Meredith A. M. Hawkins

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EDUCATION:

University of Toronto, Faculty of Medicine
Doctor of Medicine *Cum Laude* 1990

Albert Einstein College of Medicine
Master of Science in Clinical Research Methods *Cum Laude* 2000

CERTIFICATION:

Medical Council of Canada Qualifying Examinations (Licensing) 1990

Federal Licensing Examination Parts I and II 1993

American Board of Internal Medicine 1993

Royal College of Physicians and Surgeons of Canada
Specialty Certification, Internal Medicine 1994

Royal College of Physicians and Surgeons of Canada
Special Competence in Endocrinology and Metabolism 1995

American Board of Internal Medicine
Specialty Certification, Endocrinology and Metabolism 1995

New York State Education Department Medical License (#220458) 2000

POSITIONS HELD:

1990 To 1993	University of Toronto, Department of Medicine Resident in Internal Medicine
1993 To 1994	University of Toronto, Department Of Medicine Clinical Fellow in Endocrinology
1994 To 1998	Albert Einstein College of Medicine Research Fellow in Endocrinology
1998 To 2003	Albert Einstein College of Medicine Assistant Professor, Department of Medicine, Division of Endocrinology
2003 To 2008	Albert Einstein College of Medicine Associate Professor, Department of Medicine, Divisions of Endocrinology and Geriatrics
2003 To 2006	Albert Einstein College of Medicine Director, Medical Scientist Program
2008 To present	Albert Einstein College of Medicine Professor, Department of Medicine, Divisions of Endocrinology and Geriatrics
2008 To present	Director, Global Diabetes Initiative, Albert Einstein College of Medicine
2009-	Adjunct Professor, Department of Medicine, University of Toronto

AWARDS AND HONORS:

1984-1986	Trinity College Scholarships for Academic Excellence, University of Toronto
1989	Class of 1924 Memorial Scholarship Academic Achievement and Extracurricular Activities University of Toronto, Faculty Of Medicine
1992	Teaching Excellence Award The Toronto Hospital, Department of Medicine
1994-1996	Juvenile Diabetes Foundation International Research Fellowship
1996-2000	Medical Research Council of Canada Fellowship
2000	Outstanding Clinical Associate Physician Award, NIH, General Clinical Research Centers Annual Meeting
2000	American Diabetes Association Travel Grant for the 60 th Annual Meeting of the American Diabetes Association
2001-2006	Editorial Board, American Journal of Physiology
2001-present	Board of Directors, American Federation of Medical Research
2001	Junior Physician Investigator Award, American Federation of Medical Research
2002-2005	Member of K12 (Mentored Clinical Research Scholars Program) Review Committee, Albert Einstein College of Medicine
2003- 2007	Member of General Clinical Research Center Advisory Committee, Albert Einstein College of Medicine
2005- 2008	Secretary Treasurer, American Federation of Medical Research
2005 and 2006	Star Reviewer, American Journal of Physiology
2007-2010	Associate Editor, American Journal of Physiology- Endocrinology and Metabolism
2007	Novartis Young Investigator Award in Diabetes
2007-	Global Health Center Steering Committee, Albert Einstein College of Medicine
2008-2011	Standing Member of Integrated Physiology of Obesity and Diabetes Study Section, National Institutes of Health

PUBLICATIONS (peer-reviewed):

1. Rossetti L., **M. Hawkins**, W. Chen, J. Gindi, N. Barzilai: In vivo glucosamine infusion induces insulin resistance in normoglycemic but not in hyperglycemic conscious rats. *J. Clin. Invest.* 96:132-140, 1995.

2. Massillon D., W. Chen, **M. Hawkins**, R. Liu, N. Barzilai, and L. Rossetti: Quantitation of hepatic glucose fluxes and direct pathway of hepatic glycogen synthesis in conscious mice. *Am. J. Physiol.* 269:E1037-E1043, 1995.

3. Barzilai, N., **M. Hawkins**, I. Angelov, M. Hu, and L. Rossetti: Glucosamine-induced inhibition of liver glucokinase impairs the ability of hyperglycemia to suppress endogenous glucose production. *Diabetes* 45:1329-1335, 1996.

4. **Hawkins, M**., N. Barzilai, W. Chen, I. Angelov, M. Hu, P. Cohen, and L. Rossetti: Increased hexosamine availability similarly impairs the action of insulin and insulin-like-Growth Factor-1 (IGF-1) on glucose disposal. *Diabetes* 45:1734-1743, 1996.

5. Massillon, D., N. Barzilai, **M. Hawkins**, D. Prus-Wertheimer, and L. Rossetti: Induction of hepatic glucose-6-phosphatase gene expression by lipid infusion. *Diabetes* 46:153-157, 1997.

6. **Hawkins, M**., N. Barzilai,, I. Angelov, M. Hu, W. Chen, and L. Rossetti: The tissue concentration of UDP-N-acetylglucosamine modulates the stimulatory effect of insulin on skeletal muscle glucose uptake. *J. Biol. Chem.* 272:4889-4895, 1997.

7. **Hawkins, M.**, N. Barzilai, M. Hu, W. Chen, and L. Rossetti: Role of the glucosamine pathway in fat-induced insulin resistance. *J. Clin. Invest* 99:2173-2182, 1997.

8. Rossetti, L., D. Massillon, N. Barzilai, P. Vuguin, **M. Hawkins**, J. Wu, and J. Wang: Short-term effects of leptin on hepatic gluconeogenesis and *in vivo* insulin action. *J. Biol. Chem.* 272:27758-27763, 1997.

9. Rossetti, L., W. Chen, M. Hu, **M. Hawkins**, N. Barzilai, and S. Efrat: Abnormal regulation of hepatic glucose production by hyperglycemia in mice with a disrupted glucokinase allele. *Am. J. Physiol.* 273:E743-E750, 1997.

10. Barzilai, N., D. Massillon, P. Vuguin, **M. Hawkins**, and L. Rossetti: Leptin Selectively Decreases Visceral Adiposity and Enhances Insulin Action. *J. Clin. Invest.* 100:3105-3110, 1997.

11. Massillon, D., W. Chen, N. Barzilai, D. Prus-Wertheimer, **M. Hawkins**, R. Liu, R. Taub, and L. Rossetti: Carbon flux via the pentose pathway regulates the hepatic expression of the glucose-6-phosphatase and phosphoenolpyruvate genes in conscious rats. *J. Biol. Chem.* 273:228-234, 1998.

12. Barzilai, N., S. Banerjee, **M. Hawkins**, W. Chen, and L. Rossetti: Caloric restriction reverses hepatic insulin resistance in aging rats by decreasing visceral fat. *J. Clin. Invest.* 101:1353-1361, 1998.

13. Wang, J., R. Liu, **M. Hawkins**, N. Barzilai, and L. Rossetti: A Nutrient Sensing Pathway Regulates Leptin Gene Expression in Muscle and Fat. *Nature* 393:684-688, 1998.

14. Barzilai, N., S. Banerjee, **M. Hawkins**, C-J. Chang, W. Chen, and L. Rossetti: The effect of age-dependent increase in fat mass on peripheral insulin action is saturable. *J Gerontol A Biol Sci Med Sci.* 53:B141-146, 1998.

15. Mevorach, M., A. Giacca, Y. Aharon, **M. Hawkins**, H. Shamoon, and L. Rossetti: Regulation of Endogenous Glucose Production by Glucose per se is Impaired in Type 2 Diabetes Mellitus. *J. Clin. Invest.* 102:744-753, 1998.

16. Liu, L., G.B. Karkanias, J.C. Morales, **M. Hawkins**, N. Barzilai, J. Wang, and L. Rossetti: Intracerebroventricular leptin regulates hepatic but not peripheral glucose fluxes. *J. Biol. Chem.* 273: 31160-31167, 1998.

17. Barzilai, N, and **Hawkins, M:** The Pathophysiology of Diabetes in Aging. *J. Geriat. Drug Ther.* 12:5-20, 1999.

18. **Hawkins, M.,** M. Hu, J. Yu, H. Eder, P. Vuguin, L. She, N. Barzilai, M. Leiser, J. Backer and L. Rossetti: Discordant Effects of Glucosamine (GlcN) on Insulin-Stimulated Glucose Metabolism and Phosphatidylinositol-3-Kinase (PI3K) Activity. *J. Biol. Chem.* 274:31312-31319, 1999.

19. **Hawkins M,** Gabriely I, Wozniak R, Mevorach M, Rossetti L, Shamoon H: The Effect of Glycemic Control on Hepatic and Peripheral Glucose Effectiveness in Type 2 Diabetes Mellitus. *Diabetes* 51:2179-89, 2002.

20. **Hawkins M,** Gabriely I, Wozniak R, Shamoon H, Rossetti L: Fructose Restores the Ability of Hyperglycemia Per Se to Regulate Hepatic Glucose Production (GP) in Type 2 Diabetes Mellitus (DM2). *Diabetes* 51:606-614, 2002.

21. Gabriely, I., Wozniak, R., **Hawkins, M.,** and H. Shamoon. Troglitazone Amplifies Counterregulatory Responses to Hypoglycemia in Nondiabetic Subjects. *J. Clin. Endo. Metabol.* 86: 521-8, 2001

22. Gabriely I., **Hawkins M.,** Vilcu C., Rossetti L, and H. Shamoon. Fructose Amplifies Counterregulatory Responses to Hypoglycemia in Humans. *Diabetes* 51:893-900, 2002.

23. **Hawkins M,** Tonelli J, Kishore P, Stein D, Ragucci E, Gitig A, Reddy K. Contribution of elevated free fatty acid levels to the lack of glucose effectiveness in type 2 diabetes. *Diabetes*. 2003 Nov;52(11):2748-58.

24. Li W, Xi B, Yang W, **Hawkins M**, Schubart UK. Complex DNA melting profiles of small PCR products revealed using SYBR Green I. *Biotechniques*. 2003 Oct;35(4):702-4, 706.

25. Pajvani UB, **Hawkins M,** Combs TP, Rajala MW, Doebber T, Berger JP, Wagner JA, Wu M, Knopps A, Xiang AH, Utzschneider KM, Kahn SE, Olefsky JM, Buchanan TA, Scherer PE. Complex distribution, not absolute amount of adiponectin, correlates with thiazolidinedione-mediated improvement in insulin sensitivity. *J Biol Chem.* 2004 Mar 26;279(13):12152-62.

26. Tonelli J, Li W, Kishore P, Pajvani UB, Kwon E, Weaver C, Scherer PE, **Hawkins M.** Mechanisms of early insulin-sensitizing effects of thiazolidinediones in type 2 diabetes. *Diabetes*. 2004 Jun;53(6):1621-9.

27. **Hawkins MA.** Markers of increased cardiovascular risk: are we measuring the most appropriate parameters? Review. *Obesity Research* 12 Suppl 2:107S-14S, 2004.

28. Lin Y, Berg AH, Iyengar P, Lam TK, Giacca A, Combs TP, Rajala MW, Du X, Rollman B, Li W, **Hawkins M,** Barzilai N, Rhodes CJ, Fantus IG, Brownlee M, Scherer PE.The

hyperglycemia- induced inflammatory response in adipocytes: The role of reactive oxygen species. *J Biol Chem.* 2005 Feb 11;280(6):4617-26.

29. Tonelli J, Kishore P, Lee DE, **Hawkins M.** The regulation of glucose effectiveness: how glucose modulates its own production. *Curr Opin Clin Nutr Metab Care.* 2005 Jul;8(4):450-6.

30. Klip A and **Hawkins M.** Desperately seeking sugar: glial cells sensing hypoglycemia (commentary). *J Clin Invest* 2005 Dec;115(12):3403-5.

31. Hermann TS, Li W, Dominguez H, Ihlemann N, Rask-Madsen C, Major-Pedersen A, Nielsen DB, Hansen KW, **Hawkins M**, Kober L, Torp-Pedersen C. Quinapril treatment increases insulin-stimulated endothelial function and adiponectin gene expression in patients with type 2 diabetes. *J Clin Endocrinol Metab*. 2006 Mar;91(3):1001-8

32. Kishore P, J. Tonelli, A. Buse, C. Fratila, and **M. Hawkins**. Rapid time-dependent restoration of glucose effectiveness upon lowering free fatty acid levels in type 2 diabetes mellitus. *Diabetes* 55:1761-8, 2006

33. Li W, P. Kishore, J. Tonelli, R.Owen, E. Goodman, P. Scherer and **M. Hawkins**. Insulin-sensitizing effects of thiazolidinediones are not linked to adiponectin receptor expression in human fat or muscle. *Am J. Physiol.* 292(5):E1301-7, 2007

34. Hwang J-H, Tonelli J, Stein D, Barzilai N, **Hawkins M**. Increased intrahepatic triglyceride is associated with peripheral insulin resistance: *in vivo* MR imaging and spectroscopy studies. *Am J. Physiol.* 293(6):E1663-9, 2007.

35. Lee D-E, **M Hawkins** and E Fine. Sweet Clarity: Less invasive measures of endogenous glucose production (editorial). *Gastroenterology* 132(2):794-7, 2007.

36. Schraw T, Wang ZV, Halberg N, **Hawkins M**, Scherer PE. Plasma adiponectin complexes have distinct biochemical characteristics. *Endocrinology* 149(5):2270-82, 2008.

37. Kehlenbrink S, Tonelli J, Koppaka S, Chandramouli V, **Hawkins M**, and Kishore P. Inhibiting Gluconeogenesis (GNG) Prevents Fatty Acid-induced Loss of Glucose Effectiveness. *Am J Physiol Endocrinol Metab* 297(1):E165-73, 2009.

38. Lee DE, Kehlenbrink S, Lee H, **Hawkins M**, and Yudkin JS. Getting the Message Across- Mechanisms of Physiological Cross-Talk by Adipose Tissue. *Am J Physiol Endocrinol Metab* 296: E1210-29, 2009.

MANUSCRIPTS SUBMITTED OR IN PREPARATION:

39. **Hawkins, M.,** J. Tan, M. Hu, P. Vuguin, J. Wu, N. Barzilai, R. El-Maghrabi, and L. Rossetti: Inhibition of Glycolysis is Required for the Onset of Fat-Induced Insulin Resistance. Manuscript in preparation.

40. Kishore P, W. Li, J. Tonelli, D.-E. Lee, S. Koppaka, K. Zhang, P. Scherer and **M. Hawkins**. Adipocyte-derived factors potentiate nutritional activation of adipose tissue macrophages. *Manuscript submitted*.

41. D-E Lee, S. Koppaka, T. Wong, P. Kishore, M. Hawkins. S. Kehlenbrink, Kishore P, and **M. Hawkins.** Thiazolidinediones exert insulin-sensitizing effects by decreasing adipose tissue macrophages. Manuscript in preparation.

TEXTBOOK CHAPTERS:

Hawkins M and Rossetti L. Chapter 24, "Insulin Resistance and Its Role in the Pathogenesis of Type 2 Diabetes". In: Kahn C.R., ed. *Joslin's Diabetes Mellitus*, 14th Ed. Lippincott Williams & Wilkins. Boston, MA: Joslin Diabetes Center, 2005.

ABSTRACTS:

1. **Hawkins M**, Barzilai N, Chen W, Gindi J, Rossetti L: Glucosamine induces resistance to the effects of IGF-1 on glucose metabolism in conscious rats. Presented at the 55th Annual Meeting of the American Diabetes Association, Atlanta, 11 June 1995. Diabetes 44: 15A (Suppl. 1), 1995.

2. Massillon D, **Hawkins M**, Barzilai N, Chen W, Hu M, Rossetti L: Vanadyl sulfate acutely normalizes plasma glucose in diabetic rats via inhibition of gluconeogenesis and glucose-6-phosphatase. Presented at the 55th Annual Meeting of the American Diabetes Association, Atlanta, 13 June 1995. Diabetes 44: 56A (Suppl. 1), 1995.

3. **Hawkins M**, Barzilai N, Liu R, Chen W: Increased FFA and hyperglycemia result in similar increase in carbon flux into glucosamine pathway and peripheral insulin resistance. Presented at the 56th Annual Meeting of the American Diabetes Association, San Francisco, 8 June 1996. Diabetes 45: 11A (Suppl. 2), 1996.

4. Angelov I, **Hawkins M**, Barzilai N, Hu M, Rossetti L: Inhibition of hepatic glucokinase impairs glucose-mediated suppression of hepatic glucose production. Presented at the 56th Annual Meeting of the American Diabetes Association, San Francisco, 10 June 1996. Diabetes 45: 33A (Suppl. 2), 1996.

5. **Hawkins M**, Gindi J, Chen W, Hu M, Rossetti L: Depletion of Skeletal Muscle UDP-Glucose is not Required for Glucosamine- Induced Insulin Resistance. Presented at the 56th Annual Meeting of the American Diabetes Association, San Francisco, 10 June 1996. Diabetes 45: 250A (Suppl. 2), 1996.

6. **Hawkins M**, Gindi J, Chen W, Hu M, Rossetti L: Glucosamine - Induced Depletion of Skeletal Muscle UDP-Glucose is not Responsible for Peripheral Insulin Resistance. Presented at the International Research Symposium on Diabetes, Celebrating the 75th Anniversary of the Discovery of Insulin. Toronto, Ontario, October 8, 1996.

7. **Hawkins M**, Hu M, Chen W, Liu R: Elevations in Skeletal Muscle UDP-N-Acetyl-Glucosamine (UDPGlcNAc) During Lipid Infusion are Sufficient to Induce Insulin

Resistance. Presented at the 57th Annual Meeting of the American Diabetes Association, Boston, 24 June 1997. Diabetes 46: 258A (Suppl. 1), 1997.

8. Wang J, **Hawkins M**, Rossetti L: Glutamine:Fructose-6-P Amidotransferase Gene Expression is Induced by Glucosamine Flux in Skeletal Muscle. Presented as a President's Poster at the 57th Annual Meeting of the American Diabetes Association, Boston, 22 June 1997. Diabetes 46: 325A (Suppl. 1), 1997.

9. Barzilai N, Banerjee S, **Hawkins M**, Chen W: Caloric Restriction Reverses Hepatic Insulin Resistance in Aging Rats by Decreasing Visceral Fat. Presented as a President's Poster at the 57th Annual Meeting of the American Diabetes Association, Boston, 22 June 1997. Diabetes 46: 341A (Suppl. 1), 1997.

10. **Hawkins M**, Barzilai N, Rossetti L: The Role of the Hexosamine Pathway in Fat-Induced Insulin Resistance. Presented at the VII International Symposium on Insulin Resistance, Jerusalem, Israel, May 19, 1998.

11. **Hawkins M**, Wang J, Karkanias G, Barzilai N, Rossetti L: Intracerebroventricular Leptin Regulates Hepatic but not Peripheral Glucose Fluxes. Presented at the 58th Annual Meeting of the American Diabetes Association, Chicago, June 1998.

12. **Hawkins M**, Tan J, Hu M, She L, Vuguin P, Wu J, Barzilai N, Rossetti L: A Novel Mechanism of Fat-Induced Insulin Resistance. Presented at the 58th Annual Meeting of the American Diabetes Association, Chicago, June 1998.

13. **Hawkins M**, Wozniak R, Gabriely I, Mevorach M, Shamoon H, Rossetti L: Fructose Restores the Ability of Hyperglycemia Per Se to Regulate Hepatic Glucose Production in Type 2 Diabetes Mellitus. Presented at the 59th Annual Meeting of the American Diabetes Association, San Diego, June 1999.

14. Tan J, **Hawkins M**, Wu J, Barzilai N, Rossetti L: Stimulation of Glycolysis Enhances Insulin Action and Decreases Tissue Hexosamine Levels. Presented at the 59th Annual Meeting of the American Diabetes Association, San Diego, June 1999.

15. **Hawkins M**, Gabriely I, Mevorach M, Kishore P, Szobota J, Shamoon H, Rossetti L: Increased Availability of Free Fatty Acids (FFA) Impairs the Ability of Hyperglycemia to Regulate Hepatic Glucose Production (GP) *per se* in Type 2 Diabetes Mellitus (DM2). Presented at the 60th Annual Meeting of the American Diabetes Association, San Antonio, June 2000.

16. **Hawkins M**, Gabriely I, Wozniak R, Moadel N, Mevorach M, Rossetti L, Shamoon H: The Effect of Glycemic Control on Peripheral and Hepatic Glucose (Glc) Effectiveness in Type 2 Diabetes Mellitus (DM2). Presented at the 60th Annual Meeting of the American Diabetes Association, San Antonio, June 2000.

17. **Hawkins M**. Fructose Partially Restores Regulation of Glucose Production by Hyperglycemia Per Se in Type 2 Diabetes Mellitus. Presented at the New York City Speaker's Fund Forum, June 2000.

18. **Hawkins M**, Wozniak R, Gabriely I, Mevorach M, Shamoon H, Rossetti L: Fructose Restores Hepatic Glucose Effectiveness in Type 2 Diabetes Mellitus. Presented at

the 36th Annual Meeting of the European Association for the Study of Diabetes, Jerusalem, Israel, September 2000.

19. K. Reddy, C. Vilcu, Y. Cruz, A. Gitig, I. Gabriely, H. Shamoon, D. Stein, L. Rossetti, and **M. Hawkins**. Overnight Lowering Of Free Fatty Acids Restores Glucose Effectiveness In Type 2 Diabetes Mellitus. Presented at the 61th Annual Meeting of the American Diabetes Association, Philadelphia, PA, June 2001.

20. A.-L. Carre, **M. Hawkins**, and E. Goodman. Circulating Levels Of Plasminogen Activator Inhibitor-1 Are Regulated By Nutrient Availability. Presented at the Annual Meeting of the North American Association for the Study of Obesity, Quebec City, Canada, October 2001.

21. **M. Hawkins**, W. Li, J. Tonelli, E. Ragucci, I. Gabriely, A.-L. Carre, D. Stein, C. Weaver, and E. Goodman. Increased Plasma Free Fatty Acid (FFA) Levels Induce Plasminogen Activator Inhibitor-1 (PAI-1) Gene Expression in Adipose Tissue in Humans. Presented at the 62th Annual Meeting of the American Diabetes Association, 2002.

22. **M. Hawkins**, J. Tonelli, E. Ragucci, E. Kwon, C. Weaver, W. Li, E. Goodman, K. Reddy, I. Gabriely, T. Combs, and P. Scherer. Increases in Acrp30/Adiponectin may contribute to the Insulin Sensitizing effects of Thiazolidinediones (TZD) in Humans with Type 2 Diabetes Mellitus (T2DM). Presented at the 62th Annual Meeting of the American Diabetes Association, 2002.

23. J. Tonelli, P. Kishore, P. Scherer and **M. Hawkins**. Increases in Adiponectin Levels Precede the Insulin Sensitizing Effects of Pioglitazone in Individuals with Type 2 Diabetes Mellitus (T2DM). Presented at the Clinical Research 2003 Meeting of the American Federation of Medical Research, Baltimore, Maryland., March 2003.

24. P. Kishore, J. Tonelli, A. Gitig, W. Li, C. Weaver, U. Schubart, E. Goodman, and **M. Hawkins**. Circulating free fatty acid levels regulate plasminogen activator inhibitor-1 gene expression in human adipose tissue. Presented at the Clinical Research 2003 Meeting of the American Federation of Medical Research, Baltimore, Maryland., March 2003.

25. W. J. Li , C. Weaver , J. Tonelli , P. Kishore , P. Scherer , E. Goodman and **M. Hawkins**. Rapid in vivo Effects of Pioglitazone on Adipose Tissue Gene Expression and Insulin Action in Humans with Type 2 Diabetes Mellitus (T2DM). Presented at the 63rd Annual Meeting of the American Diabetes Association, New Orleans, June 2003.

26. J. Tonelli, P. Kishore, D. Stein , U. Schubart and **M. Hawkins**.Time-Dependent Effects of Free Fatty Acids (FFA) on Glucose Effectiveness (GE) in Type 2 Diabetes Mellitus (T2DM). Presented at the 63rd Annual Meeting of the American Diabetes Association, New Orleans, June 2003.

27. J. Tonelli, P. Kishore, C. Weaver, **M. Hawkins**. Effects of Free Fatty Acids on PAI-1 Levels do not Rapidly Reverse in Type 2 Diabetes Mellitus. Presented at the 64th Annual Meeting of the American Diabetes Association, Orlando, June 2004

28. W. Li, J. Tonelli, P. Kishore, E. Goodman, U. Schubart, P.E. Scherer, **M. Hawkins**. Adiponectin Receptors are Expressed in Human Adipose Tissue. Presented at the 64th Annual Meeting of the American Diabetes Association, Orlando, June 2004.

29. J. Tonelli, P. Kishore, **M. Hawkins**. Inhibiting Gluconeogenesis Prevents the Effects of Free Fatty Acids on Hepatic Glucose Effectiveness. Presented at the 64th Annual Meeting of the American Diabetes Association, Orlando, June 2004

30. P. Kishore, W. Li, J. Tonelli, P.E. Scherer, C. Weaver, E. Goodman, **M. Hawkins**. Adipose Tissue Macrophages are an Important Source of Fat-Derived Plasminogen Activator Inhibitor-1 (PAI-1) in Humans. Presented at the 64th Annual Meeting of the American Diabetes Association, Orlando, June 2004

31. W. Li, P. Kishore, J Tonelli, A. Bose, C Weaver, C Vilcu, S Stefanescu, and **M Hawkins**. Heightened Stimulation of Plasminogen Activator Inhibitor-1 (PAI-1) by Free Fatty Acids (FFA) in Older Humans. Presented at the American Diabetes Association 65th Scientific Sessions, San Diego, CA, June 10-14, 2005

32. P Kishore, W Li, J Tonelli, C Weaver, C Vilcu, A Bose, S Vele, and **M Hawkins**, Thiazolidinediones (TZDs) Reduce Plasminogen Activator Inhibitor-1 (PAI-1) Levels in Type 2 Diabetes Mellitus (T2DM) Independent of Glycemic Control. Presented at the American Diabetes Association 65th Scientific Sessions, San Diego, CA, June 10-14, 2005

33. W. Li, S. Koppaka, K. Zhang, D.-E. Lee, C. Fratila, S. Stefanescu, P. Kishore, **M. Hawkins**. Thiazolidinedione (TZD) Effects on Adipose Tissue Macrophages May Contribute to Improved Insulin Sensitivity. Presented at the American Diabetes Association 66th Scientific Sessions, Washington, DC, June 9-13, 2006

34. P. Kishore, W. Li, S. Koppaka, D.-E. Lee, K. Zhang, S. Vele, **M. Hawkins**. Associations of Adipose Tissue Retinol Binding Protein 4 (RBP4) and Inducible Nitric Oxide Synthase (iNOS) with Insulin Resistance in Humans. Presented at the American Diabetes Association 66th Scientific Sessions, Washington, DC, June 9-13, 2006

35. D.-E. Lee, S. Koppaka, W. Li, K. Zhang, S. Vele, S. Stefanescu, J. Tonelli, P. Kishore and **M. Hawkins**. Increased Free Fatty Acids (FFA) Stimulate Adipose Tissue Macrophages To Produce Tumor Necrosis Factor-$\propto$ (TNF-$\propto$). Presented at the American Diabetes Association 66th Scientific Sessions, Washington, DC, June 9-13, 2006

36. A. Schiwek, S. Koppaka, W. Li, K. Zhang, S. Vele, S. Stefanescu, J. Tonelli, P. Kishore and **M. Hawkins**. Diazoxide Suppresses Endogenous Glucose Production in Humans. Presented at the American Diabetes Association 67th Scientific Sessions, Chicago, IL, June 22-26, 2007

37. D.-E. Lee, S. Koppaka, A. Schiwek, M. Saper, W. Li, K. Zhang, P. Kishore and **M. Hawkins**. The Effect of Short-Term Pioglitazone Therapy on CCR-2 Expression in Subcutaneous Adipose Tissue in Subjects with T2DM. Presented at the 2007 Annual Meeting of the Endocrine Society, Toronto, Canada, June 9-13, 2007 (Received Travel Award)

38. Kehao Zhang, Weijie Li, Emilce Carrasco, Cyndra Liu, Preeti Kishore, Roger Gutierrez, **Meredith Hawkins**. Central Leptin Rapidly Activates Adipose Tissue Macrophages. Presented at the American Diabetes Association 68th Scientific Sessions, San Francisco, CA, June 6-10, 2008

39. **Meredith Hawkins**, Deborah Hunter, Preeti Kishore, Sherwin Schwartz, Marcus Hompesch, Gregory Hollis, Richard Levy, Bill Williams, Reid Huber. INCB013739, a Selective Inhibitor of 11β -Hydroxysteroid Dehydrogenase Type 1 (11β HSD1), Improves Insulin Sensitivity and Lowers Plasma Cholesterol Over 28 Days in Patients with Type 2 Diabetes Mellitus. Presented at the American Diabetes Association 68th Scientific Sessions, San Francisco, CA, June 6-10, 2008

40. L. Boucai, A. Schiwek, S. Koppaka, P. Kishore and **M. Hawkins**. Central K_{ATP} channel activation regulates Endogenous Glucose Production in Humans. Presented at the American Diabetes Association 68th Scientific Sessions, San Francisco, CA, June 6-10, 2008

41. M. Martin, S. Koppaka, S. Kehlenbrink, J-H. Hwang, M-H Cui, **M. Hawkins** and P. Kishore. The effects of fatty acids on hepatic glucose fluxes: an NMR study. Presented at the American Diabetes Association 69th Scientific Sessions, New Orleans, LA, June 2009

INVITED LECTURES:

The Role of the Glucosamine Pathway in Insulin Resistance.

City-Wide Endocrine Rounds, University of Toronto
Mount Sinai Hospital, Toronto, Canada
January 31, 1997.

The Role of the Glucosamine Pathway in Fat-Induced Insulin Resistance.

Annual Meeting of the Canadian Society of Exercise Physiologists
Toronto, Canada
October 22, 1997.

Molecular Mechanisms of Glucosamine-Induced Insulin Resistance.

City-Wide Endocrine Rounds, University of Toronto
Mount Sinai Hospital, Toronto, Canada
January 30, 1998.

Insulin Resistance: The Glucosamine Model

Biannual FASEB Conference on Glucose Transporters.
Snowmass, Colorado
July 25, 1999.

The Role of the Glucosamine Pathway in Nutrient-Induced Insulin Resistance.

Diabetes Research Rounds, Russ Berrie Diabetes Center

The College of Physicians and Surgeons of Columbia University
September 16, 1999.

Regulation of Glucose Production by Hyperglycemia *per se*

Endocrine Grand Rounds, September 24, 1999.
Liver Center Research Rounds, September 29, 1999.
Albert Einstein College of Medicine

Regulation of Hepatic Glucose fluxes by Hyperglycemia per se in Type 2 Diabetes (Symposium talk)
Hagedorn Research Institute, Copenhagen, Denmark
May 3, 2001

The Role of the Glucosamine Pathway in Nutrient-Mediated Insulin Resistance (Symposium talk)
The Endocrine Society, Annual Scientific Meeting, Denver, CO
June 20, 2001

The Role of Free Fatty Acids in the Regulation of Hepatic Glucose Fluxes in Diabetes Mellitus
Novo Nordisk Diabetes Education Faculty Meetings
March 9, 2002 in Orlando, Florida.
March 23, 2002 in Los Angeles, CA

Insulin Resistance in Aging (Symposium talk)
55th Annual Scientific Meeting of the Gerontological Association of America, Boston, MA
November 24, 2002

Mediators of Hepatic Glucose Metabolism (Symposium talk)
50th Annual Advanced Postgraduate Course, American Diabetes Association, New York, NY
January 10, 2003

Nutrient-Induced Insulin Resistance (Symposium talk)
Canadian Working Group on Insulin Resistance Annual Meeting
Tremblant, Quebec
March 28, 2003

Markers of cardiovascular risk: are we measuring the right factors? (Symposium talk)
New York Academy of Medicine, New York, NY, December 3, 2003

"Hold the Sugar, I'm Sweet Enough!": Role of Hepatic Glucose Effectiveness in Maintaining Glucose Homeostasis (Grand Rounds)
City-Wide Endocrine Rounds, University of Toronto, Canada
April 30, 2004.

Role of the Liver and Brain in Maintaining Glucose Homeostasis (Symposium Talk)
Diabetes Dialogue Canada, Toronto, Canada

May 8, 2004.

Adiponectin Multimers and Insulin Sensitivity (Symposium Talk)
FASEB Summer Conference on Obesity, Pine Mountain, Georgia
August 8, 2004.

Effect of Free Fatty Acids on Hepatic Glucose Effectiveness (Research Talk)
Bassett Research Institute, Cooperstown, New York
September 21, 2004.

Effect of Fat Metabolism on Hepatic Glucose Homeostasis (Annual Dr. Barry Brass Memorial Lecture)
Beth Israel Medical Center, New York, New York
September 27, 2004.

"Hold the Sugar, I'm Sweet Enough!": How the liver regulates its glucose production (Grand Rounds)
Department of Medicine Grand Rounds, Albert Einstein College of Medicine
October 7, 2004.

The Metabolic Syndrome of Aging.
Endocrine-Geriatrics Conference. Montefiore Medical Center, Bronx, NY, November 4, 2004.

The Role of Increased Free Fatty Acids in the Induction of Inflammation and Thrombosis in Aging Humans (Symposium Talk)
In Symposium titled: The Metabolic Syndrome, Diabetes and Aging
57th Annual Scientific Meeting of the Gerontological Society of America, Washington, D.C., November 22, 2004.

Effect of Free Fatty Acids on Hepatic Glucose Effectiveness (Research Talk)
The College of Physicians and Surgeons of Columbia University
January 19, 2005.

New Observations about the Metabolic Syndrome in Humans (Symposium Talk)
In Symposium titled: Diabetes at the Interface of Basic Science and Clinical Medicine
2005 Annual Scientific Meeting of the American Geriatrics Society, Orlando, FL., May14, 2005.

Impact of Adiponectin on Insulin Action (Symposium Talk)
In Symposium titled: The Metabolic Syndrome, Diabetes and Aging
58th Annual Scientific Meeting of the Gerontological Society of America, Orlando, FL., November 21, 2005.

'Diabetes Mellitus: Tackling a Global Epidemic'; 'Obesity in the developing world' (Symposium talks)
27th Annual International Continuing Medical Education Meeting
Limuru, Kenya, February 6 and 8, 2006

Markers of Cardiovascular Risk (Grand Rounds)

Bronx Lebanon Hospital Canter, Bronx, NY, April 13, 2006

Adipocytes, Inflammation and the Metabolic Syndrome of Aging (Symposium Talk)
In Symposium titled: Metabolic Syndrome and Aging
2006 Annual Meeting of the American Aging Association, Boston MA., June 5, 2006.

Paracrine effects in adipose tissue: evidence for adipocyte-macrophage 'cross talk' (Symposium Talk)
In Symposium titled: Metabolic control of insulin sensitivity
66th Annual Scientific Meeting of the American Diabetes Association, Washington D.C., June 9, 2006.

Adipose macrophages: the next big thing in diabetes research? (Symposium talk)
In Symposium titled: "Novel Research Approaches Across the Diabetes Spectrum"
D-Cure meeting, Albert Einstein College of Medicine, June 14, 2006

How does obesity contribute to atherosclerosis in aging? (Research talk)
2006 Annual Beeson Meeting, American Federation for Aging Research, Fort Myers, FL, June 16, 2006

"Hold the Sugar, I'm Sweet Enough!": How the liver regulates its glucose production (Research talk)
Department of Medicine and General Clinical Research Center
Washington University, St. Louis, October 18, 2006

Adipocyte-Macrophage Crosstalk and its Effects on Insulin Resistance (Research talk)
SUNY Stony Brook, NY, October 31, 2006

How Adipocyte-Macrophage "Crosstalk" may Contribute to Metabolic Consequences of Obesity (Symposium talk)
In Symposium titled: "Comorbidities Associated with Obesity: Basic Science and Clinical Concerns"
Rutgers University, November 3, 2006

'Diabetes Mellitus: Tackling a Global Epidemic'; 'Obesity in the developing world' (Symposium talks)
28th Annual International Continuing Medical Education Meeting
Chiang Mai, Thailand, March 4 and 5, 2007

"Hold the Sugar, I'm Sweet Enough!": How the liver regulates its glucose production (Research talk)
Department of Medicine research talk
Boston University, October 18, 2007

Adipocyte-macrophages communications in the pathogenesis of insulin resistance and diabetes (Symposium talk)
Endocrinology Canada – 4rd Annual International Symposium
"Understanding the Pathogenesis and Risk Factors for Obesity, Insulin Resistance and Cardiovascular Disease: New Concepts – New Treatments"

Toronto, Ontario, November 16, 2007

'Dysregulation of Adipose Hormones in the Metabolic Syndrome' (Symposium talk)
In Symposium titled: "Metabolic Syndrome and Aging"
Annual Meeting of the American Gerontological Society
Washington, DC, May 1, 2008

"Therapeutic Advances for Type 2 Diabetes" (Symposium talk)
Rocky Mountain Metabolic Syndrome Symposium,
Denver, CO, May 7, 2008

'New Pathophysiology of Type 2 Diabetes: Role of the liver' (Symposium talk)
In Symposium titled: "New Pathophysiology of Type 2 Diabetes"
Annual Scientific Meeting of the American Diabetes Association
San Francisco, CA, June 6, 2008

'Central Mechanisms of Adipose Inflammation' (Symposium talk)
Annual Scientific Meeting of the Boston Obesity and Nutrition Reseach Center
Boston, MA, July 20, 2008

'Mechanisms of Insulin Resistance' (Grand Rounds)
Department of Medicine Grand Rounds
CMC Vellore Medical Center, Vellore, India, November 8, 2008

'Global Diabetes: The Twenty First Century Goliath' (Seminar)
Global Health Center Seminar Series, Albert Einstein College of Medicine
December 15, 2008

'Diabetes Management in Resource-Poor Settings' (Symposium talk and Seminars)
29th Annual International Continuing Medical Education Meeting
Chiang Mai, Thailand, February 10, 2009

'Glucose Effectiveness' ('GlukoseEffectivitat') (Symposium talk)
75th Anniversary Scientific Meeting of the Renner Diabetes Seminars
Prien, Germany, September 5, 2009

'Global Diabetes: A Call to Action' (Keynote lecture)
Global Health Night, Albert Einstein College of Medicine
December 6, 2009

'Diabetes Management in Resource-Poor Settings' (Symposium talk and Seminars)
30th Annual International Continuing Medical Education Meeting
Nairobi, Kenya, February 9-18, 2009

'Title to be determined' (Symposium talk)
Annual Scientific Meeting of the German Diabetes Association
Prien, Germany, October 2, 2010

'Title to be determined' (Symposium talk)
Annual Scientific Meeting of the Endocrine Society of India - 2010
Vellore, India, December 6, 2010

CURRENT GRANT SUPPORT

National Institutes of Health R01 Research Grant (PI: Hawkins)
Effects of Fat Metabolism on Glucose Effectiveness
Project Period: 4/1/06-3/31/11
Direct Costs: $205,000 annually 25% effort

National Institutes of Health R01 Research Grant (PI: Hawkins)
Biochemical Mechanisms of In Vivo Insulin Resistance
R01 DK048321
Project Period: 06/01/04-05/31/10
Direct Costs: $270,275 annually 25% effort

National Institute of Aging (NIA)

1 PO1 AG021654-01 (Barzilai)
Program Project Grant
Excess nutrients and the metabolic syndrome of aging
Project Period: 4/1/03-3/31/08
$115,442 annually (Hawkins Core)
$157,000 annually (Hawkins Project)

National Institutes of Health
1K23RR02335-01 (Mentor: Hawkins)
Role of Fat Metabolism in Regulating Glucose Effectiveness in Type 2 Diabetes
Project Period: 08/01/07-07/31/10
Direct Costs: $124,016 (annually)

Takeda Pharmaceuticals Incorporated 6/1/04-11/30/09
Investigator-Initiated Research Grant (Hawkins)
The Effect of Acute Pioglitazone Administration on Peripheral and Hepatic Insulin Action in Type 2 Diabetes Mellitus
$251,852 total

American Diabetes Association 7/1/09-6/30/13
Clinical/Translational Postdoctoral Fellowship (Hawkins, Mentor)
Effect of vitamin D repletion on insulin resistance and systemic inflammation
$58,262 yearly