

Bhagirath Chaurasia

Department of Nutrition and Integrative Physiology
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Education

Ph.D., Genetics, University of Cologne, Germany (In the Lab of Prof. Jens Brüning), 2009
M.Sc. in Molecular Biology, University of Skövde, Skövde, Sweden, 2005
B.Sc. Zoology, University of Delhi, Delhi, India, 2002

Research Experience

University of Utah, Salt Lake City, Utah, USA

Research Assistant Professor, Department of Nutrition and Integrative Physiology 1/7/16-Present

Baker IDI Heart and Diabetes Institute, Melbourne, Australia

Senior Research Fellow-Translational Metabolic Health Lab: Prof. Scott A. Summers, 6/7/15-30/6/16

Duke-NUS Graduate Medical School, Singapore

Senior Research Fellow-Lab of Ceramide Biology: Prof. Scott A. Summers, 1/7/13-30/6/15

Evotec International GmbH, Göttingen, Germany

Research Scientist and Project Manager-Metabolic Diseases, 1/6/11-30/6/13

University Clinic Cologne, Cologne, Germany

Post-Doctorate in the Lab of Prof. Jens Brüning, Institute of Genetics, 1/6/09-30/5/11

University of Cologne, Cologne, Germany

Ph.D. Student in the Lab of Prof. Jens Brüning, 1/4/06-30/5/09

Zentrum für Molekulare Biologie (ZMBH), University of Heidelberg, Heidelberg, Germany

Master's (M.Sc) Thesis in the Lab of Prof. Jorg Grosshans, 1/1/05-30/6/05

Honours and Awards

EASD-Hagedorn Oxford Workshop, Oxford, England, 2018

Travel Scholarship, Gordon Research Conference, Galveston, TX, USA 2018

Vice President's Clinical & Translational (VPCAT) Research Scholar, 2018 University of Utah, Salt Lake City, USA

Harold Mitchell Travel Fellowship, Melbourne, Australia, 2015

Roche Continent 2010, Salzburg, Austria, 2010

PhD Fellowship from International Graduate School for Genetics and Functional Genomics, University of Cologne, Germany (3 years support) in 2008

ZMBH (Heidelberg) fellowship for the Master thesis in 2005

Conference & Workshops

Keystone Symposia: Drivers of Diabetes: From Genes to Environment, Seoul, South Korea, 2018

EASD-Hagedorn Oxford Workshop, Oxford, England, 2018

Glycolipid and Sphingolipid Biology Gordon Research Conference, Galveston, TX, USA 2018

FASEB: Glucose transport: Gateway to Metabolic Systems Biology Conference, Snowmass, Colorado, USA, 2017

Danish Diabetes Academy, Malaga, Spain, 2016

FASEB: Glucose transport: Gateway to Metabolic Systems Biology Conference, Big Sky, Montana, USA, 2015

First Cologne Aging Conference, Cologne, Germany, 2013

Ernst Klenk Symposium in Molecular Medicine, Lipid metabolic diseases: novel developments in molecular pathology and therapy, Cologne, Germany, 2011

Roche Continent, Salzburg, Austria, 2010

69th Scientific Sessions, American Diabetes Association", New Orleans, Louisiana, USA, 2009

Structure, Function and Evaluation in Innate Immunity, Cologne, Germany, 2008

Keystone Symposia Conference X3: Molecular Control of Adipogenesis and Obesity, Banff, Canada, 2008

Annual SFB670 meeting on "Cell-autonomous Immunity", Haus-Humboldt stein, Remagen, Germany, 2007

Oral Presentations

Keystone Symposia: Drivers of Diabetes: From Genes to Environment, Seoul, South Korea, 2018
EASD-Hagedorn Oxford Workshop, Oxford, England, 2018
Glycolipid and Sphingolipid Biology Gordon Research Conference, Galveston, TX, USA 2018
FASEB: Glucose transport: Gateway to Metabolic Systems Biology Conference, Snowmass, Colorado, USA, 2017
University of Cologne, Cologne, Germany, October 2016
University of Melbourne, Melbourne, Australia, November 2015
Boehringer-Ingelheim, Biberach, Germany, June 2015
Duke-NUS Graduate Medical School, Singapore, March 2013
University of Cologne, Cologne, Germany, October 2011
Evotec International GmbH, Göttingen, Germany, March 2011
Advinus Therapeutics, Pune, India, December 2011
Connexios Life Science Pvt. Ltd, Bangalore, December 2009
Annual SFB670 meeting on “Cell-autonomous Immunity” Remagen, Germany, May 2007

Thesis

Chaurasia, B (2009). “Role of Myeloid Specific PDK-1 in Inflammation and Obesity induced Insulin Resistance”, Ph.D. Thesis, University of Cologne, Germany
Chaurasia, B (2005). “Characterization of Biochemical Interaction of Frühstart Cyclin-Cdk Complex”, Master Thesis, University of Skövde, Sweden & University of Heidelberg, Germany

Research Grants

United States Department of Agriculture, National Institute of Food and Agriculture, Title: *Isaria Sinclairii* and *Cordyceps* extracts for the treatment of insulin resistance. Total Cost: \$200,000. Term 03/01/2019 to 02/28/2021.
Washington University, St Louis, Diabetes Research Grant, Title: Role of *Fgf13* and *Bmp3* in regulating adipose tissue browning/beiging. Total Cost: \$40,000. Term 03/01/2018 to 05/30/2019.
Immunology, Inflammation and Infectious Diseases Initiative, University of Utah, Title: Role of ceramide accumulation in effector T and Treg cells in development of insulin resistance. Total Costs: \$50,000. Term 11/1/2017 to 01/31/2019
Funding Incentive Seed Grant Program, University of Utah, Title: How adipose ceramides modulate adipose tissue browning/beiging. Total Costs: \$33,250. Term 07/1/2017 to 06/30/2018.
Diabetes and Metabolism Research Center, University of Utah, Title: Using stable isotope labeling to determine rate of sphingolipid synthesis, Total Costs: \$3,000, Term 2016 (*Project Completed*).

Publications

Chaurasia B, Monibas MR, Tippetts T, Liu J, Li Y, Wang L, Sweeney RC, Pereira FR, Sumida HD, Maschek AJ, Cos J, Kaddai V, Lancaster G, Siddique MM, Satapati S, Zhou H, McLaren D, Previs S, Chen Y, Qian Y, Petrov A, Wu Margaret, Shen X, Yao, J, Nunes C, Howard A, Wang L, Erion M, Rutter J, Holland W, Kelley D, Summers SA (*Science, In Review*).
☞ Targeting a Double-Bond in Ceramides to Treat Insulin Resistance and Steatohepatitis.
Kiser PD, Kloesnikov AV, Kiser JZ, Dong Z, Chaurasia B, Wang L, Summers SA, Hoang T, Blackshaw S, Peachey NS, Kefalov VJ, Palczewski K, (2019).
☞ Conditional deletion of *Des1* in the mouse retina does not impair the visual cycles in cones. *FASEB Journal*. January 15:fj201802493R
Cai J, Pires KM, Ferhat M, Chaurasia B, Buffolo MA, Samlling R, Sargsyan A, Atkinson DA, Summers SA, Grahm TE, Boudina S (2018).
☞ Ablation of autophagy in adipocytes induces insulin resistance and reveals roles for lipid peroxides and Nrf2 signaling in adipose-liver crosstalk. *Cell Reports*. November; 25(7): 1708-1717
Chaurasia B, Holland WL and Summers SA (2018).
☞ Does this schlank make me look fat. *Trends in Endocrinology and Metabolism*. April; 26(10): 538-50
Ying, L Tippetts TS and **Chaurasia B** (2017).
☞ Adipocytes ceramide dependent lipotoxicity in metabolic diseases. *Nutrition & Healthy aging*. October; pre-press: 1-12 # *Corresponding author*
Chaurasia B[#], Kaddai V, Lancaster G, Galam DLA, Gopalan V, Prakash KVB, Bulchand S, Tsong JT, Wang M, Siddique MM, Yuguang G, Sigmundsson K, Mellet NA, Weir J, Meikle P, Hirabayashi Y, Shabeer BMY, Shioh SA, Velan SS and Summers SA (2016).
☞ Adipocytes sphingolipids are cell-autonomous regulators of subcutaneous adipose browning, inflammation and metabolic activity. *Cell Metabolism*. December; 24 (6): 820-834. # *Corresponding author*.

Jais A, Solas M, Chaurasia B, Backes H, Kleinridders A, Theurich S, Mauer J, Steculorum SS, Hampel B, Goldau J, Alber J, Forster CY, Eming SA, Schwaninger M, Ferrara N, Karsenty G, Brüning J (2016).

- ⊕ Myeloid cell-derived VEGF is required to maintain brain glucose uptake and to limit cognitive impairment in obesity. *Cell*. May; 165(4):882-95.

Chaurasia B & Summers SA (2015).

- ⊕ Ceramides-Lipototoxic inducers of metabolic disorders (Review). *Trends in Endocrinology and Metabolism*. October; 26(10): 538-50

Siddique M, Ying L, Chaurasia B & Summers SA (2015).

- ⊕ Dihydro-ceramides: from bit players to lead actors (Review). *Journal of Biological Chemistry*. June; 290(25): 15371-9.

Raichur S, Tein SW, Wee PC, Ying L, Jianhong C, Chaurasia B, Dogra S, Öhman MK, Takeda k, Sugii S, Jung, PY, Futerman AH & Summers SA (2014).

- ⊕ CerS2 haploinsufficiency inhibits β -oxidation and confers susceptibility to diet-induced steatohepatitis and insulin resistance. *Cell Metabolism*. October; 20(7): 687-95

Mauer J[#], **Chaurasia, B[#]**, Goldau J, Vogt M, Ruud J, Nguyen K, Theurich S, Hausen C, Schmitz J, Brönneke H, Estevez E, Allen T, Mesaros A, Partridge L, Febbraio M, Chawla A, Wunderlich T & Brüning J (2014).

- ⊕ Signalling by IL-6 promotes alternative activation of macrophages to limit endotoxemia and obesity-associated resistance to insulin. *Nature Immunology*. May; 15(5): 423-30. # *Shared first authors*.

Wunderlich C, Deli D, Behnke K, Meryk A, Stroehle P, Chaurasia B, Quraishy S, Wunderlich F, Brüning J and Wunderlich T (2012).

- ⊕ Inhibition of IL-6 trans-signaling protects from malaria-induced lethality in mice. *J. Immunology*. May; 188(9): 4141-4.

Chaurasia B, Mauer J, Koch L, Baumgartel J & Brüning J (2010).

- ⊕ PDK-1 provides negative feedback inhibition to TLR-4 mediated NF κ B activation in macrophages. *Mol Cell Biol*. Sep; 30(17): 4354-66.

Mauer J, **Chaurasia B**, Plum L, Hampel B, Blüher M, Kahn R & Brüning J (2010).

- ⊕ Myeloid cell-restricted insulin receptor deficiency protects against obesity-induced inflammation and systemic insulin resistance. *PLoS Genet*. May 6: e1000938.

Gawlinski P, Nikolay R, Goursot C, Lawo S, Chaurasia B, Herz HM, Kussler-Schneider Y, Ruppert, T, Mayer M & Grosshans, J (2007).

- ⊕ The Drosophila mitotic inhibitor Frühstart specifically binds to the hydrophobic patch of cyclins. *EMBO reports*, 8(5): 490-496.