CURRICULUM VITAE AND BIBLIOGRAPHY

Part I: General Information

Date Prepared: February 2009

Name: Maria Koulmanda, M.Sc., Ph.D.

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Boston, MA 02115
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Office Telephone: 617-735-2882
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Place of Birth: Mitiline, Greece

Education:

1974-1979	B.S., Applied Science	Royal Melbourne Institute of Technology, Melbourne, Australia
1990-1991	M.Sc., Medicine	University of Melbourne, Melbourne, Australia
1995-1997	Ph.D., Surgery	University of Leicester, Leicester, UK

Post Doctoral Training:

1997-1998	Post Doctoral Fellowship, Autoimmunity, Transplant Division, Walter and Eliza Hall Institute, Melbourne, Australia
1998-1999	Post Doctoral Fellowship, Islet Transplantation Lab, Massachusetts General Hospital, Boston, MA

Certification:

2007-	Federal DEA Certificate
2007-	Commonwealth of Massachusetts Controlled Substances Registration

Academic Appointments:

1999-2004	Instructor in Surgery, Harvard Medical School, Boston, MA
1999-2006	Head of the Islet Transplant Research Laboratory, Transplant Unit, Department of Surgery, Massachusetts General Hospital, Boston, MA
2000-	Research Associate, The Austin Research Institute, Melbourne, Australia
2004-4-2008	Assistant Professor of Surgery, Harvard Medical School, Boston, MA
4-2008-	Associate Professor of Surgery, Harvard Medical School, Boston, MA

Hospital Appointments:

1999-2006	Assistant Immunologist, Massachusetts General Hospital, Boston, MA
2006-	Director of Non-Human Primate Research, Beth Israel Deaconess Medical Center,

Boston, MA

Major Committee Assignments:

1996-1998 **Member,** Local Organizing Committee for the 7th International Congress on Pancreatic and Islet Transplantation; Sydney, Australia
2001-2002 **Member,** Advisory Committee for the Search for a Professor of Surgery, Athens University; Athens, Greece
2001-2007 **Member,** Subcommittee on Research Animal Care, Massachusetts General Hospital; Boston, MA
2001- **Member,** Steering Committee for Non-Human Primate Research, National Institutes of Health; Bethesda, MD
2003-2008 **Member,** Informatics and Data Management Committee, American Society of Transplant Surgeons
2007-2008 **Member,** Organizing Committee, Non-Human Primate Workshop; Miami, FL 2008

Professional Societies:

1979-1985 **Member,** Medical Laboratory Scientists (Australia)
1981-1994 **Member,** Australian Diabetes Association
1983- **Member,** The Transplantation Society of Australia and New Zealand
1984-1995 **Member,** Victorian Transplantation Group
1984-1995 **Honorary Secretary**
1984-1995 **Member,** Women in Medical Science
1986- **Member,** International Transplantation Society
1987- **Member,** International Pancreas and Islet Transplantation Society
1991- **Member,** International Xenotransplantation Association
1999- **Member,** International Cell Transplant Society
2007-2011 **Councilor**
2000- **Member,** American Society of Transplant Surgeons
2003-2008 **Member,** Informatics and Data Management Committee
2006- **Member,** American Society of Transplantation

Ad Hoc Grant Reviewer:

1998- National Health and Medical Research Council of Australia
1998- American Diabetes Association
2003- NIAID/NIDDK Non-Human Primate Transplantation Tolerance Cooperative Study Group
2004- National Institutes of Health, Opportunity Pool for Review of Non-Human Primates

Editorial Board:

Xenotransplantation
Transplantation

Ad Hoc Reviewer for Journals:

Cell Transplantation

Xenotransplantation
Transplantation
Clinical and Experimental Immunology
Diabetologia
American Journal of Transplantation

Awards and Honors:

1986 Young Investigators Award, Transplantation Society of Australia and New Zealand, to attend the XI International Congress of the Transplantation Society, Helsinki, Finland
1987 Young Investigators Award, Transplantation Society of Australia and New Zealand, to attend the 5th TSANZ, Canberra, Australia
1988 Young Investigators Award, Transplantation Society of Australia and New Zealand, to attend the XII International Congress of the Transplantation Society, Sydney, Australia
1989 Young Investigators Award, Transplantation Society of Australia and New Zealand, to attend the 7th TSANZ, Canberra, Australia
1990 Young Investigators Award, Transplantation Society of Australia and New Zealand, to attend the XIII International Congress of the Transplantation Society, San Francisco, CA
1990 Travel Grant Award, The Transplantation Society, to attend the XIII International Congress of The Transplantation Society, San Francisco, CA
1990 Travel Grant, Australian Diabetes Society, to attend the Australian Diabetes Society Meeting, Perth, Australia
1990 Travel Grant, Novo Nordisk Pharmaceuticals Pty. Ltd., to attend the Australian Diabetes Society Meeting, Perth, Australia
1991 Travel Grant Award, Australian Diabetes Society, to attend the 14th International Diabetes Federation Congress, Washington, DC
1991 Young Investigators Award, Transplantation Society of Australia and New Zealand, to attend 9th TSANZ, Canberra, Australia
1992 Senior Investigators Award, Transplantation Society of Australia and New Zealand, to attend the XIV International Congress of The Transplantation Society, Paris, France
1994 Senior Investigators Award, Transplantation Society of Australia and New Zealand, to attend the XV International Congress of The Transplantation Society, Kyoto, Japan
1996 Senior Investigators Award, Transplantation Society of Australia and New Zealand, to attend the XVI International Congress of The Transplantation Society, Barcelona, Spain
1997 The Travel Award, Transplantation Society of Australia and New Zealand, to attend the 3rd International Congress of the Cell Transplantation Society, Miami Beach, FL
1998 Senior Investigators Award, Transplantation Society of Australia and New Zealand, to attend the XVII International Congress of the Transplantation Society, Montreal, Canada

Part II: Research, Teaching, and Clinical Contributions

A. Narrative Report of Research, Teaching, and Clinical Contributions:

Basic Research

I trained with Professor Thomas Mandel at the Walter and Eliza Hall Institute, Melbourne, and then became a faculty member in his lab. We demonstrated that fetal mouse, pig, and human islets are far more resilient than conventional islets and expand after transplantation. Using our pioneering high-oxygen fetal pancreas organ culture technique, we discovered that fetal endocrine tissues selectively survive, thereby dramatically reducing inflammation and immunogenicity.

In 1995, while writing my Ph.D. dissertation part-time, I was recruited as an Overseas Research Associate by Professor David White of Cambridge University, UK. Using the transgenic pig-to-monkey model, we demonstrated that hyperacute rejection, the barrier that prevents xenogeneic organ transplants, is not a barrier to islet transplants. In 1998 I was recruited by Dr. Hugh Auchincloss to establish non-human primate and NOD mouse core programs for the Juvenile Diabetes Foundation (JDF) Center for Islet Transplantation at Harvard Medical School. In collaboration with Dr. Terry Strom, we achieved remarkable prolongation (ca. 300 days) of allogeneic monkey islets following a short course of novel co-stimulatory based therapy. Indeed, the grafts failed due to non-immune related islet loss that also destroyed a similarly sized autologous pancreas. We subsequently tested the effect of short-term treatment with IL-2.Ig mutant antagonist type IL-15.Ig plus sirolimus in the monkey islet allograft and new-onset Type 1 (T1) diabetes mellitus (DM) NOD models. In treated monkey recipients, long-term drug free graft survival, a cardinal achievement in this extremely difficult model, is routine. In the new-onset T1DM NOD model this regimen restores normoglycemia, immune tolerance to islets, and abolishes a previously unrecognized inflammatory state that impairs insulin signaling, thereby causing insulin resistance. This regimen has been approved for an Immune Tolerance Network funded clinical trial in T1DM.

Next we hypothesized that agents that tilt the balance of pro- to anti-inflammatory molecules toward an anti-inflammatory state would prove similarly effective in these models. Hence, new-onset T1DM mice were treated short-term with alpha-1-anti-trypsin (AAT), an acute phase reactant. Although this agent does not directly act upon T cells, AAT promotes rapid restoration of normoglycemia and islet cell tolerance in the NOD model. In fact, the remnant islet cell mass rapidly tripled in size in the AAT-treated mice. In AAT-treated monkey islet allograft recipients, insulin levels rise substantially ca. 30 days post-transplantation. In contrast, insulin levels insidiously decrease in other islet (even autologous) transplant models. While this work is not yet published, the Immune Tolerance Network has approved an AAT clinical trial in new-onset T1DM. As hypoxic- and ischemic-reperfusion type injuries lead to amplified expression of pro-inflammatory cytokines in human transplants, these findings open new opportunities for clinical application of inflammation-altering cytoprotective strategies. Going forward I am concentrating on the study of allogeneic and xenogeneic (both fetal and conventional) islet transplants placed into cynomolgus monkey recipients. I will pay particular attention to the study of novel anti-inflammatory (cytoprotective) strategies as a means to enable immune tolerance and nurture resilient ("cytoprotected") islets as a means to cure T1DM in new-onset diabetics or in recipients of islet transplants.

B. Funding Information:

Current Funding

2002-2008 **Principal Investigator,** NIH UO1 AI051706
"Tolerance induction for primate islet transplantation"

2005-2008 **Principal Investigator,** NIH 5U19 AI051731
"Non-human primate opportunities pool for tolerance induction for primate islet transplantation"

2005-2010 **Principal Investigator,** NIH/NIAID U19 AI066705
"Thoracic allograft tolerance in non-human primates"

2006-2011 **Principal Investigator,** Juvenile Diabetes Research Foundation
"Human Islet Transplant Center – a pipeline to tolerance" (response to RFA)

2007-2008 **Principal Investigator,** Baxter Healthcare Corporation
"To test the new Aralast-NP on the role of inflammation and autoimmunity in the NOD mouse"

2007-2008 **Principal Investigator,** Stromedix
"To test the effect of anti-α vB6 mAb on syngeneic and allogeneic skin"

2007-2010 **Principal Investigator,** Juvenile Diabetes Foundation 1-2007-52
"New strategy to induce islet allograft tolerance" (regular grant)

2007-2012 **Co-Investigator,** NIH PO1 AI041521
"On the role of regulatory T cells in transplantation"

2007-2012 **Principal Investigator,** NIH 1-U19 DK080652
"Inflammation and T cell memory: inter-related barriers to allograft tolerance"

2008-2013 **Co-Investigator,** Juvenile Diabetes Foundation 4-2007-1057
JDRF Center on Immunological Tolerance in Type 1 Diabetes
at Harvard Medical School (response to RFA)
Project 8: "The autoimmunity/inflammation connection in type-1 diabetes"

Pending Funding

Principal Investigator, Juvenile Diabetes Foundation (corporate)
"To test new strategies of tolerance induction in non-human primate allograft model" (in negotiation)

Past Funding

2004-2007 **Principal Investigator,** NIH RO1 DK067632
"A new approach to reverse onset of autoimmune diabetes"

2001-2007 **Co-Investigator,** Juvenile Diabetes Foundation JDRF 4-2004-368
JDRF Center on Immunological Tolerance in Type 1 Diabetes
at Harvard Medical School (response to RFA)
Project 7: "A novel strategy to reverse the onset of diabetes in autoimmune NOD mice"

2004-2007 **Principal Investigator,** Juvenile Diabetes Research Foundation
"New strategy of tolerance induction in NHP islets"

2002-2005 **Principal Investigator,** Riva Foundation
"Development of tolerogenic dendritic cells as adjuvants to enhance islets of Langerhans allograft survival"

2002-2004 **Principal Investigator,** NIH-NIDDK Industry Phase II Grant (Ginear Inc.)
"Portable islet culture system with oxygen generation"

2002-2004 **Principal Investigator,** NIH (BADERAC)

"The effect of streptozotocin on the autoimmune disease of the non-obese diabetic (NOD) mouse"

C. Report of Current Research Activities:

Project

To understand the molecular and cellular basis of tolerance to islet allograft and xenograft rejection. By necessity this includes an understanding of the molecular and cellular basis of diabetogenic autoimmunity. In particular I am pursuing a promising new area for translation application to understand the mechanism and role of inflammation in transplants. In using these two tools, my aim is to design new therapeutic and diagnostic approaches and test them in animal models. I believe that it is necessary to later the balance of inflammation from pro- to anti-inflammatory model as a means to establish tolerance to islets in an autoimmune host. Thus I aim to follow extremely exciting data, concentrating my efforts to cure diabetes through the prevention of islet graft rejection or recurrence of autoimmune disease. My aim is to find protocols for tolerance induction in clinical transplantation.

Bench research

The following represents a list of funded projects:
1) Tolerance induction for primate islet transplantation
2) New strategy of tolerance induction in non-human primate islet allograft model
3) Tolerance induction for primate islet
4) Thoracic allograft tolerance in non-human primates
5) Human islet transplant center – a pipeline to induce tolerance
6) A new approach to reverse the onset of autoimmune diabetes
7) Inflammation and T cell memory: inter-related barriers to allograft tolerance
8) On the role of reg T cells in transplantation
9) To test the new Aralast-NP on the role of inflammation and autoimmunity in the NOD mouse
10) To test the effect of anti-α vB6 mAb on syngeneic and allogeneic skin

Area being developed for funding

Imaging of islet transplant using "color-coded" T-cells. In this system, T-cell subsets express different colors and can be followed *in vivo* after islet transplantation.

D. Report of Teaching:

Local invited teaching presentations

1990-1998 **Lecturer.** "Current trends in diabetes"; Annual Lecture, Diabetes Nurse Educators, Graduate Certificate in Diabetes Education Residential Program; Melbourne, Australia

1991-1993 **Lecturer.** "What's new, what's hot in type 1 diabetes"; Annual Lecture, Podiatry postgraduates, Lincoln School of Health Science; Melbourne, Australia

1992-1997 **Lecturer.** "A cure for diabetes"; Annual Lecture, Podiatry students, LaTrobe University; Melbourne, Australia

1998 **Lecturer.** "Recurrence of automimmunity and rejection of fetal pig islet xenografts in NOD mice"; Annual Lecture, Transplant Biology Research Center and Transplant Unit, Massachusetts General Hospital; Boston, MA

1999 **Lecturer.** "Xenograft survival of fetal pig islets in Class II-/- CD4+ mice"; Annual Lecture, Transplant Biology Research Center and Transplant Unit, Massachusetts General Hospital; Boston, MA

Invited Speaker. "Xenograft survival of pig islets in monkeys"; Joslin Diabetes Center; Boston, MA

Invited Speaker. "Xenograft survival of fetal pig islets in Class II-/- CD4+ mice"; Joslin Diabetes Center; Boston, MA

2000 **Lecturer.** "The effects of streptozotocin on isografts and allografts in NOD mice"; Annual Lecture, Transplant Biology Research Center and Transplant Unit, Massachusetts General Hospital; Boston, MA

Invited Speaker. "Xenograft survival in monkeys"; Joslin Diabetes Center; Boston, MA

Invited Speaker. "The effect of streptozotocin in xenografts"; Joslin Diabetes Center; Boston, MA

2001 **Lecturer.** "The effect of streptozotocin on isografts, allografts and xenografts in NOD mice"; Annual Lecture, Transplant Biology Research Center and Transplant Unit, Massachusetts General Hospital; Boston, MA

Invited Speaker. "Graft survival of encapsulated pig islets in monkeys"; Joslin Diabetes Center; Boston, MA

Invited Speaker. "Update on islet xenograft in mice and monkeys"; Joslin Diabetes Center; Boston, MA

Invited Speaker. "Xenograft survival in NOD mice"; Boston Ithaca Islet Club; Woods Hole, MA

2002 **Lecturer.** "Oxygen consumption rate predicts *in vivo* efficacy post-transplantation"; Annual Lecture, Transplant Biology Research Center and Transplant Unit, Massachusetts General Hospital; Boston, MA

Lecturer. "Islet transplantation in primates"; Transplant Conference, Beth Israel Deaconess Medical Center; Boston, MA

2003 **Lecturer.** "Islet allograft survival in diabetic monkeys using new immunosuppressive protocols"; Annual Lecture, Transplant Biology Research Center and Transplant Unit, Massachusetts General Hospital; Boston, MA

Lecturer. "Pancreatic islet graft survival in cynomolgus monkeys"; Schcpens Eye Research Institute; Boston, MA

Lecturer. "Islet allograft survival in diabetic monkeys using new immunosuppressive protocols"; Annual Lecture, Transplant Biology Research Center and Transplant Unit, Massachusetts General Hospital; Boston, MA

Invited Speaker. "Tolerance induction in primates"; Beth Israel Deaconess Medical Center; Boston, MA

Invited Speaker. "Allograft survival after DST, anti-CD4-L and sirolimus"; Joslin Diabetes Center; Boston, MA

2004 **Lecturer.** "The role of non-immunologic factors in islet graft failure"; Annual Lecture, Transplant Biology Research Center and Transplant Unit, Massachusetts General Hospital; Boston, MA

Lecturer. "Graft survival in cynomolgus monkeys using power mix"; Transplant Conference, Beth Israel Deaconess Medical Center; Boston, MA

2006 **Lecturer.** "The future of islet transplantation"; Massachusetts General Hospital; Boston, MA

Lecturer. "Fetal pig islet transplants: prospects for clinical application"; Transplant Conference, Beth Israel Deaconess Medical Center; Boston, MA

Lecturer. "Diabetes is dangerous"; 7th Annual New England Regional Workshop, Autoimmune Diabetes Mellitus; Woods Hole, MA

Lecturer. "The future of islet transplantation"; Massachusetts General Hospital; Boston, MA

Lecturer. "Fetal pig islet transplants: prospects for clinical application"; Transplant Conference, Beth Israel Deaconess Medical Center; Boston, MA; June 20

2007 **Lecturer.** "Is ablation of insulitis and restoration of T cell tolerance necessary but insufficient to cure T1DM?"; Transplant Conference, Beth Israel Deaconess Medical Center; Boston, MA; February 20

Lecturer. "Is T-cell tolerance necessary but insufficient to cure T1DM?"; Laboratory Meeting, Beth Israel Deaconess Medical Center; Boston, MA

Invited Speaker. "The pathogenic role of inflammation in autoimmune diabetes model"; Updates in Surgical Research, Department of Surgery, Beth Israel Deaconess Medical Center; Boston, MA; September 24

Advisory and Supervisory Responsibilities in Clinical or Laboratory Setting:

1998-2006 PI, Transplant Immunology Laboratory
Massachusetts General Hospital, Boston, MA
Advise and supervise approximately 10 post-doctoral fellows
Percent time devoted to the laboratory: 100%

2006- PI, Transplant Immunology Laboratory
Beth Israel Deaconess Medical Center, Boston, MA
Advise and supervise 6 post-doctoral fellows
Percent time devoted to the laboratory – 100%

Names of Advisees or Trainees:

Duration of Training	Name	Current Position
1998-1999	Ms. Autumn Ward	Graduate school (unknown location)
1998-2003	Ms. Susan Shea	Senior Research Assistant, Department of Surgery, Massachusetts General Hospital, Boston, MA
1999-2000	Mr. Chau Quang Khuong	Ph.D. program (unknown location)
1999-2001	Mr. Jason Weaver	Medical school (unknown location)
2000-2001	Ms. Jessica Chawla	Graduate school (unknown location)
2001-present	Andy Qipo, M.D., M.P.H	Research Fellow, Transplant Research Center, Beth Israel Deaconess Medical Center,

		Boston, MA
2002-2004	Mr. Janusz Weremowicz	Senior Veterinarian, Massachusetts General Hospital, Boston, MA
2002-2005	Ms. Ejona Budo	Physiotherapist, Brigham & Women's Hospital, Boston, MA
2004	Evi Stavrou, M.D.	Internal Medicine Fellow, Johns Hopkins/ Sinai Hospital Program, Bethesda, MD
2004-2005	Mohammad Rahman, M.D.	Resident, Department of Medicine, Dublin, Ireland
2004-2006	Vasilios Kostaras, M.D.	Research Fellow in Medicine, Joslin Diabetes Center, Boston, MA
2004-2006	Ms. Lauren Hoffman	Research Assistant, Department of Surgery, University of California San Francisco, San Francisco, CA
2005	Ms. Imelda Pepivani	Research Assistant (location unknown)
2006-present	Zhigang Fan, M.D., Ph.D.	Research Fellow, Transplant Research Center, Beth Israel Deaconess Medical Center, Boston, MA
2007-present	Dusan Hanidziar, M.D.	Research Fellow, Transplant Research Center, Beth Israel Deaconess Medical Center, Boston, MA
2007-present	Derek J. Liu, Ph.D.	Research Fellow, Transplant Research Center Beth Israel Deaconess Medical Center, Boston, MA
2007-present	Syed Hasan, M.D.	Post-doctoral Research Fellow, Transplant Research Center, Beth Israel Deaconess Medical Center, Boston, MA
2007-present	Singh Gurbakhshish, M.D.	Post-doctoral Research Fellow, Transplant Research Center, Beth Israel Deaconess Medical Center, Boston, MA

Regional

2001 **Lecturer.** "Autoimmunity vs allograft rejection in NOD mice"; Jackson Laboratories; Bar Harbor, ME

2002 **Invited Speaker.** "Islet transplantation in primates"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Newport, RI

2005 **Invited Speaker.** "Tolerance induction using DC's"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Newport, RI

2006 **Lecturer.** "Current issues in pancreatic islet transplantation"; 8th Annual Research Symposium of the New England Hellenic Medical and Dental Society; Tufts University School of Medicine; Boston, MA

National

1998 **Invited Speaker.** "Xenograft survival of fetal pig islets in mice with CD4+ T cells but class II-/- APC"; Chicago, IL

Invited Speaker. "Diabetes induction in cynomolgus monkeys"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

1999 **Invited Speaker.** "Survival of pancreatic islets autografts and allografts in diabetic monkeys"; Chicago, IL

Invited Speaker. "Islet graft survival in monkeys"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "The role of conventional immunosuppression in islet transplantation"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "Update of islet transplantation in monkeys"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

2000 **Invited Speaker.** "Current trends in islet transplantation"; Juvenile Diabetes Research Foundation; Rainbow Club; New York, NY

Invited Speaker. "Pre-clinical islet transplantation"; American Transplant Congress; Chicago, IL

Invited Speaker. "Graft survival of encapsulated islets in monkeys"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "The toxic effects of streptozotocin on the pancreas, liver, and kidney in primates"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "Update on pancreatic islet transplantation"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

2001 **Invited Speaker.** "Survival of pancreatic islets autografts in diabetic cynomolgus monkeys"; American Transplant Congress; Chicago, IL

Invited Speaker. "Prevention of autoimmune destruction of islet transplant in nonobese diabetic (NOD) mice"; American Transplant Congress; Chicago, IL

Invited Speaker and Session Chair. "Autoimmune destruction *versus* xenograft rejection of islet transplants in nonobese diabetic (NOD) mice"; 6th Annual Xenotransplantation Congress; Chicago, IL

Invited Speaker. "The need of a new immunosuppressive protocol for islet transplantation in primates"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "Pre-clinical islet transplantation"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "Update on islet transplantation in monkeys"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

2002 **Invited Speaker.** "Prolongation of pancreatic islet allograft survival in diabetic cynomolgus monkeys"; American Transplant Congress; Washington, DC

Invited Speaker. "Effects of streptozotocin on autoimmune diabetes in NOD mice"; American Transplant Congress; Washington, DC

Invited Speaker. "Islet oxygen consumption rate as a predictor of *in vivo* efficacy post-transplantation"; International Transplant Congress; Miami, FL

Invited Speaker. "Tolerance induction in primates"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "The role of stretptozotocin in preventing autoimmunity in NOD mice"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "Update on islet transplantation in primates"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "Drug administration in cynomolgus monkeys"; NIH Primate Workshop; Bethesda, MD

2003 **Invited Speaker.** "Islet transplantation in primates"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "Graft function of islet transplantation"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "Allograft survival after DST, anti-CD40L and sirolimus"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

Invited Speaker. "Islet transplantation in primates"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Massachusetts General Hospital; Boston, MA

Invited Speaker. "Graft function of islet transplantation"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Joslin Diabetes Center; Boston, MA

2005 **Invited Speaker.** "A short term with 'power mix' prolonged allogeneic islet graft survival in diabetic cynomolgus monkeys similar to that of an autograft"; American Transplant Congress; Seattle, WA; May 21

Invited Plenary Speaker. "The role of non-immunologic factors in islet graft failure"; American Diabetes Association; Seattle, WA

Invited Plenary Speaker. "The role of non-immunologic factors in islet graft failure"; American Diabetes Association; San Diego, CA; June 10-14

Invited Speaker. "Tolerance induction using DC's"; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA

2006 **Invited Speaker.** "Tolerance induction in cynomolgus monkeys"; NIH Primate Workshop; Bethesda, MD

Invited Speaker. "The role of non-immunologic factors in islet graft failure"; World Transplant Congress; Boston, MA; July

Invited Speaker. "Power mix treatment prevents autoimmune destruction of islet grafts in nonobese diabetic (NOD) mice"; World Transplant Congress; Boston, MA; July

2007 **Invited Speaker.** "Aralast or anti-TNF-α treatment prevents autoimmune destruction of islet grafts in nonobese diabetic (NOD) mice"; American Association of Immunologists Annual Meeting; Miami, FL; May 20

Invited Speaker. "Aralast or anti-TNF-α treatment prevents autoimmune destruction of islet grafts in nonobese diabetic (NOD) mice"; American Transplant Congress; San Francisco, CA

2008 **Invited Speaker.** "The role of metabolic control in achieving immune tolerance in T1DM."; Juvenile Diabetes Research Foundation Center for Islet Transplantation; Boston, MA; October

Invited Speaker. "Clinical Trial of Intravenous α1-antitrypsin (AAT) Treatment in Recent Onset Type 1 Diabetes" TrialNet; Los Angeles, CA, October

Invited Speaker. "Inflammation and T Cell Memory: Inter-related Barriers to Allograft Tolerance "; NIH Primate Workshop; Miami, FL; November

Invited Speaker. "A Short-Term AAT Therapy Prevents Non-Immunologic Graft Failure in Cynomolgus Monkeys" Department of Surgery, University of University of Wisconsin, Madison WI; December

International

1991 **Invited Speaker.** "Xenotransplantation versus allotransplantation"; Department of Surgery, Singapore National University; Singapore

1992 **Invited Speaker.** "What's new in xenotransplantation"; Department of Surgery, IHEPA Hospital; Thesaloniki, Greece

1994 **Invited Speaker.** "Islet xenotransplantation"; Department of Diabetes and Endocrinology; Kyoto National University, Japan

1995 **Invited Speaker.** "Pancreas transplantation: the need of a review"; European IHPBA Congress; Athens, Greece

1998 **Invited Speaker.** "Xenotransplantation"; Department of Surgery; National Kapodistrian University of Athens; Athens, Greece

Invited Speaker. "Recurrence of autoimmunity and rejection of fetal islet allografts and xenografts in NOD/SCID mice reconstituted with diabetic and pre-diabetic NOD spleen cells"; International Transplantation Congress; Montreal, Canada

1999 **Chair.** Xenograft survival of fetal pig islets in mice with CD4+ T cells but class II-/- APC. 7th International Congress on Pancreatic and Islet Transplantation; Sydney, Australia.

Session Chair and Speaker. Xenograft survival of fetal pig islets in mice with CD4+ T cells but class II-/- APC. 5th International Xenotransplantation Meeting; Nagoya, Japan.

2000 **Invited Speaker**. "Islet transplantation in primates"; Boston Ithaca Islet Club; Montreal, Canada

Invited Speaker. "New era for islet transplantation"; 6th World Hellenic Biomedical Congress; Athens, Greece

Session Chairman and Speaker. "Xenotransplantation"; XVIII International Congress of The Transplantation Society; Rome, Italy

2001 **Invited Speaker.** "Greek medicine in the 21st century" and "New era for clinical islet transplantation"; The National Greek Medical Conference; Larisa, Greece

Session Chairman and Speaker. Experimental transplantation and basic research: immunoregulation and tolerance induction. 8th International Congress on Pancreatic and Islet Transplantation; Innsbruck, Austria; June 12-15

I**nvited Speaker.** "Autoimmune destruction *versus* allograft and xenograft rejection of islet transplants in NOD mice"; Austin Research Institute; Melbourne, Australia

Invited Speaker. "New era in clinical islet transplantation"; Department of Pharmacology, National Kapodistrian University of Athens; Athens, Greece

2002 **Invited Speaker**. "Clinical islet transplantation"; Basic and Clinical Research in Organ Transplantation; Athens, Greece

2003 **Invited Speaker**. "Islets versus pancreas transplantation"; 7th World Hellenic Biomedical Congress; Athens, Greece

Invited Speaker. "Islet allograft survival in diabetic monkeys after anti-CD154, DST and sirolimus treatment"; 9th International Congress on Pancreatic and Islet Transplantation; Dublin, Ireland

Invited Speaker. "Islet oxygen consumption rate predicts *in vivo* efficacy post-transplantation"; 7th International Xenotransplantation Congress; Glasgow, Scotland

2004 **Invited Speaker**. "A short-term treatment with a combination of IL-2/Fc and mutant IL-15/Fc fusion proteins prolonged islet graft survival in diabetic cynomolgus monkeys" and "Islet allograft survival in diabetic monkeys after anti-CD154, DST, and delayed rapamycin treatment"; International Transplantation Congress; Vienna, Austria; September 5–10

2005 **Invited Speaker.** "Power mix treatment prevents autoimmune destruction of islet grafts in nonobese diabetic (NOD) mice"; 10th International Congress on Pancreatic and Islet Transplantation; Geneva, Switzerland; May 4-7

2006 **Invited Speaker.** "A short-term treatment with 'power mix' prolonged allogeneic islet graft in diabetic cynomolgus monkeys"; 8th Cell Transplant Society; Milan, Italy

2007 **Invited Speaker.** "New strategy of tolerance induction in non-human primates"; Austin Research Institute; Melbourne, Australia

2008 **Invited plenary speaker.** "Recombinant Proteins as Therapeutic Agents in Transplantation" Post-Graduate Weekend: International Transplantation Congress; Sydney, Australia; August 9-10

Invited Speaker. "The powerful T-cell tolerizing consequences of blocking expression of pro-, not anti-inflammatory mechanism" International Transplantation Congress; Sydney, Australia; August 11-14

Invited Speaker. "IL-21 alters immune regulation and promotes Th17 in alloresponse" International Transplantation Congress; Sydney, Australia; August 11-14

Invited Speaker. "In vivo time lapse imaging of naïve T cells conversion to regulatory T cells in allografts" International Transplantation Congress; Sydney, Australia; August 11-14

Invited Chair. "Immunobiology 2:Tolerance and rejection. International Transplantation Congress; Sydney, Australia; August 11-14

Invited plenary speaker. "New biotherapeutics that control inflammation and immunity" Kongress fur Nephrologie; Tubingen, Germany; September 27-30

Part III: Bibliography

Original Articles:

1. Hoffman L, Mandel TE, Carter WM, **Koulmanda M,** Martin FIR. Insulin secretion by fetal human pancreas in organ culture. Diabetologia 1982;23:426-430.
2. Mandel TE, Hoffman L, Collier S, Carter WM, **Koulmanda M**. Organ culture of fetal mouse and fetal human pancreatic islets for allografting. Diabetes 1982;31:39-47.
3. Mandel TE, Collier S, Hoffman L, Pyke K, Carter WM, **Koulmanda M**. Isotransplantation of fetal mouse pancreas in experimental diabetes. Effect of gestational age and organ culture. Lab Invest 1982;47:477-483.
4. Hoffman L, Mandel TE, Carter WM, **Koulmanda M**, Martin FIR, Campbell DG, McMillan N. A comparison between islet transplantation and parenteral insulin in the control of diabetes and prevention of renal complications in mice. Metabolism 1983;32:451-456.
5. Mandel TE, **Koulmanda M.** Effect of ischemia and temperature on fetal mouse pancreas. Insulin production *in vitro* and function after isotransplantation. Diabetes 1984;33:376-382.
6. Mandel TE, **Koulmanda M.** Effect of culture conditions on fetal mouse pancreas *in vitro* and after transplantation in syngeneic and allogeneic recipients. Diabetes 1985;34:1082-1087.
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8. Cuthbertson RA, **Koulmanda M,** Mandel TE. Detrimental effect of chronic diabetes on growth and function of fetal islet isografts in mice. Transplantation 1988;46:650-654.
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Patents:

Serial No.	Title	Status

60/830,486	Methods of treatment of diabetes	Awarded
60/844,003	Compositions containing alpha-1-antitrysin and methods for use	Pending
60/916,693	Methods and compositions for modifying T cell immune responses and inflammation	Pending

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