Vanderbilt Interdepartmental Graduate Program – Meredith Vaughn, Kylee Littlepage, Jeanelle Kantz, Qing Cai, Rachael Reinert, Brandon Panero, Nora Kayton, Teagan Walter, Jonathan Williams, Tammy Lundblad, Kristie Aamodt, Hannah Worschel, Diane Saunders, Rachana Haliyur, Jack Walker, Joseph Elskar, Tiffany Richardson, Jenna R Petronglo
- 2002-2003 Students in Vanderbilt Minority Summer Undergraduate Research Program - Monica Giles, Isa Alexander
- 2002-2004 Mentor for Dr. Jeffrey Boord in his Career Development Award from the Veterans Administration Research Service
- 2004-2006 Craig Hauck, Ph.D., postdoctoral fellow
- 2004-2007 Jeanelle Kantz, graduate student for Masters in Department of Molecular Physiology and Biophysics
- 2005-2008 Medical students in Vanderbilt Medical Student Emphasis Program: Mario Nieto, Brigham Au, Michael Spinner
- 2005-2009 Priyanka Brahmachary, Ph.D., postdoctoral fellow
- 2005-2012 Qing Cai, graduate student for Ph.D. in Department of Molecular Physiology and Biophysics
- 2005-2012 John Virostko, graduate student for Ph.D. in Department of Biomedical Engineering (co-mentor with Dr. Duco Jansen) and then postdoctoral fellow in Vanderbilt University Institute of Imaging Science (co-mentor with Dr. John Gore)
- 2006-2010 Lara Nyman, Ph.D., postdoctoral fellow; partially supported by American Diabetes Association Mentor Award
- 2007-2012 Rachael Reinert, graduate student for Ph.D. in Department of Molecular Physiology and Biophysics at Vanderbilt University School of Medicine; Medical Scientist Training Program (MSTP) Student; supported by individual grant, F30DK85932
- 2007-2010 Joseph Henske, M.D., postdoctoral fellow (clinical endocrinology fellow), supported by NIH T32 training grant (T32DK07061)
- 2007-2008 Bart DeTaeye, Ph.D., postdoctoral fellow, partially supported by American Diabetes Association Mentor Award
- 2009-2010 Ji-Young Hong, postdoctoral fellow
- 2009-2015 Nora Kayton, graduate student for Ph.D. in Department of Molecular Physiology and Biophysics
- 2009-2011 Ioannis Papagiannis, M.D., postdoctoral fellow (clinical endocrinology fellow)
- 2009-2014 Ana Robledo, M.D., postdoctoral fellow
- 2010-2011 Mahnaz Mellati, M.D., postdoctoral fellow

2011-2015 Kristie Aamodt, graduate student for Ph.D. in Department of Molecular Physiology and Biophysics at Vanderbilt University School of Medicine; Medical Scientist Training Program (MSTP) Student; F30DK097921

2011-2017 Danielle Dean, Ph.D., postdoctoral fellow; supported by NIH training grant (T32DK07563) and JDRF postdoctoral fellowship grant

2011-2012 Alexandra Martin, M.D., postdoctoral fellow

2012-2017 Neil Phillips, Ph.D., postdoctoral fellow

2013-2014 Sapna Shah, M.D., postdoctoral fellow (clinical endocrinology fellow); supported by NIH T-32 training grant (T32DK07061); received, but declined Fogarty Fellowship

2013-2018 Nathaniel Hart, Ph.D., postdoctoral fellow

2013-2014 Dara Mize, M.D., postdoctoral fellow (clinical endocrinology fellow); supported by NIH T-32 training grant (T32DK07061)

2014-2018 Diane Saunders, graduate student for Ph.D. in Department of Molecular Physiology and Biophysics

2014-2018 Rachana Haliyur, graduate student for Ph.D. in Department of Molecular Physiology and Biophysics at Vanderbilt University School of Medicine; Medical Scientist Training Program (MSTP) Student; supported by individual grant, F30DK112630

2015-2016 Asma Aljaberi, M.D., postdoctoral fellow

2016- John T. Walker, graduate student for Ph.D. in Department of Molecular Physiology and Biophysics at Vanderbilt University School of Medicine; Medical Scientist Training Program (MSTP) Student; supported by individual grant, F30DK118830

2017-2018 Erick Spears, Ph.D., postdoctoral fellow

2018- Tiffany Richardson, graduate student for Ph.D. in Department of Molecular Physiology and Biophysics; supported by NIH T-32 training grant (T32DK07061); participant in Future Leaders Advancing Research in Endocrinology (FLARE) of the Endocrine Society

2018- Diane Saunders, Ph.D., postdoctoral fellow

2018- Jordan Wright, M.D., Ph.D., postdoctoral fellow; (clinical endocrinology fellow); supported by NIH T-32 training grant (T32DK07061)

2018- Heather Nelson, Ph.D., postdoctoral fellow

Research Program:

Major Research Interests:

Pancreatic islet function, development, regeneration
Glucose-stimulated insulin secretion
Vascularization and innervation of pancreatic islets
Molecular pathogenesis of type 1 and type 2 diabetes
Pancreatic islet imaging in vivo

Clinical Interests:

Diabetes Mellitus
Thyroid Disease
General Endocrinology

Current Research Support:

1. National Institutes of Health, "Diabetes Research and Training Center" (NIH P60DK20593), Principal Investigator - Alvin C. Powers, 04/01/17 – 03/31/22.
2. Veterans Administration Merit Review Award, "Glucose and Lipid Effects on Human Islets", Principal Investigator - Alvin C. Powers, 04/01/15 – 09/30/19.
3. National Institutes of Health (NIDDK – Human Islet Research Network), "Molecular Mechanisms of Physiologic Beta Cell Growth in Juvenile Human Pancreas" (NIH UC4DK104211), Principal Investigators – Alvin C. Powers, Seung Kim, Andrew Stewart (Powers as contact PI), 09/30/14-06/30/19
4. National Institutes of Health, "Discovery of Pancreatic Signatures in Type 2 Diabetes Mellitus", (R24DK106755), Principal Investigator - Alvin C. Powers, 08/1/15 – 06/30/20.
5. National Institutes of Health, "Interrupting the Vicious Cycle of Obesity and Metabolic Syndrome", (R24DK090964), Principal Investigator - Alvin C. Powers (Jacob Friedman, contact PI), 08/1/15 – 06/30/20.
6. National Institutes of Health (NIDDK – Human Islet Research Network), "High-resolution analysis of juvenile human pancreas maturation" (NIH UC4 DK108120), Principal Investigators – Christopher Wright, Alvin C. Powers, Richard Caprioli (Wright - contact PI), 10/1/2015 – 09/30/2020
7. National Institutes of Health (NIDDK – Human Islet Research Network), "Integrated Program for Human Pancreas Procurement and Analysis", (UC4 DK112232), Principal Investigator - Alvin C. Powers, Ali Najji, Contact PI 10/1/16 – 09/30/19.
8. National Institutes of Health, "Short-Term research training in diabetes, endocrinology, and metabolism for medical students" (NIH T35-DK07383), Principal Investigator - Alvin C. Powers, 05/01/13-04/30/18.
9. Juvenile Diabetes Research Foundation, "Quantitative MRI of the Pancreas in Type 1 Diabetes" Principal Investigator - Alvin C. Powers, 8/1/2015 – 7/31/2019.
10. Juvenile Diabetes Research Foundation, "Glucagon Receptor Antagonism in Beta Cell Survival and Proliferation", Principal Investigator – Alvin C. Powers (Co-PI with William Holland at UTSW as contact PI), 2/1/2016 - 1/31/2020.
11. The Leona M. & Harry B. Helmsley Charitable Trust, "Human Atlas of the Neonatal Development and Early Life Pancreas", Principal Investigator – Alvin C. Powers (Co-PI with Mark Atkinson as contact PI), 2/1/2017 – 1/31/2020
12. The Leona M. & Harry B. Helmsley Charitable Trust, "Improving isolation of pancreatic islets in T1D to assess alpha cell function and gene expression", Principal Investigator – Alvin C. Powers, 11/1/2017 – 04/30/2019

13. National Institutes of Health, "Molecular Mechanisms of Postnatal Islet Alpha-cell Proliferation, (R01DK117147), Multi-PI R01 grant; Principal Investigator - Alvin C. Powers (Wenbiao Chen, contact PI), 01/10/2019 – 12/31/2023

Past Research Support:

1. American Diabetes Association Career Development Award, "Pancreatic Islet Specific Gene Expression", Principal Investigator - Alvin C. Powers, 07/01/87 - 06/30/89.
2. National Institutes of Health (NIDDK R01 DK 43736-01), "Characterization of pancreatic islet glucose transporter", Principal Investigator - Alvin C. Powers, 07/01/91 - 06/30/95.
3. Veterans Administration Career Development Research Associate Award, "Characterization of beta cell glucose transporter", Principal Investigator - Alvin C. Powers, 07/01/91 - 06/30/95.
4. Veterans Administration Merit Review Award, "Islet Autoantigens and Type I Diabetes", Principal Investigator - Alvin C. Powers, 10/01/93-09/30/96.
5. National Aeronautics and Space Administration Grant, "Encapsulation of Living Cells", Principal Investigator - Taylor Wang; Co-Investigator - Alvin C. Powers, 02/01/93 - 01/31/97.
6. American Diabetes Association, "Regulation of Insulin Secretion in Non-islet Cells", Principal Investigator - Alvin C. Powers, 07/01/98-04/30/99.
7. Veterans Administration Merit Review Award, "Diabetes-Associated Insulin Secretory Defects", Principal Investigator - Alvin C. Powers, 04/01/97-03/31/00.
8. Diabetes Prevention Trial-Type I (NIH/NIDDK/NIAID/ADA/JDF), Affiliate Center at Vanderbilt University Medical Center, Clinical Director - Alvin C. Powers, 03/01/93-present.
9. Veteran Administration/JDF Diabetes Center Grant, "Metabolic Adaptations to Diabetes", Steve Davis, Principal Investigator; Role of Powers in Center: Principal Investigator, Project #1, 01/01/97-12/31/01.
10. Veteran Administration/JDF Diabetes Center Grant, "Metabolic Adaptations to Diabetes", Steve Davis, Principal Investigator; Role of Powers in Center: Clinical Services Core, Principal Investigator, 01/01/97-12/31/01.
11. Juvenile Diabetes Research Foundation International, "Optimization of PMCG capsules", Taylor Wang, Principal Investigator, Role of Powers in Project: Co-Investigator. 03/01/2001-02/28/2003
12. National Institutes of Health, "In Vivo Assessment of Transplanted Pancreatic Islets" (supplemental Pilot and Feasibility Study to Vanderbilt Diabetes Research and Training Center), Principal Investigator - Alvin C. Powers, 10/01/01-0/30/02.
13. National Institutes of Health, "Regulation of Insulin Secretion in Non-islet Cells" (NIH RO1-DK55233), Principal Investigator - Alvin C. Powers, 05/01/99-04/30/04.
14. NASA, Immunoisolation of living islets as a functional cure for diabetes, Principal Investigator – Taylor Wang, Co-investigator - Alvin C. Powers, 08/01/2002 - 10/01/2004
15. Veterans Administration Merit Review Award - "Role of pdx-1 in Glucose-Stimulated Insulin Secretion", Principal Investigator - Alvin C. Powers, 10/01/00-09/30/04.
16. Juvenile Diabetes Research Foundation, "Endothelial Progenitor Cells and Islet Transplantation", Principal Investigator - Alvin C. Powers, 02/01/04-01/31/05.
17. National Institutes of Health, "Molecular determinants of vascularization in islets" (NIH R21-DK63429), Principal Investigator - Alvin C. Powers, 09/30/02-07/31/05.
18. National Institutes of Health, "Gene transfer and revascularization of transplanted islets" (NIH R21-DK62541), Principal Investigator - Alvin C. Powers, 08/01/02-07/31/06.
19. Juvenile Diabetes Research Foundation, "Tie-1 and Tie-2 Receptors in Islet Revascularization." Principal Investigator - Alvin C. Powers, 01/01/05 – 12/31/06.

20. Juvenile Diabetes Research Foundation, "Noninvasive assessment of pancreatic islet mass" (1-2003-170), Principal Investigator - Alvin C. Powers, 02/01/03-01/31/07.
21. National Institutes of Health, "Pdx-1 and Maf Proteins in Human Islets" (NIH R21DK068854), Principal Investigator - Alvin C. Powers, 08/01/04-12/31/06.
22. National Institutes of Health, "Pancreatic Islet Imaging and Blood Flow" (NIH R01DK068764), Principal Investigator - Alvin C. Powers, 08/01/04-07/31/08.
23. Juvenile Diabetes Research Foundation, "Identification of Genes Activated in Human Islet Hyperplasia", Principal Investigator - Alvin C. Powers, 09/01/08 – 08/31/09.
24. Juvenile Diabetes Research Foundation, "Islet Transcription Factors in Human Islets", Principal Investigator - Alvin C. Powers, 02/01/07 – 01/31/10.
25. National Institutes of Health, "VEGF and Islet Vascularization" (NIH R01 DK069603), Principal Investigator - Alvin C. Powers, 07/01/05-06/30/20010.
26. Juvenile Diabetes Research Foundation, "Human Beta Cell Proliferation in Humanized Mice", (PI – Greiner; Co-investigators - Shultz, Powers), 09/01/08-08/31/10.
27. National Institutes of Health, Beta Cell Biology Consortium (DK072473, Magnuson, PI), Collaborative Bridging Project, "Humanized Mice for Assays to Normalize Endocrine Pancreas Function" (PI – Herrera; Co-investigators - Greiner, Shultz, Powers), 10/01/08-08/31/10
28. Veterans Administration Merit Review Award - "Islet Vascularization and Islet Function in Type 2 diabetes", Principal Investigator - Alvin C. Powers, 10/01/04-09/30/10.
29. National Institutes of Health, Beta Cell Biology Consortium (DK072473, Magnuson, PI), "Approaches to Study Human Islet Proliferation", (Powers – PI of this project), 03/1/09-12/31/10
30. National Institutes of Health, Beta Cell Biology Consortium (DK072473, Magnuson, PI), "Multi-modal Imaging of Beta Cells", (Schneider – PI of this project, Powers, co-investigator), 03/01/09-12/31/10
31. National Institutes of Health, Beta Cell Biology Consortium (DK072473, Magnuson, PI), "Friendly Immunosuppression for Endocrine Regeneration", (Powers – PI of this project), 01/01/09-12/31/10
32. National Institutes of Health, "GLP-1 to Enhance Islet Transplantation" (NIH R21/R33-DK66636), Principal Investigator - Alvin C. Powers, 09/30/03-06/30/11.
33. Juvenile Diabetes Research Foundation, "Endothelial Cells and Islet Regeneration", Principal Investigator - Alvin C. Powers, 07/01/08 – 06/30/11.
34. Juvenile Diabetes Research Foundation, "New Imaging Agents Targeting VMAT-2", Principal Investigator - Alvin C. Powers, 09/01/08 – 08/31/11
35. Juvenile Diabetes Research Foundation, "ErbB Receptors and Islet Regeneration", Principal Investigator - Alvin C. Powers, 09/01/08 – 08/31/11
36. Juvenile Diabetes Research Foundation, "Stimulation of Alpha Cell Hyperplasia", Principal Investigator - Alvin C. Powers, 08/01/10 – 07/31/11.
37. National Institutes of Health, Beta Cell Biology Consortium (DK072473, Magnuson, PI), "From Fish to Man" (FFTM)", (Powers – co-investigator of this project), 03/01/11-2/29/13
38. National Institutes of Health, "Molecular mechanisms underlying NHP pancreatic beta cell failure and recovery", (R24 DK093437, David Harlan, contact PI), Principal Investigator (multi PI/PD project) – Alvin C. Powers, 09/01/11 – 08/30/13
39. National Institutes of Health, "Reconstruction of Human Type 1 Diabetes in Mice", (R24 DK092758, Doug Melton, contact PI), Principal Investigator (multi PI/PD project) – Alvin C. Powers, 09/30/11 – 08/30/13
40. Juvenile Diabetes Research Foundation, "Novel Pathways and Targets for Promoting Beta Cell Regeneration," Principal Investigator – Philipp Scherer; Co-investigator - Alvin C. Powers, 04/01/12 – 03/31/14.

41. Juvenile Diabetes Research Foundation, "ID of factors stimulating alpha cell proliferation," Principal Investigator - Alvin C. Powers, 04/01/13 – 03/31/15.
42. National Institutes of Health (NIDDK – Beta Cell Biology Consortium), "Multi-Disciplinary Approaches to Driving Therapeutic Human Beta Cell Replication" (NIH U01DK089538), Principal Investigators – Andrew Stewart, Alvin C. Powers (Stewart as contact PI), 08/01/10-06/30/15.
43. National Institutes of Health, Beta Cell Biology Consortium (DK072473, Magnuson, PI), "HIDEF: Human Islet Development and Function", (Powers – PI of this project), 03/01/11-7/31/15
44. National Institutes of Health (NIDDK – Beta Cell Biology Consortium), "Molecular Mechanisms of Human and Murine Beta Cell Proliferation and Regeneration" (NIH U01DK089572), Principal Investigator - Alvin C. Powers, 08/01/10-06/30/16.
45. Juvenile Diabetes Research Foundation, "Targeting Pancreatic Islet Endocrine Cells with Nucleic Acid Aptamers," Principal Investigator - Alvin C. Powers, 06/01/13 – 05/31/17.
46. National Institutes of Health, "Islet Imaging with Monoclonal Antibodies," (R01DK094199), Principal Investigator - Alvin C. Powers, 12/01/11 – 8/30/17.
47. Juvenile Diabetes Research Foundation, "Nano-sponges for human islet cell targeting," Principal Investigator - Alvin C. Powers, 06/01/13 – 05/31/17.
48. Juvenile Diabetes Research Foundation, "Alpha cell plasticity in human T1D," Co-investigator; Marcela Brissova, Principal Investigator) -, 06/01/15 – 05/31/17
49. National Institutes of Health, "Islet Biology in Cystic Fibrosis Related Diabetes", (R01DK097829), Principal Investigator - Alvin C. Powers (Co-PI with Lydia Aguilar-Bryan), 09/15/12 – 03/31/18.

Publications and Presentations:

Articles in refereed journals (published or under review):

1. Abrahamson DR, Powers AC, Rodewald R: Intestinal absorption of immune complexes by neonatal rats: A route of antigen transfer from mother to young. *Science* 296:567-568, 1979
2. Duckworth WC, Solomon SS, Jallepalli P, Heckemeyer C, Finnern J, Powers AC: Glucose intolerance due to insulin resistance in patients with spinal cord injuries. *Diabetes* 29:206-210, 1980
3. Powers AC, Solomon SS, Duckworth WC: Insulin degradation by mononuclear cells. *Diabetes* 29:27-31, 1980
4. Powers AC, Rabizadeh A, Akeson R, Eisenbarth GS: Characterization of monoclonal antibody 3G5 and utilization of this antibody to immobilize pancreatic islet cell gangliosides in solid-phase radioassay. *Endocrinology* 114:1338-1343, 1984
5. Powers AC, Eisenbarth GS: Autoimmunity to islet cells in diabetes mellitus. *Ann Rev Med* 36:533-544, 1985
6. James DE, Zorzano A, Boni-Schnetzler M, Nemenoff RA, Powers AC, Pilch PF, Ruderman NB: Intrinsic differences of insulin receptor kinase activity in red and white muscle. *J Biol Chem* 261:14939-14944, 1986
7. Kwok YC, Nemenoff RA, Powers AC, Avruch J: Kinetic properties of the insulin receptor tyrosine protein kinase: activation through an insulin-stimulated tyrosine-specific intramolecular autophosphorylation. *Archives of Biochemistry & Biophysics* 244:102-113, 1986
8. Philippe J, Powers AC, Brand SI: Cholecystokinin and glucagonoma (letter). *N Engl J Med* 318:121-122, 1988

9. Philippe J, Powers AC, Mojsov S, Cosmi R, Habener JF: Expression of polypeptide hormone genes in human islet cell tumors. *Diabetes* 37:1647-1651, 1988
10. Powers AC, Philippe J, Hermann H, Habener JF: Sodium butyrate increases glucagon and insulin gene expression by recruiting immunocytochemically negative cells to produce hormone. *Diabetes* 37:1405-1410, 1988
11. Jameson JL, Powers AC, Gallagher GD, Habener JF: Enhancer and promoter element interactions dictate cyclic adenosine monophosphate mediated and cell-specific expression of the glycoprotein hormone alpha gene. *Mol Endocrinol* 3:763-772, 1989
12. Powers AC, Tedeschi F, Wright KE, Chan JS, Habener JF: Somatostatin gene expression in pancreatic islet cells is directed by cell-specific DNA control elements and DNA-binding proteins. *J Biol Chem* 264:10048-10056, 1989
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14. Powers AC, Efrat S, Mojsov S, Spector D, Habener JF, Hanahan D: Proglucagon processing similar to normal islets in pancreatic alpha-like cell line derived from transgenic mouse tumor. *Diabetes* 39:406-414, 1990
15. Whitesell RR, Powers AC, Regen DM, Abumrad NA: Transport and metabolism of glucose in an insulin-secreting cell line, beta TC-1. *Biochemistry* 30:11560-11566, 1991
16. Pietropaolo M, Castaño L, Babu S, Buelow R, Kuo Y-LS, Martin S, Martin A, Powers AC, Prochazka M, Naggert J, Leiter EH, Eisenbarth GS: Islet Cell Autoantigen 65 kD (ICA69): molecular cloning and characterization of a novel diabetes-associated autoantigen. *J Clin Invest* 92:359-371, 1993
17. Whitesell RR, Abumrad MK, Powers AC, Regen DM, Le C, Beechem JM, May JM, Abumrad NA: Coupling of glucose transport and phosphorylation in *Xenopus* oocytes and cultured cells: determination of the rate-limiting step. *Journal of Cellular Physiology* 157:509-513, 1993
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19. Ujihara N, Daw K, Gianani R, Boel E, Yu L, Powers AC: Identification of glutamic acid decarboxylase autoantibody heterogeneity and epitope regions in Type I diabetes. *Diabetes* 43:968-975, 1994
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26. Buchs A, Wu L, Morita H, Whitesell RR, Powers AC: Two regions of GLUT 2 glucose transporter protein are responsible for its distinctive affinity for glucose. *Endocrinology* 136:4224-4230, 1995
27. Daw K, Ujihara N, Atkinson M, Powers AC: Glutamic acid decarboxylase autoantibodies in Stiff-man syndrome and insulin-dependent diabetes mellitus exhibit similarities and differences in epitope recognition. *Journal of Immunology*, 156:818-825, 1996
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30. Wandel S, Buchs A, Schurmann A, Summers SA, Powers AC, Shanahan MF, Joost HG: Glucose transport activity and ligand binding (cytochalasin B, IAPS-forskolin) of chimeric constructs of GLUT2 and GLUT4 expressed in COS-7 cells. *Biochim Biophys Acta* 1284:56-62, 1996
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33. Wang TG, Prokop A, Green R, Brissova M, Lacik I, Anilkumar AV, Shahrokhi K, Powers AC: An encapsulation system for the immunoisolation of pancreatic islets. *Nature Biotechnology* 15:358-362, 1997
34. Lacik I, Brissova M, Anilkumar AV, Powers AC, Wang TG: New capsule with tailored properties for the encapsulation of living cells. *Journal of Biomedical Materials Research* 39:52-60, 1998
35. Brissova M, Lacik I, Powers AC, Anilkumar AV, Wang TG: Control and measurement of permeability for design of microcapsules for cell delivery system. *Journal of Biomedical Materials Research* 39:61-70, 1998
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9. Powers AC. "Diabetes Mellitus" in Harrison's Principles of Internal Medicine, 18th Edition, Editors, Braunwald E, Fauci AS, Kasper DL, Hauser SL, Longo DL, Jameson JL, McGraw Hill, New York, NY, 2011
10. Powers AC. Guest Editor of Translational Endocrinology and Metabolism: Type 2 Diabetes Update, Editor-in-Chief, Robertson, RP, The Endocrine Society Publications, Chevy Chase, MD, 2011
11. Powers AC and Stein R. "New Insights of Islet Biology and the Pathophysiology of Type 2 Diabetes" in Translational Endocrinology and Metabolism: Type 2 Diabetes Update, Editor-in-Chief, Robertson, RP, The Endocrine Society Publications, Chevy Chase, MD, 2011
12. Greiner DL Brehm MA, Hosur V, Harlan DM, Powers AC, Shultz LD. Humanized Mice for the Study of Type 1 and Type 2 Diabetes. Annals of the New York Academy of Sciences 1245:55, 2011 PMID: PMC3384500
13. Ahima RS and Powers AC, Editors, The Year in Diabetes and Obesity, Annals of the New York Academy of Sciences, 2011
14. Brehm M, Powers AC, Shultz LD, Greiner DL. Advancing Animal Models of Human Type 1 Diabetes by Engraftment of Functional Human Tissues in Immunodeficient Mice. Perspectives on Type 1 Diabetes, Editors: Jeffrey A. Bluestone, Mark A. Atkinson, and Peter R. Arvan Editors: Jeffrey A. Bluestone, Mark A. Atkinson, and Peter R. Arvan. Cold Spring Harbor Laboratory Press, 2012 May;2(5):a007757, PMID: PMC3331686
15. Powers AC and Ahima RS, Editors, The Year in Diabetes and Obesity, Annals of the New York Academy of Sciences, 2013
16. Nyman LR, Brissova M, Powers AC. "Opportunities for Improving the Revascularization of Transplanted Islets", Islets: Biology, Immunology, and Clinical Transplantation, Editor, Kandell F., Springer, 2013
17. Ahima RS and Powers AC, Editors, The Year in Diabetes and Obesity, Annals of the New York Academy of Sciences, 2013
18. Powers AC, "Architecture and Morphology of Human," in Cellular Endocrinology in Health and Disease, Editors, Alfredo Ulloa-Aguirre and P. Michael Conn, Academic Press / Elsevier, Inc., 2013
19. Ahima RS and Powers AC, Editors, The Year in Diabetes and Obesity, Annals of the New York Academy of Sciences, 2014
20. Powers AC. "Diabetes Mellitus: Diagnosis, Classification, and Pathophysiology" in Harrison's Principles of Internal Medicine, 19th Edition, Editors, Kasper DL, Fauci AS, Longo DL, Hauser SL, Jameson JL, Loscalzo J. McGraw Hill, New York, NY, 2015

21. Powers AC. "Diabetes Mellitus: Management and Therapies" in Harrison's Principles of Internal Medicine, 19th Edition, Editors, Kasper DL, Fauci AS, Longo DL, Hauser SL, Jameson JL, Loscalzo J. McGraw Hill, New York, NY, 2015
22. Powers AC. "Diabetes Mellitus: Complications" in Harrison's Principles of Internal Medicine, 19th Edition, Editors, Kasper DL, Fauci AS, Longo DL, Hauser SL, Jameson JL, Loscalzo J. McGraw Hill, New York, NY, 2015
23. Ahima RS and Powers AC, Editors, The Year in Diabetes and Obesity, Annals of the New York Academy of Sciences, 2015
24. Powers AC and D'Alessio D. "Pharmacology of the Endocrine Pancreas" in Goodman & Gilman's The Pharmacological Basis of Therapeutics, 13th Edition, Editor, Laurence L. Brunton, McGraw Hill, New York NY, 2017
25. Powers AC, KD Niswender, Carmella Evans- Molina. "Diabetes Mellitus: Diagnosis, Classification, and Pathophysiology" in Harrison's Principles of Internal Medicine, 20th Edition, Editors, Kasper DL, Fauci AS, Longo DL, Hauser SL, Jameson JL, Loscalzo J. McGraw Hill, New York, NY, 2018
26. Powers AC, KD Niswender, MR Rickles. "Diabetes Mellitus: Management and Therapies" in Harrison's Principles of Internal Medicine, 20th Edition, Editors, Kasper DL, Fauci AS, Longo DL, Hauser SL, Jameson JL, Loscalzo J. McGraw Hill, New York, NY, 2018
27. Powers AC, JM Stafford, MRI Rickles. "Diabetes Mellitus: Complications" in Harrison's Principles of Internal Medicine, 20th Edition, Editors, Kasper DL, Fauci AS, Longo DL, Hauser SL, Jameson JL, Loscalzo J. McGraw Hill, New York, NY, 2018

Presentations (invited):

- 1990 "Molecular and Immunologic Mechanisms of Grave's Disease", Medical Grand Rounds, Vanderbilt University School of Medicine, Nashville, TN
- 1991 "Estrogen Replacement in the Post-menopausal Woman", Medical Grand Rounds, Vanderbilt University School of Medicine, Nashville, TN
- 1992 "Interpretation of Thyroid Function Tests", Ninth Annual Family Medicine Primary Care Update, Vanderbilt University Medical Center, Nashville, Tennessee
- 1994 "Prediction and Prevention of Type I Diabetes", Medical Grand Rounds, Vanderbilt University School of Medicine, Nashville, TN
- 1994 "Ret Oncogene and MEN 2", Endocrine Grand Rounds, Vanderbilt University School of Medicine, Nashville, TN
- 1995 "Update on Diabetes", Juvenile Diabetes Foundation, Inc., Nashville Chapter
- 1996 "Design of Immunoisolation Devices for the Treatment of Diabetes", Seminar in Applied Physics, Vanderbilt University, Nashville, Tennessee
- 1996 "Encapsulated Islets as a Treatment for Diabetes", American Association for Laboratory Animal Science, Appalachian Branch Spring Meeting, Nashville, Tennessee
- 1996 "Permeability Optimization of Immunoisolation Devices", Bioartificial Organs: Science and Technology, Engineering Foundation Conferences, Nashville, Tennessee
- 1997 "Screening and Treatment of Thyroid Disease", Fourteenth Annual Family Medicine Primary Care Update, Vanderbilt University Medical Center, Nashville, Tennessee
- 1998 "Nuclear Fallout, Radiation, and Thyroid Cancer", Endocrine Grand Rounds, Vanderbilt University School of Medicine, Nashville, TN
- 1998 "Iodide, Amiodarone, Nuclear Fallout, and the Thyroid", Medical Grand Rounds, Vanderbilt University School of Medicine, Nashville, TN
- 1998 "Recent Advances in Islet Encapsulation", 5th International Meeting on the Genetics, Pathogenesis, Prevention, and Therapy of Type I Diabetes, Erice, Italy

- 1999 "Microencapsulation of Islets for Xenotransplantation", Transplantation Research Day, Vanderbilt University
- 1999 "Thiazolidinediones: Target, Therapy, and Toxicity", Endocrine Grand Rounds, Vanderbilt University School of Medicine, Nashville, TN
- 2000 "Role of Pdx-1 in Glucose-Stimulated Insulin Secretion", Metabolex, Inc., Hayward, CA
- 2000 "Type 2 Diabetes: Current Therapy", Annual Conference of Tennessee Nurse Practitioners, Nashville, TN
- 2000 "Diabetes-how many types are there?", Endocrine Grand Rounds, Vanderbilt University School of Medicine, Nashville, TN
- 2000 "Diabetes-research update", Juvenile Diabetes Research Foundation International, Mississippi Chapter, Jackson, MS
- 2000 "Role of Pdx-1 in Maintenance of Glucose-Stimulated Insulin Secretion", City-Wide Endocrine Conference, University of Minnesota, Minneapolis, MN
- 2000 "Diabetes-current and future classifications", OSI Pharmaceuticals, Tarrytown, NY
- 2001 "Diabetes-how many types are there?", Department of Medicine Seminar, Texas Tech Health Sciences Center at El Paso, El Paso, TX
- 2001 "Role of Pdx-1 in Maintenance of Glucose-Stimulated Insulin Secretion", Endocrine Conference, University of Tennessee Center for Health Sciences, Memphis, TN
- 2001 "Role of Pdx-1 in Maintenance of Glucose-Stimulated Insulin Secretion", Research Endocrinology Conference, University of Pittsburgh, Pittsburgh, PA
- 2001 "Role of Pdx-1 in Maintenance of Glucose-Stimulated Insulin Secretion", Transplant Grand Rounds, NIDDK/Navy Autoimmunity and Transplantation Branch, Bethesda, MD
- 2001 "Role of Pdx-1 in "Glucose-Stimulated Insulin Secretion", Department of Medicine Seminar, University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 2001 "Evolution of Islet Cell Transplantation as a Treatment for Type 1 Diabetes, at Nursing Management of Diabetes 2001, St. Thomas Health Services, Nashville, TN
- 2001 "Biologic Replacement of Insulin", Endocrine Grand Rounds, Vanderbilt University School of Medicine, Nashville, TN
- 2002 "Biologic Replacement of Insulin-how close or how far?", Endocrine Grand Rounds, National Institute of Health, Bethesda, MD
- 2002 "Pancreatic Islet Transplantation-is it ready for prime time?", 17th Annual Diabetes Mellitus Conference of Middle Tennessee Association of Diabetes Educators, Nashville, TN
- 2002 Clinical Endocrinology Update - Board Review organized by The Endocrine Society, "Diabetes Mellitus", Portland, OR
- 2002 "Diabetes Mellitus; Clinical Aspects and Unanswered Questions", Department Seminar, Molecular Physiology and Biophysics, Vanderbilt University, Nashville, TN
- 2002 "Update on Thyroid Disease", Student Health Services, Vanderbilt University, Nashville, TN
- 2003 "GLP-1 in Type 2 Diabetes: more than an insulin secretagogue", Endocrinology Grand Rounds, Vanderbilt University Medical Center, Nashville, TN
- 2003 "Pancreatic Islet Transplantation: Challenges and Opportunities", Endocrinology State-of-the Art Presentation, Southern Society of Clinical Investigation, New Orleans, LA
- 2003 "Using Bioluminescence to Non-invasively Image and Assess Transplanted Islet Mass", National Institutes of Health Workshop on "Imaging the Pancreatic Beta Cell", sponsored by National Institute of Biomedical Imaging, National Institute of Diabetes and Digestive and Kidney Diseases, Juvenile Diabetes Research Foundation, Bethesda, MD
- 2003 "Vascularization and Revascularization of Pancreatic Islets", Endocrinology Grand Rounds, Indiana University Medical Center, Indianapolis, IN

- 2003 "Vascularization and Revascularization of Pancreatic Islets", Rheumatology Research Seminar, Vanderbilt University Medical Center, Nashville, TN
- 2003 Clinical Endocrinology Update - Board Review organized by The Endocrine Society, "Diabetes Mellitus and Obesity", Miami, FL
- 2003 "Vascularization and Revascularization of Pancreatic Islets", Endocrinology Grand Rounds, University of Miami Medical Center, Miami, FL
- 2003 "Imaging and Revascularization of Pancreatic Islets", 3rd Annual Symposium on Islet Transplantation, Rancho Mirage, CA
- 2004 "Pancreatic Islet Transplantation: Challenges and Obstacles", National Board of Directors of Juvenile Diabetes Research Foundation, International, Nashville, TN
- 2004 "Pancreatic Islets: Vascularization and Revascularization", Research Seminar, Department of Molecular Physiology and Biophysics, Vanderbilt University, Nashville, TN
- 2004 "Pancreatic Islets: Vascularization and Revascularization", Diabetes Seminar, University of Pennsylvania, Philadelphia, PA
- 2004 "Pancreatic Islets: Vascularization and Revascularization", Endocrinology Grand Rounds, Northwestern University School of Medicine, Chicago, IL
- 2004 Invited Session Chair, NIH Workshop, "Immunobarriers for Pancreatic Islet Transplantation", Washington, D.C.
- 2004 Research Update, Juvenile Diabetes Research Foundation, International, Nashville Chapter, Nashville, TN.
- 2004 Clinical Endocrinology Update - Board Review organized by The Endocrine Society, "Diabetes Mellitus and Obesity", Baltimore, MD
- 2004 "Survival, Function, and Sustenance of Pancreatic Islets: What Do We Know and What Do We Need to Know", NIH Beta Cell Biology Consortium Investigator Retreat, Chicago, IL
- 2004 "Diabetes Mellitus: Diagnosis, Treatment, and Monitoring", American Society for Clinical Laboratory Sciences, Region III, Nashville, TN
- 2004 "Vascularization of Pancreatic Islets and the Revascularization of Transplanted Islets", 5th Annual Rachmiel Levine Diabetes and Obesity Symposium, Los Angeles, CA
- 2004 "Pathogenesis of Type 2 Diabetes: Focus on the Beta Cell", Endocrinology Grand Rounds, Vanderbilt University Medical Center, Nashville, TN
- 2004 Question and Comment Panel, "Islet Cell Transplant, Prelude to the Future", Philadelphia, PA
- 2005 "Pancreatic Islets: Vascularization and Revascularization", Renal Research Seminar, Vanderbilt University, Nashville, TN
- 2005 "In vivo imaging of pancreatic islets", American Diabetes Association annual meeting, San Diego, CA
- 2005 "Bioluminescent imaging of transplanted pancreatic islets", Islet Cell Resource Centers, Islet Workshop Meeting, Duarte, CA
- 2005 "Pancreatic Islets: Vascularization and Revascularization", Endocrine Grand Rounds, Section of Endocrinology, University of Chicago, Chicago, IL
- 2005 Clinical Endocrinology Update - Board Review organized by The Endocrine Society, "Diabetes Mellitus", Toronto, Canada
- 2005 "Molecular Events of Islet Transplantation: What Do We Know and What Do We Need to Know", Immunology of Diabetes (8th annual meeting), Osaka, Japan
- 2005 "Update on Research to Prevent and Cure Type 1 Diabetes", Diabetes Family Day, Vanderbilt University Medical Center, Nashville, TN
- 2006 "Islet Transplantation: Current State and Future Directions", Nephrology Grand Rounds, Vanderbilt University Medical Center, Nashville, TN

- 2006 "Pancreatic islet vascularization and revascularization", Keystone Symposium, "Pancreatic Islets: From Development to Transplantation", Taos, NM
- 2006 "Assessment of pancreatic mass by bioluminescence", NIH workshop, Imaging the Pancreatic Beta Cell in Health and Disease, 3rd workshop, Washington, D.C.
- 2006 "Pancreatic Islet Imaging", Eli Lilly and Company, Indianapolis, IN
- 2006 "Islet Cell Transplantation as a Model to Study Beta Cell Regeneration", American Diabetes Association annual meeting, Boston, MA
- 2006 "Islet Transplantation as a Model to Study β Cell Regeneration", International College of Surgeons, United States Section, Nashville, TN
- 2006 Clinical Endocrinology Update - Board Review organized by The Endocrine Society, "Diabetes Mellitus", San Francisco, CA
- 2006 "Imaging Pancreatic Islets with Bioluminescence", Workshop on New Bioimaging Techniques for Small Animals, University of Geneva, Geneva, Switzerland
- 2006 "Pancreatic Islets: Vascularization and Revascularization", Frontiers in Biology Seminar, University of Geneva, Geneva, Switzerland
- 2006 "Improvements in Pancreatic Islet Revascularization", 7th Annual Rachmiel Levine Diabetes and Obesity Symposium, Los Angeles, CA
- 2006 "Non-invasive Imaging of Pancreatic Islets", Vanderbilt University Institute for Imaging Sciences, Nashville, TN
- 2007 "Pancreatic Islets: Vascularization and Revascularization", Lawson Health Research Institute Seminar, London, Ontario
- 2007 "Future Directions in Measuring Beta-cell Mass and Function", American Diabetes Association Research Symposium: Translating Islet Biology into Diabetes Therapy, Stone Mountain, GA
- 2007 "Pancreatic Islets: Vascularization and Revascularization", Research Seminar, Rolf Luft Center for Diabetes and Endocrinology, Karolinska Institutet
- 2007 "Pancreatic Islet Imaging: What do we want to know and how do we measure it?", State of the Art Lecture, American Diabetes Association annual meeting, Chicago, IL
- 2007 "Update on Research Related to Type 1 Diabetes", Middle Tennessee Chapter of Juvenile Diabetes Research Foundation, Nashville, TN
- 2007 Clinical Endocrinology Update - Board Review organized by The Endocrine Society, "Diabetes Mellitus", San Antonio, TX
- 2007 "Pancreatic Islet Imaging: What do we want to know and how do we measure it?" Annual Meeting of Korean Diabetes Association, Pusan, South Korea
- 2007 "Imaging of Islet Cells: Application to Islet and Pancreas Transplantation", Global Diabetes Summit, "Conquering Diabetes Frontiers with New Discoveries and Technologies", Ohio State University, Columbus, Ohio
- 2007 "Update on Research Related to Type 1 Diabetes", Pediatric Diabetes Family Day, Vanderbilt University Medical Center
- 2007 "Pancreatic Islets: Vascularization, Revascularization, and Regeneration", Endocrine Grand Rounds, University of Texas Southwestern Medical Center
- 2008 "Insulin Therapy versus Cell Therapy for Type 1 Diabetes: What about the future?" 9th Annual Rachmiel Levine Diabetes and Obesity Symposium, Los Angeles, CA
- 2008 "Pancreatic Islets: Vascularization, Revascularization, and Regeneration", Endocrine Grand Rounds, University of Pittsburgh Medical Center, Pittsburgh, PA
- 2008 "Pancreatic Islets: Vascularization, Revascularization, and Regeneration", Barbara Davis Diabetes Center, University of Colorado Medical Center, Denver, CO
- 2008 "Pancreatic Islets: Vascularization, Revascularization, and Regeneration", Endocrine Grand Rounds, National Institutes of Health, NIDDK, Bethesda, MD

- 2008 "Islet-Enriched Transcription Factors, Vascularization, and Insulin Secretion", National Institute of Diabetes and Digestive and Kidney Diseases Workshop, Diabetes Genes and Beta Cell Function: How Can We Assemble the Puzzle?, Bethesda, MD
- 2008 "How Do We Improve Islet Revascularization After Transplantation?", American Diabetes Association annual meeting, San Francisco, CA
- 2008 "Imaging Approaches to Follow Islets In Vivo", Keystone Symposium, "Islet and Beta Cell Development and Transplantation", Snowbird, UT
- 2008 "Update on Research Related to Type 1 Diabetes", Middle Tennessee Chapter of Juvenile Diabetes Research Foundation, Nashville, TN
- 2008 Clinical Endocrinology Update - Board Review organized by The Endocrine Society, "Diabetes Mellitus", Boston, MA
- 2008 "Research Related to Type 1 Diabetes", Pediatric Diabetes Family Day, Vanderbilt University Medical Center
- 2008 "GLP-1 Signaling and Islet Transplantation", 2nd Annual National Symposium on Incretin Biology, Toronto, Canada
- 2009 "Pancreatic Islets: Vascularization, Innervation, and Regeneration", Department of Biochemistry, University of Wisconsin, Madison, WI
- 2009 "Pancreatic Islets: Vascularization, Innervation, and Regeneration", Department of Nutrition, Duke University, Durham, NC
- 2009 "Pancreatic Islets: Vascularization, Innervation, and Regeneration", DRTC Seminar, Albert Einstein College of Medicine, Bronx, NY
- 2009 "Pancreatic Islets: Vascularization, Innervation, and Regeneration", Pacific Northwest Diabetes Research Institute Seminar, Seattle, WA
- 2009 "Pancreatic Islets: Vascularization, Revascularization, and Regeneration", Imaging the Pancreatic Beta Cell, Fourth Workshop, April 6-7, 2009, Washington, D.C.
- 2009 "Challenges and Opportunities for Imaging in Diabetes", Frontiers of Biomedical Imaging Science, June 2-5, 2009 Vanderbilt University Institute of Imaging Science, Nashville, Tennessee
- 2009 "Mouse and Human Islets in Type 1 Diabetes – Similarities and Differences", American Diabetes Association annual meeting, New Orleans, LA
- 2009 "Opportunities and Challenges for Imaging Pancreatic Islets", Eli Lilly, Indianapolis, IN
- 2009 Clinical Endocrinology Update - Board Review organized by The Endocrine Society, "Diabetes Mellitus", Atlanta, GA
- 2009 "Human Islet Biology", Juvenile Diabetes Research Foundation nPOD annual meeting, Washington, D.C.
- 2010 "What is a pancreatic islet?" Juvenile Diabetes Research Foundation Islet Niche Workshop, New York, NY
- 2010 "Pancreatic Islets: Vascularization, Innervation, and Regeneration", Pediatric Diabetes Research Center Opening Symposium, University of California San Diego, San Diego, CA
- 2010 "Type 2 Diabetes: Pancreatic Islet Response to Insulin Resistance", Hamamatsu Medical School, Hamamatsu, Japan
- 2010 "Pancreatic Islets: Vascularization and Innervation", Burnham Institute for Medical Research, Lake Nona, Florida
- 2010 "Beta cell-replacement therapy for type 1 diabetes: where are we now and where are we going?" Banting and Best Diabetes Center, University of Toronto, Toronto, Canada
- 2010 "Pancreatic Islets: Vascularization, Innervation, and Regeneration", Islet Study Group of European Association for Study of Diabetes, Tallberg, Sweden
- 2010 "Pancreatic Islets: Vascularization, Innervation, and Regeneration", Translational Biology and Molecular Medicine Graduate Program Seminar Series, Baylor College of Medicine, Houston, TX

- 2011 "Pharmacologic or cell-based therapy for type 1 diabetes – where are we now and where are we going?", Kroc Lectureship, Division of Diabetes, Endocrinology & Metabolism, Baylor College of Medicine, Houston, TX
- 2011 "Islet – Endothelial Cells Interactions: Role in Function and Proliferation?", Charles Hollenberg Lectureship, Banting and Best Diabetes Centre, University of Toronto, Toronto, Canada
- 2011 "Islets and Endothelial Cells: Context and Connections?" Diabetes Day, University of Chicago, Chicago, IL
- 2011 "Islets and Endothelial Cells: Context and Connections?" 93rd Annual Meeting of The Endocrine Society, Boston, MA
- 2011 "Mouse and Human Islets: Context and Connections" JDRF-IDS Satellite Symposium at the Annual Meeting of the Federation of Clinical Immunology Societies, 'Type 1 Diabetes - Insulinitis Revisited: Cross-Talk between the Immune System and the Beta Cell', Washington, DC
- 2011 "Islets and Endothelial Cells: Context and Connections" Satellite meeting of The Society for Developmental Biology, 'Translating Pancreatic Development to Treat Diabetes', Chicago, IL
- 2011 "Pancreas and Islet Transplantation," Annual Clinical Endocrinology Update by The Endocrine Society, Nashville, TN
- 2011 "Monogenic Diabetes and LADA," Meet-the-Professor Sessions and the Annual Clinical Endocrinology Update by The Endocrine Society, Nashville, TN
- 2011 "Islets and Endothelial Cells: Context and Connections," World Diabetes Congress organized by the International Diabetes Federation, Dubai, United Arab Emirates
- 2012 "Islets and Endothelial Cells: Context and Connections," Vascular Biology Seminar Series, Yale School of Medicine, New Haven, CT
- 2012 "Islets and Endothelial Cells: Context and Connections," Kroc Lectureship, University of Washington, Division of Diabetes and Endocrinology, Seattle, WA
- 2012 "Pharmacologic versus cell-mediated insulin replacement for diabetes – where are we now and where are we going?" Annual Meeting of Endocrine Nurses Association at Annual meeting of The Endocrine Society, Houston, TX
- 2012 "Human Islets: Context, Connections, and Considerations" at Indo US Science and Technology Forum/Workshop on "Pancreatic Islets: From Isolation to Transplantation," Hyderabad, India
- 2012 "Islet Vascularization and Innervation – context and connections," Centre for Neuroscience, Flinders University, Adelaide, SA, Australia
- 2012 "Pancreatic Islet Vascularization and Innervation – context and connections," Centre for Cancer Biology, Adelaide, SA, Australia
- 2012 "Islet Vascularization and Innervation – context and connections," 5th Annual Australian Islet Study Group, Melbourne, VIC, Australia
- 2012 "Pancreatic Islet Vascularization and Regeneration: Endothelial Cells, Macrophages, and β Cells," St Vincent's Institute, Fitzroy, VIC, Australia
- 2012 "Pancreatic Islet Vascularization and Regeneration: Endothelial Cells, Macrophages, and β Cells," Research Seminar Series, Institute for Diabetes, Obesity, and Metabolism, University of Pennsylvania, Philadelphia, PA
- 2013 "Pancreatic Islet Vascularization and Regeneration: Endothelial Cells, Macrophages, and β Cells," Molecular Medicine Research Seminar at Children's Hospital of Pittsburgh, Pittsburgh, PA
- 2013 "Pharmacologic versus cell-mediated insulin replacement for diabetes – where are we now and where are we going?" Endocrine Grand Rounds, University of Massachusetts, Worcester, MA

- 2013 "Type 1 Diabetes: current therapies versus emerging therapies using insulin-producing cells," 2013 Ray A. and Robert L. Kroc Lecturer in Diabetes and Endocrinology, Medical Grand Rounds, University of Alabama Birmingham, Birmingham, AL
- 2013 "Imaging or Targeting the beta cell: context, connections, and considerations" Keynote Speaker, NIH Workshop: Imaging the Pancreatic Beta Cell, 5th Workshop, Bethesda, MD
- 2013 "Emerging Research Related to Type 1 and Type 2 Diabetes", "28th Annual Clinical Conference on Diabetes, American Diabetes Association, Orlando, FL
- 2013 "Management of diabetes in patients with CV disease," The Best of ADAIndia, Kolkata, India and Lucknow, India
- 2013 "Management of microalbuminuria and diabetic nephropathy," The Best of ADAIndia, Kolkata, India and Lucknow, India
- 2013 "Approaches to assess beta cell or islet cell mass: current status and future directions," World Diabetes Congress, Melbourne, Australia
- 2013 " β Cells, Endothelial Cells, and Macrophages Create Microenvironment that Promotes Islet Regeneration," 13th International Congress of the Immunology of Diabetes Society, Lorne, Australia
- 2014 " β Cells, Endothelial Cells, and Macrophages and Islet Regeneration," Montreal Diabetes Research Centre, Montreal, Canada
- 2014 "Role of β cell in Type 1 and Type 2 Diabetes: With Comments on Current and Emerging Therapies," Plenary Lecture, International Clinical Update in Endocrinology 2014, Hyderabad, India
- 2014 "New Thinking About the Pathogenesis of Type 1 Diabetes," International Clinical Update in Endocrinology 2014, Hyderabad, India
- 2014 "GLP-1 Pathway Modifying Drugs: What we know? What we do not know?" International Clinical Update in Endocrinology 2014, Hyderabad, India
- 2014 "In-patient Diabetes Management," Meet-the-Professor, International Clinical Update in Endocrinology 2014, Hyderabad, India
- 2014 "Some Thoughts on β cells and Islets as Related to Type 1 Diabetes," Plenary Lecture, Network for Pancreatic Organ Donors with Diabetes (nPOD) Annual Meeting, Atlantic Beach, FL
- 2014 "Some Thoughts on β cells and Islets in Humans," 14th Annual Rachmiel Levine Symposium, Pasadena, CA
- 2014 " β Cells – Context, Connections, and Microenvironment," GNF-JDRF Diabetes Research Symposium, Genomics Institute of the Novartis Research Foundation, San Diego, CA
- 2014 "Role of β cell in Type 1 and Type 2 Diabetes: With Comments on Current and Emerging Therapies," Endocrine Grand Rounds, Division of Endocrinology, Diabetes & Metabolism, Johns Hopkins University School of Medicine, Baltimore, MD
- 2014 " β cell in Type 1 and Type 2 Diabetes: Current and Emerging Therapies," Plenary Lecture, American Association of Clinical Endocrinology Annual Meeting, Las Vegas, NV
- 2014 " β Cells – Context, Connections, and Microenvironment," Metabolism, Endocrinology, and Diabetes Research Conference, University of Michigan, Ann Arbor, MI
- 2014 "Macrophages in Islet Injury and Regeneration," 74th Annual Meeting of American Diabetes Association, San Francisco, CA
- 2014 "Natural History of Beta Cell Failure," 16th International Congress of Endocrinology and the 96th Annual Meeting of the Endocrine Society, Chicago, IL
- 2014 "The Year in Type 1 Diabetes," 16th International Congress of Endocrinology and the 96th Annual Meeting of the Endocrine Society, Chicago, IL
- 2014 "Update on GLP-1-based Therapies – Effects on Endocrine, Exocrine, and Other Tissues" and "Diabetic Kidney Disease - What's in the Current and Future Toolbox?"

- Best of ADA China (organized by American Diabetes Association), Beijing, China and Chengdu, China
- 2014 "Type 1 Diabetes: Random (Almost) Thoughts," Endocrine Grand Rounds, Division of Endocrinology, Diabetes & Metabolism, Vanderbilt University School of Medicine, Nashville, TN
- 2014 "β cells and Type 1 Diabetes: Insights into Islet Biology," First Cleveland Clinic Symposium on Beta Cell Therapy, Cleveland, OH
- 2015 "Macrophages, Endothelial Cells, and β Cell Regeneration," Vanderbilt University Vascular Biology Center Seminar Series, Nashville, TN
- 2015 "Macrophages, Endothelial Cells, and β Cell Regeneration," University of Washington, Diabetes Research Center Seminar Series, Seattle, WA
- 2015 "Macrophages, Endothelial Cells, and β Cell Regeneration," University of Southern California, Diabetes and Obesity Research Institute Annual Symposium, Los Angeles, CA
- 2015 "Some Thoughts about β cells and Their Role in Type 1 and Type 2 Diabetes," Ray A. and Robert L. Kroc Lectureship in Diabetes at the Annual Diabetes Symposium, Michigan Diabetes Research Center, Ann Arbor, MI
- 2015 "Response of human islets to insulin resistance and hyperglycemia," Symposium at Seoul International Congress of Endocrinology and Metabolism, Seoul, Korea
- 2015 "Pancreatic Islet and β cells: their Role in Type 1 and Type 2 Diabetes," Plenary Lecture, Seoul International Congress of Endocrinology and Metabolism, Seoul, Korea
- 2015 "Some Thoughts about β cells and Their Role in Type 1 and Type 2 Diabetes," Keynote Lecture, Joint Meeting of the Islet Study Group & Beta Cell Workshop, Jerusalem, Israel
- 2015 "Some Thoughts about β cells and Their Role in Type 1 Diabetes," Diabetes Center 15th Anniversary Symposium, University of California, San Francisco, San Francisco, CA
- 2015 "Interruption of hepatic glucagon signaling reveals liver-islet axis controlling alpha cell proliferation," World Diabetes Congress. International Diabetes Federation, Vancouver, Canada
- 2016 "Some Thoughts about β cells and Their Role in Type 1 Diabetes," Endocrinology Grand Rounds, University of Texas Southwestern Medical Center, Dallas, TX
- 2016 "Interruption of hepatic glucagon signaling reveals liver-islet axis controlling alpha cell proliferation," Seminar in Obesity, Metabolism, and Diabetes, University of Texas Southwestern Medical Center, Dallas, TX
- 2016 "Treatment of Type 1 Diabetes: Now and in the Future," Clinical Diabetes & Endocrinology Conference, Snowmass, CO
- 2016 "Changes in Our Understanding of the Pathogenesis of Type 1 Diabetes," Clinical Diabetes & Endocrinology Conference, Snowmass, CO
- 2016 "GLP-1-based Therapies for Diabetes," Clinical Diabetes & Endocrinology Conference, Snowmass, CO
- 2016 "Approaches to Study β Cells, Pancreas, and Islets in Type 1 Diabetes," Satellite Meeting of JDRF nPOD 8th Annual Scientific Meeting, Miami, FL
- 2016 "The influence of age on human pancreas development," JDRF nPOD 8th Annual Scientific Meeting, Miami, FL
- 2016 "Interactions of Endothelial Cells, Macrophages, and Islet Cells," Keystone Symposia, Islet Biology: From Cell Birth to Death, Keystone, CO
- 2016 "Some Thoughts about β Cells and Their Role in Type 1 Diabetes," Lunenfeld-Tanenbaum International Symposium: Translational Diabetes and Metabolism Research 2016, Toronto, Canada
- 2016 "Role of β cells in Type 1 and Type 2 Diabetes," Keynote speaker at 7th annual D-Cure Symposium, Herzliya, Israel

- 2016 "Changes in the Understanding of Pathogenesis of Type 1 Diabetes: Implications for Prevention and Treatment," Keynote Speaker at 31st Annual Clinical Conference on Diabetes, American Diabetes Association, Jacksonville, FL
- 2016 "A Hepatic-Alpha Cell Axis," European Association for the Study of Diabetes--Hagedorn Oxford Workshop (Glucagon, the alpha-cell and intra-islet paracrine relationship), Oxford, England
- 2016 "New Technologies to Sense Glucose and Replace Insulin," Plenary speaker at American Diabetes Association-Primer Academy of Medical Sciences, Clinical Update in Diabetes, Bangalore, India
- 2016 "New Prospects and Challenges for Islet Transplantation," American Diabetes Association-Primer Academy of Medical Sciences, Clinical Update in Diabetes, Bangalore, India
- 2016 "Insulin Innovations: Newer, Smarter, and Better?" American Diabetes Association-Primer Academy of Medical Sciences, Clinical Update in Diabetes, Bangalore, India
- 2016 "Some Thoughts on β cells and Islets in Childhood," American Diabetes Association-Primer Academy of Medical Sciences, Changing Diabetes in Children, Bangalore, India
- 2016 "Changes in the Understanding of Pathogenesis of Type 1 Diabetes: Implications for Prevention and Treatment," Keynote Speaker at 35th Annual Conference on Diabetes, American Diabetes Association, Hollywood, FL
- 2016 "Surprises and Unknowns in the Pancreas in Type 1 Diabetes," Düsseldorf Diabetes Lecture series, German Diabetes Center, Dusseldorf, Germany
- 2016 "Pushing the Boundaries of Knowledge to Advance Therapies for Type 1 Diabetes," Invited Panel Discussion, T1D Exchange Annual Meeting, Boston, MA
- 2016 "Diabetes and Chronic Kidney Disease – similar challenges," Advances in Research Conference, "Metabolic Phenotyping: From Mouse to Man," Satellite meeting of American Society of Nephrology annual meeting, Chicago, IL
- 2016 "Plasticity in the Young Human Pancreas," University of Pennsylvania Institute of Diabetes, Obesity, and Metabolism, Philadelphia, PA
- 2016 "Surprises and Unknowns in the Pancreas in Type 1 Diabetes," Naomi Berrie Diabetes Center, Columbia University, New York, NY
- 2017 "Changes in Our Understanding of the Pathogenesis of Type 1 Diabetes," Julio V. Santiago, M.D. Memorial Lecture, Department of Medicine Grand Rounds, Washington University, St. Louis, MO
- 2017 "Pancreatogenic diabetes and multiple endocrine neoplasia," Multiple Endocrine Neoplasia Seminar for Patients, Families, and Providers, Vanderbilt University Medical Center, Nashville, TN
- 2017 "Interrupted Glucagon Signaling Reveals Liver – Alpha Cell Axis," 18th Servier-IGIS Symposium, Nice, France
- 2017 "Changes in Our Understanding of the Pathogenesis of Type 1 Diabetes," Department of Medicine Grand Rounds, University of Colorado, Denver, CO
- 2017 "Diabetes: Plethora of Challenges for Society, Science, and Individuals," University of Massachusetts Medical School, Diabetes Center of Excellence, Diabetes Day Keynote Address, Worcester, MA
- 2017 "Changes in Our Understanding of the Pathogenesis of Type 1 Diabetes," James R. Givens Distinguished Visiting Professor and Medical Grounds, Division of Endocrinology, Diabetes & Metabolism in the Department of Medicine, University of Tennessee Health Sciences Center, Memphis, TN
- 2017 "Diabetes: Challenges and Opportunities for Society, Science, and You (and the ADA)," Presidential Address, 77th Annual Meeting of the American Diabetes Association, San Diego, CA

- 2017 "Past, Present and Future: The Affordable Care Act and Diabetes," 77th Annual Meeting of the American Diabetes Association, San Diego, CA
- 2017 "Changes in Our Understanding of Islet Cell Loss or Dysfunction in Type 1 Diabetes and Type 2 Diabetes," Plenary Address, 4th Annual Dr. Mohan's International Diabetes Update, Chennai, India
- 2017 "Current and emerging technologies to optimize insulin replacement," 4th Annual Dr. Mohan's International Diabetes Update, Chennai, India
- 2017 "Organ Donation for Research: Providing New Insights into Diabetes," Musculoskeletal Transplant Foundation Leadership Summit, Park City, Utah
- 2017 Glucose Homeostasis: Integrated and Interrelated Systems of "Systems Biology", CeNSE Seminar, Indian Institute of Science, Bangalore, India
- 2017 "Islet Cell Loss or Dysfunction in Type 1 Diabetes and Type 2 Diabetes," Plenary Address, 3rd Annual American Diabetes Association-Academy of Medical Sciences meeting, Bangalore, India
- 2017 "Current and emerging technologies to optimize insulin replacement," 3rd Annual American Diabetes Association-Academy of Medical Sciences meeting, Bangalore, India
- 2017 "Glucagon and alpha cell – more important in diabetes than we thought?" Plenary Address, 3rd Annual American Diabetes Association-Academy of Medical Sciences meeting, Bangalore, India
- 2017 "Pancreatic Islet Biology, Function, and Dysfunction: surprises and lessons for diabetes," Vanderbilt Diabetes Research and Training Center seminar series, Nashville, TN
- 2017 "Challenges (and Importance) for Integrating Rodent and Human Pancreas and Pancreatic Islet Biology," at Interface of Pancreatic Cancer with Diabetes, Obesity and Inflammation: Research Gaps and Opportunities Workshop, sponsored by NIDDK, Bethesda, MD
- 2017 "Pancreatic Islet Biology, Function, and Dysfunction: surprises and lessons for diabetes," Ray A. and Robert L. Kroc Lectureship in Diabetes and Endocrinology, Stanford Diabetes Research Center, Stanford University, Palo Alto, CA
- 2018 "Early Human Pancreatic Islet Development and Function," Keystone Symposia, Frontiers in Islet Biology and Diabetes, Keystone, CO
- 2018 "Diabetes Mellitus: Intersection of Health, Science, and Research," Science National Honors Society at Ravenwood High School, Brentwood, TN
- 2018 "Type 1 Diabetes; New Insights, New Therapies and New Challenges," Harold Rifkin Lectureship in Diabetes and Endocrinology, Medical Grand Rounds, Montefiore Medical Center, Albert Einstein College of Medicine, New York, NY
- 2018 "Alpha Cells, Glucagon, and Diabetes: no longer an afterthought," Research Seminar, Albert Einstein College of Medicine, New York, NY
- 2018 "Multi-variable equations, dominos (not the pizza), and boats: some thoughts about science and medicine," invited Graduate Student Seminar, Department of Molecular Physiology and Biophysics, Vanderbilt University School of Medicine, Nashville, TN
- 2018 "Understanding Human Disease: Challenges in Translation as Shown by Type 1 Diabetes," Endocrine Grand Rounds, Mt. Sinai School of Medicine, New York, NY
- 2018 "Alpha Cells, Glucagon, and Diabetes: no longer an afterthought," Work in Progress Seminar Series, Icahn School of Medicine at Mount Sinai Obesity, Diabetes and Metabolism Institute, New York, NY
- 2018 "Type 1 Diabetes; New Insights, New Therapies and New Challenges," Keynote speaker at JDRF 11th Annual Type One Nation Summit – Michigan/Ohio, Belleville, MI
- 2018 "Understanding Human Diabetes: Challenges in Translation as Shown by Type 1 Diabetes," Plenary Speaker, 8th Annual Obesity and Diabetes Research Day, Barnstable Brown Diabetes and Obesity Research Center, University of Kentucky, Lexington, KY

- 2018 “Type 1 Diabetes; New Insights, New Therapies and New Challenges,” Kenneth Crispell Memorial Lectureship, Endocrine Grand Rounds, University of Virginia Medical Center, Charlottesville, VA
- 2018 “Type 1 Diabetes; New Insights, New Therapies and New Challenges,” Kenneth Crispell Memorial Lectureship, Medical Grand Rounds, University of Virginia Medical Center, Charlottesville, VA
- 2018 “Insulin: Patient\$, Doctor\$, Insurer\$, Manufacturer\$, and \$ociety,” Department of Medicine, Medical Grand Rounds, Vanderbilt University Medical Center, Nashville, TN
- 2018 “Funding Opportunities” and “Keep Your Options Open,” Focus on Fellows Program at 78th Session of American Diabetes Association, Orlando, FL
- 2018 “Pancreatic Islet Biology, Function, and Dysfunction: Surprises and Lessons for Diabetes,” Research Seminar, Helmholtz Diabetes Center, Garching, Germany
- 2018 “Diabetes in the ‘Elderly’ – many faces, challenges, and possibilities,” 4th Annual Dimensions in Diabetes Symposium, organized by the Endocrine Society, Mumbai, India
- 2018 “Insulin: Patient\$, Doctor\$, Insurer\$, Manufacturer\$, and \$ociety,” Clinical Endocrinology Update, The Endocrine Society, Miami, FL
- 2018 “Insulin: Patient\$, Doctor\$, Insurer\$, Manufacturer\$, and \$ociety,” Clinical Endocrinology Update, The Endocrine Society, Anaheim, CA
- 2018 “Pancreas and Islet Biology: Three Snippets Related to Human Type 1 Diabetes,” Clinical Endocrinology Update, Immunology of Diabetes Society, London, UK
- 2018 “Pancreas and Islet Biology: Stories Related to Human Diabetes,” 3rd Beta Cell Therapy Symposium on Diabetes, Cleveland Clinic, Cleveland, OH
- 2019 “Pancreatic Islet Biology, Function, and Dysfunction: Surprises and Lessons for Diabetes,” Department of Cellular and Physiology, University of British Columbia, Vancouver, CA
- 2019 “Current Management of Type 2 Diabetes: Changing and Evolving,” Cardiology Update, Vanderbilt University Medical Center, Nashville, TN
- 2019 “Alpha Cells, Glucagon, and Diabetes: no longer an afterthought,” Department of Biochemistry Seminar, University of Wisconsin, Madison, WI
- 2019 “Pancreatic Islet Biology, Function, and Dysfunction: Surprises and Lessons for Translational Research,” Keynote speaker, Diabetes Day, University of Wisconsin, Madison, WI
- 2019 “Pancreatlas and Human Atlas of the Neonatal Development and Early Life – Pancreas (Handel-P),” Annual Meeting of Network of Pancreatic Organ Donors with Diabetes (nPOD), Ft Lauderdale, FL
- 2019 “Diabete\$: Patient\$, Doctor\$, Insurer\$, Manufacturer\$, and \$ociety,” Medical Grand Rounds and Kroc Distinguished Visiting Professorship, Baylor College of Medicine, Houston, TX
- 2019 “Pancreatic Islet Biology, Function, and Dysfunction: Surprises and Lessons for Diabetes,” Endocrinology Grand Rounds and Kroc Distinguished Visiting Professorship, Baylor College of Medicine, Houston, TX
- 2019 “Diabetes: Typical, Atypical, and Other Flavors,” Meet-the-Professor Session, Annual Meeting of the Endocrine Society, New Orleans, LA

Patents:

1. U.S. patent # 5,821,334, 10/13/98, “Insulin-dependent Diabetes Mellitus-Specific Chimeric Polypeptides”, Alvin C. Powers
2. U.S. patent # 5,968,757, 10/19/99, “Insulin-dependent Diabetes Mellitus-Specific Chimeric Polypeptides”, Alvin C. Powers

3. U.S. Patent, # 5,997,900, 12/7/99, "Encapsulation System for the Immunoisolation of Living Cells", Taylor G. Wang, Igor Lacik, Marcela Brissova, A. V. Anilkumar, Ales Prokop, Alvin C. Powers
4. Patent pending (submitted 2018), Approaches to promote alpha islet cell expansion. Alvin C. Powers, Danielle Dean