

**Gregory Gloor, PhD**

Professor, Department of Biochemistry  
Schulich School of Medicine and Dentistry  
Western University

Tel: (519) 661-3526; email: ggloor@uwo.ca

<http://ggloor.github.io>

**Degrees and Certificates**

2014 Certificate in Compositional Data Analysis, Accredited by the International Association for Mathematical Geosciences, University of Girona, Spain

1988 Ph.D, University of Western Ontario, Department of Biochemistry. Supervisor: Dr. George Chaconas

1983 HBS, University of Western Ontario, Genetics

**Current Appointment**

2002-present, Professor, University of Western Ontario - Biochemistry

**Past Appointments**

1997-2002, Associate Professor, University of Western Ontario - Biochemistry

1993-1997, Assistant Professor, University of Western Ontario - Biochemistry

1990-1992, Assistant Professor, Memorial University of Newfoundland - Medicine

1988-1990, Postdoctoral Fellow. University of Wisconsin - Madison - Genetics. Supervisor: Dr. William Engels.

**Peer Reviewed Grants*****Active Grants***

2013-2016

Role: Coinvestigator

PI: ALLARD, Johane P

Total: 522169, direct to Gloor: 25000

**Title:** Role of intestinal microbiota in non-alcoholic fatty liver disease pre and post bariatric surgery

**Funding Source:** CIHR

**Co-investigators:** COMELLI, Elena M; GLOOR, JACKSON, Timothy D; LOU, Wen-Yi W; OKRAINEC, Allan

2015-2017

Role: Coinvestigator

PI: PETROF, Elaine

Total: 40700 award to Gloor

**Title:** Microbes that Matter: defining optimal formulations for Microbial Ecosystem Therapeutics

**Funding Source:** NIH RO2

**Co-investigators:** ALLEN-VERCOE, Emma, GLOOR, Gregory B

2013-2016

Role: Principal investigator

PI: GLOOR, G

Total: 155000

**Title:** Molecular covariation in protein families

**Funding Source:** NSERC Discovery Grant

**Co-investigators:** None

2014-2019

Role: Coinvestigator

PI: ALLARD, Johane P ; GAISANO, Herbert Y

Total: 1,500,000

**Title:** Exploiting the therapeutic effects of the fecal microbiome in bariatric care

**Funding Source:** CIHR Team grant in Bariatric Care

**Co-investigators:** BANKS, Kate; COMELLI, Elena M; GLOOR, Gregory B; HOTA, Susy S; JACKSON, Timothy D; LOU, Wen- Yi W; OKRAINEC, Allan; PHILPOTT, Dana J; POUTANEN, Susan M

2015-2017  
 Role: Coinvestigator  
**PI:** A&L Biologics led by Dr. George Lazarovitz (CSO)  
**Total:** 600,000

**Title:** Developing molecular methods as diagnostic tools to identify biological factors contributing to crop productivity and soil health  
**Funding Source:** Agriculture and Agrifoods Canada, Agricultural Innovation Program  
**Co-investigators:** BANKS, Kate; COMELLI, Elena M; GLOOR, Gregory B; HOTA, Susy S; JACKSON, Timothy D; LOU, Wen- Yi W; OKRAINEC, Allan; PHILPOTT, Dana J; POUTANEN, Susan M

### *Past Grants*

2014-2016  
 Role: Coinvestigator  
**PI:** SPENCE, J. David  
**Total:** 211600

**Title:** Intestinal microbiome and extremes of atherosclerosis  
**Funding Source:** CIHR  
**Co-investigators:** ALLEN-VERCOE, Emma; GLOOR, Gregory B; REID, Gregor

2010-2015  
 Role: Coinvestigator  
**PI:** MONEY, Deborah M  
**Total:** 1745341

**Title:** The Vaginal Microbiome Project Team  
**Funding Source:** CIHR Team Grant  
**Co-investigators:** BOCKING, Alan D; HEMMINGSEN, Sean M; HILL, Janet E; REID, Gregor (Co-PIs), DUMONCEAUX, Timothy J; GLOOR, Gregory B; LINKS, Matthew G; O'DOHERTY, Kieran C; TANG, Patrick K; VAN SCHALKWYK, Julianne E; YUDIN, Mark H

2014-2015  
 Role: Coinvestigator  
**PI:** PETROF, Elaine  
**Total:** 1745341

**Title:** Elucidating the factors that determine success in fecal transplant therapy for C.difficile  
**Funding Source:** Southeastern Ontario Academic Medical Organization  
**Co-investigators:** ROPELSKI, Mark, ALLEN-VERCOE, Emma, GLOOR, Gregory

2012-2015  
 Role: Coinvestigator  
**PI:** KOLLMANN, Tobias R  
**Total:** 600000

**Title:** Maternal-Infant Microbiome and Immunity (MIMI) Network  
**Funding Source:** CIHR  
**Co-investigators:** GLOOR, Gregory B; REID, Gregor

2014-2015  
 Role: Principal investigator  
**PI:** GLOOR, Gregory  
**Total:** 25000

**Title:** Function of maize endophytic microbiome  
**Funding Source:** NSERC ENGAGE  
**Co-investigators:** None

2014-2015  
 Role: Principal investigator  
**PI:** GLOOR, Gregory  
**Total:** 25000

**Title:** Meta-transcriptome of high-yield corn endophytic microbiome  
**Funding Source:** Ontario Centre of Excellence  
**Co-investigators:** None

### *Journal Articles*

## References

- 1) Gregory B Gloor, Jean M Macklaim, Michael Vu, and Andrew D Fernandes. Compositional uncertainty should not be ignored in high-throughput sequencing data analysis. *Austrian Journal of Statistics*, 45:73–87, September 2016.
- 2) Gregory B Gloor and Gregor Reid. Compositional analysis: a valid approach to analyze microbiome high-throughput sequencing data. *Can J Microbiol*, 62(8):692–703, Aug 2016.
- 3) Gregory B Gloor, Jia Rong Wu, Vera Pawlowsky-Glahn, and Juan José Egozcue. It’s all relative: analyzing microbiome data as compositions. *Ann Epidemiol*, 26(5):322–9, May 2016.
- 4) Sarah Lynn Martz, Mabel Guzman-Rodriguez, Shu-Mei He, Curtis Noordhof, David John Hurlbut, Gregory Brian Gloor, Christian Carlucci, Scott Weese, Emma Allen-Vercoe, Jun Sun, Erika Chiong Claud, and Elaine Olga Petrof. A human gut ecosystem protects against *c. difficile* disease by targeting *tcdA*. *J Gastroenterol*, Jun 2016.
- 5) Camilla Urbaniak, Gregory B Gloor, Muriel Brackstone, Leslie Scott, Mark Tangney, and Gregor Reid. The microbiota of breast tissue and its association with tumours. *Appl Environ Microbiol*, Jun 2016.
- 6) Jordan E Bisanz, Praema Suppiah, W Murray Thomson, Trudy Milne, Nigel Yeoh, Anita Nolan, Grace Ettinger, Gregor Reid, Gregory B Gloor, Jeremy P Burton, Mary P Cullinan, and Simon M Stebbings. The oral microbiome of patients with axial spondyloarthritis compared to healthy individuals. *PeerJ*, 4:e2095, 2016.
- 7) Camilla Urbaniak, Michelle Angelini, Gregory B Gloor, and Gregor Reid. Human milk microbiota profiles in relation to birthing method, gestation and infant gender. *Microbiome*, 4:1, 2016.
- 8) Gregory B. Gloor, Jean M. Macklaim, and Andrew D. Fernandes. Displaying variation in large datasets: a visual summary of effect sizes. *Journal of Computational and Graphical Statistics*, <http://dx.doi.org/10.1080/10618600.2015.1131161>, 2016.
- 9) Amy McMillan, Stephen Rulisa, Mark Sumarah, Jean M. Macklaim, Justin Renaud, Jordan E. Bisanz, Gregory B. Gloor, and Gregor Reid. A multi-platform metabolomics approach identifies highly specific biomarkers of bacterial diversity in the vagina of pregnant and non-pregnant women. *Scientific Reports*, 5:14174 EP –, 09 2015.
- 10) Jordan E Bisanz, Megan K Enos, George PrayGod, Shannon Seney, Jean M Macklaim, Stephanie Chilton, Dana Willner, Rob Knight, Christoph Fusch, Gerhard Fusch, Gregory B Gloor, Jeremy P Burton, and Gregor Reid. Microbiota at multiple body sites during pregnancy in a rural tanzanian population and effects of moringa-supplemented probiotic yogurt. *Appl Environ Microbiol*, 81(15):4965–75, Aug 2015.
- 11) Lee W Goneau, Thomas J Hannan, Roderick A MacPhee, Drew J Schwartz, Jean M Macklaim, Gregory B Gloor, Hassan Razvi, Gregor Reid, Scott J Hultgren, and Jeremy P Burton. Subinhibitory antibiotic therapy alters recurrent urinary tract infection pathogenesis through modulation of bacterial virulence and host immunity. *MBio*, 6(2), 2015.
- 12) Jean M Macklaim, Jose C Clemente, Rob Knight, Gregory B Gloor, and Gregor Reid. Changes in vaginal microbiota following antimicrobial and probiotic therapy. *Microb Ecol Health Dis*, 26:27799, 2015.
- 13) N St Denis, M Gabriel, J P Turowec, G B Gloor, S S-C Li, A-C Gingras, and D W Litchfield. Systematic investigation of hierarchical phosphorylation by protein kinase CK2. *J Proteomics*, 118(6):49–62, Nov 2014.
- 14) Chantalle Brace, Gregory B Gloor, Mark Ropeleski, Emma Allen-Vercoe, and Elaine O Petrof. Microbial composition analysis of *Clostridium difficile* infections in an ulcerative colitis patient treated with multiple fecal microbiota transplantations. *J Crohns Colitis*, 8:1113–7, Feb 2014.
- 15) Thomas A McMurrough, Russell J Dickson, Stephanie M F Thibert, Gregory B Gloor, and David R Edgell. Control of catalytic efficiency by a coevolving network of catalytic and noncatalytic residues. *Proc Natl Acad Sci U S A*, 111(23):E2376–83, Jun 2014.

- 16) Kristin D Kernohan, Douglas Vernimmen, Gregory B Gloor, and Nathalie G Bérubé. Analysis of neonatal brain lacking ATRX or MeCP2 reveals changes in nucleosome density, CTCF binding and chromatin looping. *Nucleic Acids Res*, 42(13):8356–68, 2014.
- 17) Gregor Reid, Nicholas Nduti, Wilbert Sybesma, Remco Kort, Tobias R Kollmann, Rod Adam, Hamadi Boga, Eric M Brown, Alexandra Einerhand, Hani El-Nezami, Gregory B Gloor, Irene I Kavere, Johanna Lindahl, Ameer Manges, Wondu Mamo, Rocio Martin, Amy McMillan, Jael Obiero, Pamela A Ochieng, Arnold Onyango, Stephen Rulisa, Eeva Salminen, Seppo Salminen, Antony Sije, Jonathan R Swann, William van Treuren, Daniel Waweru, and Steve J Kemp. Harnessing microbiome and probiotic research in sub-Saharan Africa: recommendations from an African workshop. *Microbiome*, 2(1):12, Apr 2014.
- 18) Andrew D Fernandes, Jennifer Ns Reid, Jean M Macklaim, Thomas A McMurrough, David R Edgell, and Gregory B Gloor. Unifying the analysis of high-throughput sequencing datasets: characterizing RNA-seq, 16s rRNA gene sequencing and selective growth experiments by compositional data analysis. *Microbiome*, 2:15.1–15.13, 2014.
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- 20) S Rahat-Rozenbloom, J Fernandes, G B Gloor, and T M S Wolever. Evidence for greater production of colonic short chain fatty acids in overweight than lean humans. *Int J Obes (Lond)*, Mar 2014.
- 21) Xiaohong Tracey Gan, Grace Ettinger, Cathy X Huang, Jeremy P Burton, James V Haist, Venkatesh Rajapurohitam, James E Sidaway, Glynn Martin, Gregory B Gloor, Jonathan R Swann, Gregor Reid, and Morris Karmazyn. Probiotic administration attenuates myocardial hypertrophy and heart failure after myocardial infarction in the rat. *Circ Heart Fail*, 7(3):491–9, May 2014.
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- 40) Stephanie Kvas, Gregory B Gloor, and Christopher J Brandl. Loss of nonsense mediated decay suppresses mutations in *Saccharomyces cerevisiae* TRA1. *BMC Genet*, 13(1):19, Mar 2012.
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### Software releases

ALDEx2. ALDEx tool to examine compositional high-throughput sequence data with Welch’s t-test and Wilcoxon rank test. <https://github.com/ggloor/ALDEx2>, and <http://www.bioconductor.org/packages/release/bioc/html/ALDEx2.html> last update Sept, 2014