Zhongya Wang

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Education

Master of Science in Biostatistics	2016-2018

McGill University, Montreal, QC, Canada
Supervisor: Robert Platt (McGill University)

Bachelor of Science in Information and Computational Mathematics	2012-2016

Xiamen University, Xiamen, Fujian, China
Supervisor: Jie Shen (Purdue University)

Visiting Scholar (Sponsored by Ministry of Education of the People's Republic of China)

National University of Singapore, Singapore	Sep 2015
Sun Yat-sen University, China	May 2014
Analysis and Algebra Workshop, Nankai University, China	June-July 2014
Cambridge University, United Kingdom	July-Aug 2014
Nanyang Technological University, Singapore	Sep 2014
Topology Workshop, Sichuan University, China	June-Aug 2013

Awards and Scholarships

• Scholarship granted by China Scholarship Council ($19,800 CAD/year)	2016-2018
• 2017 Award for Cases Studies in Data Analysis of 45th Statistical Society of Canada Annual Meeting	
• McGill University Grad Excellence Award ($4748CAD/year)	2016-2017
• China Top-notch Students Scientific Development Pilot Program Scholarship (3000-4000RMB/semester)	2013-2016
• Merit Student of Xiamen University China	2013, 2014
• Second Level Scholarship of Xiamen University China(1000 RMB)	2013, 2014, 2015
• Outstanding Summer Practical Training Team of Xiamen University China	2014
• Scholarship for Excellent Social Work of Xiamen University China	2014

Publications

1. Battat, R, Vande Casteele, N, Pai, RK, **Wang, Z**, et al. Evaluating the optimum number of biopsies to assess histological inflammation in ulcerative colitis: a retrospective cohort study. Aliment Pharmacol Ther. 2020; 52: 1574– 1582. https://doi.org/10.1111/apt.16083
2. Pavine L.C. Lefevre, Parambir S. Dulai, **Zhongya Wang,** et al. (Submitted to Biodrugs) A Clinical Prediction Model to Determine Probability of Response to Certolizumab Pegol for Crohn's Disease
3. Florian Rieder, Mark Baker, David Bruining, Jeff L. Fidler, Shannon P. Sheedy, Jay P. Heiken, Eric C. Ehman, Justin Ream, David R. Holmes, Akitoshi Inoue, Yong S. Lee, Stuart Taylor, Jaap Stoker, GY Zou, **Zhongya Wang**, et.al on behalf of the Stenosis Therapy and Anti-Fibrosis Research Consortium (Submitted to Digestive Disease Week (DDW) 2022) Development of a Magnetic Resonance Enterography Index for Assessing Small Bowel Strictures in Patients with Crohn's Disease: Validation of Methods and Item Reliability
4. Konstantinos Papamichael, Niels Vande Casteele, **Zhongya Wang**, Marla C. Dubinsky, Adam S. Cheifetz (In preparation) Higher Post-induction Infliximab Concentrations are Associated with Favorable Clinical Outcomes in Pediatric Patients with Crohn's Disease: a Post-hoc Analysis of the REACH Trial
5. Linggi, B., Jairath, V., **Wang, Z,** et.al. (In preparation) Effectiveness of Delayed Processing of Blood on the Viability and Cellular Composition of Peripheral Blood Mononuclear Cell Isolates using Becton Dickinson CPTTM Tubes
6. Pavine L.C. Lefevre, **Wang, Z,** et.al (In preparation) Identification of Cell Subpopulations and Markers Associated with Disease Activity Levels according to the Robarts Histopathology Index in Patients with Ulcerative Colitis

Research and Work Experience

Statistician (Alimentiv Inc. (pre: Robarts Clinical Trial Inc.), London, ON, Canada)   Aug 2019-Present
- Prepared protocols and statistical analysis plan, overseed project data collection, carried out statistical analysis, interpreted and translated results within a statistical framework into biometrical terms, prepared statistical section of medical research papers and/or presentation in research seminars. The research focuses on the design and analysis of clinical trials, inflammatory bowel disease research, prediction models (online tool), and clinical translation research.
- Developing statistical methods that account for the ordered nature of ordinal variables, especially Likert Scales without linearity assumption.
- Developed novel indexes for structuring Crohn's Disease (CD) with radiology imaging, which is targeted to Lancet Gastroenterology & Hepatology
- Determined whether the investigational drug sponsored by Pfizer (infliximab), Gilead (filgotinib) or Johnson& Johnson (ustekinumab) is effective and safe for the treatment of moderate to severe CD.
- Conducting a pilot study to determine a novel optimal treatment target, with symptomatic, endoscopic, and/or histologic remission, from a randomized clinical trial in active UC, funded by Takeda.

<div align="right">Dr. GY Zou, Department of Epidemiology and Biostatistics, Western University
Dr. Joel G. Fletcher, Department of Gastrointestinal Radiology, Mayo Clinic
Dr. Niels, Vande Casteele, Department of medicine, UC San Diego</div>

Workshops from Clear Data. Clear Impact (CDISC) (Sponsored by Alimentiv Inc.)   Feb 2021-Present
- Took four courses, including Study Data Tabulation Model (SDTM), Analysis Dataset Model (ADaM), and Pharmacokinetic/Pharmacodynamic (PK/PD) modeling.
- Obtained practical skills in organizing and formatting data to streamline processes in the collection, management, analysis, and reporting, especially in clinical data, non-clinical data (SEND), medical devices, and pharmacogenomics/genetics study.

Research Assistant (McGill University, Montreal, QC, Canada)   June 2018- July 2019
- Identified biomarkers from Parkinson's Progression Markers Initiative Genomic Data with machine learning in open-source statistical software (Plink and R).

<div align="right">Dr. Sahir. R. Bhanager, Department of Biostatistics, McGill University</div>

- Developed a R package for the analysis of high-dimensional complex data. It is mainly functional to get robust estimation and inference by combining Adaptive Huber Regression with Machine Learning (e.g. Lasso, and Non-parametric Kernel Model)

<div align="right">Dr. Yi Yang, Department of Mathematics and Statistics, McGill University
Dr. Qiang Sun, Department of Statistical Science, University of Toronto</div>

Bioinformatics Workshops   June 2019
(Ontario Institute for Cancer Research, Canadian Center for Computational Genomics, Canada)
- Gained practical skills to visualize genomic data, analyze cancer-omics data for gene expression, genome rearrangement, somatic mutations, and copy number variation.
- Conducted pathway analysis on the resultant cancer gene list and worked with the data sets from Cloud repositories, including International Cancer Genome Consortium (ICGC) and Pan-Cancer Analysis of Whole Genomes (PCAWG).

Research Assistant   May-Aug 2018
CNODES (Canadian Network for Observational Drug Effects Studies, Montreal, QC, Canada)
- Filtered medical records from Centers for Medicare and Medicaid Service Data into usable data sets with ICD-10, NDC and HCPC codes using open-source software R.
- Presented statistical analysis results to Drug Safety and Effectiveness Network (DSEN) to prove the effectiveness of different surgical interventions on heart failure or recurrent ischemic heart disease post-operatively for ischemic heart disease patients.
- Conducted predictive analysis for patients' expenditures based on Quebec insurance/health care data.

Research Assistant (Jewish General Hospital, Montreal, QC, Canada)   June-Sep 2017
- Evaluated the relationship between drug treatments and the re-occurrence of ischemic heart disease with propensity score matching in randomized clinical trials and observational research data.

Data Analyst (Beijing Jieyue United Incorporate Company, Beijing, China)   June-Aug 2015
- Made informed decision for customers employing time series modeling and optimization algorithms.

Chinese Tutor (London, ON, Canada)   Oct 2020-Sep 2021
- Taught a student at Halifax, Chinese online two times a week, each time two hours, mainly on oral Chinese and Chinese characters writing.

Volunteer at 2018 Statistical Society of Canada Annual Meeting and Graduate Student Conference   June 2018

Study Commissary of Department of Mathematics at Xiamen University   2012-2016

Director of Quality Expanding and Training Department of Student Union at Xiamen University   2014-2015

Competitions

Gene Expression Classifier Construction for Inflammatory Bowel Disease   June 2017
(2017 Statistical Society of Canada Annual Meeting, Winnipeg, Canada)
- Identified associated biomarkers for Inflammatory Bowel Disease (IBD) and applied them to predict patients' IBD Disease status
- Achieved a prediction accuracy of 92% with various Machine Learning Methods (K-Means; SVM; Decision Trees; Multinomial Elastic Net; Grouped Multinomial LASSO; SuperLearner)
- Generated poster presentation at 2017 Statistical Society of Canada Annual Meeting, which won the 2017 Award for Case Studies in Data Analysis, the top and only prize for this case study competition.

China National University Student Innovation Program
Solving a kind of Chebfun Problems by the Spectral Method (Funded 100,000 RMB)   Sep 2013-Sep 2016
- Designed new algorithms to solve specific partial differential equations "Chebfun" by using Spectral Methods in MATLAB and generate scientific reports.
                        Dr. Jie Shen, Center of Computational and Applied Mathematics, Purdue University

Lattice Stick Number of Small Knot (Funded 50,000 RMB)   Sep 2015-Sep 2016
- Computed the lattice stick number of 5^1 small knots based on the lattice stick number in small knots like 3^1 and 4^1 introduced by Youngsik Huh and Seungsang Oh.
                        Dr. Weiling Yang, School of Mathematics Science, Xiamen University

Mathematical Competition in Modeling (MCM)/Interdisciplinary Competition in Modeling (ICM)
Held by COMAP, SIAM, NSA and INFORMS (USA)   Feb 2015
- Predicted the Ebola-infected Population distribution based on WHO Ebola data in North Africa.
- Employed multi-objective programming model to get maximal demand satisfaction rate with minimal vaccine transportation cost for Ebola-infected patients.
- Ascertained the optimized vaccine transport system.

Cambridge Academic Development Seminar in China National Top-notch Student   Aug 2014
Sponsored by Ministry of Education of the People's Republic of China and Cambridge University
- Presented the top ten most profound rules in mathematics and physics in a 4-member team.
- Won the awards: The Best Group Presentation

Technical Skills

Programming Languages: R, SAS, STATA, C/C++, MATLAB, Python, (g)Plink, SPSS, SQL
Other skills: hot yoga, solo traveling, hiking, Kendo, Spanish, Korean, calligraphy.