- Full CV
- Past 5 years
- PDF
 - Full CV
 - Past 5 years
- CV repo
- GitHub
 - GitLab
 - Stack Exchange
 - Stack Overflow
 - Twitter
 - LinkedIn

Luke W. Johnston

Updated: December 26, 2017

Education

Degrees

2017 PhD, University of Toronto, Canada

Serum Composition of Fatty Acids in Lipid Fractions in the Progression of Metabolic Abnormalities Underlying Type 2 Diabetes Mellitus. Supervisor: Dr. Anthony J. Hanley. Co-supervisor: Dr. Richard Bazinet

2013 MSc, University of Toronto, Canada

Association of Leg Length with Metabolic Abnormalities Underlying Type 2 Diabetes Mellitus. Supervisor: Dr. Anthony J. Hanley

2010 Honours BSc in Kinesiology, University of Waterloo, Canada

Certificates

2017 *Graduate Professional Skills*

Organization: Graduate Professional Skills Program, School of Graduate Studies, University of Toronto, Canada.

2017 Data Carpentry Instructor Training

Organization: Data Carpentry.

2015 Software Carpentry Instructor Training

Organization: Software Carpentry. (http://swcarpentry.github.io/training-course/2015/02/luke-johnston/)

2015 Advanced University Teaching Preparation

Organization: Teaching Assistants' Training Program, University of Toronto, Canada.

Publications

Articles

- 1. **Johnston LW**, Harris SB, Retnakaran R, Giacca A, Liu Z, Bazinet RP, Hanley AJ. Association of non-esterified fatty acid composition with insulin sensitivity and beta cell function in the Prospective Metabolism and Islet Cell Evaluation (PROMISE) cohort. *Diabetologia*. 2017;Online ahead of print. doi: 10.1007/s00125-017-4534-6.
- 2. **Johnston LW**, Harris SB, Retnakaran R, Zinman B, Giacca A, Liu Z, Bazinet RP, Hanley AJ. Longitudinal associations of phospholipid and cholesteryl ester fatty acids with disorders underlying diabetes. *J Clin Endocrinol Metab.* 2016;101(6):2536-2544. doi: 10.1210/jc.2015-4267.
- 3. **Johnston LW**, Harris SB, Retnakaran R, Gerstein HC, Zinman B, Hamilton J, Hanley AJ. Short leg length, a marker of early childhood deprivation, is associated with metabolic disorders underlying type 2 diabetes mellitus: The PROMISE cohort study. *Diabetes Care*. 2013;36(11):3599-3606. doi: 10.2337/dc13-0254.

Oral presentations

- Santaren ID, Bazinet R, Liu Z, Johnston LW, Retnakaran R, Harris SB, Zinman B, Hanley AJ. Serum Fatty Acids Derived from Dairy Consumption Are Associated with Longitudinal Changes in Insulin Sensitivity and Beta-cell Function: The Prospective Metabolism and Islet Cell Evaluation (PROMISE) Cohort. In: 35th International Symposium on Diabetes and Nutrition. Skagen, Denmark; 2017.
- 2. Bonsma M, Tran L, Coome L, **Johnston L**. Study Groups Crossing the Boundaries of Discipline. In: *Mozilla Festival*. London, UK; 2016. https://app.mozillafestival.org/#_session-552.
- 3. Santaren ID, Bazinet RP, Liu Z, **Johnston LW**, Retnakaran R, Harris SB, Zinman B, Hanley AJ. Serum Fatty Acids Derived from Dairy Consumption are Associated with Insulin Sensitivity and Beta-cell Function: The PROspective Metabolism and ISlet cell Evaluation (PROMISE) Cohort. *Diabetes.* 2016;65(Supplement 1):A95. doi: 10.2337/db16-1-381.
- 4. **Johnston LW**, Lee C, Harris S, Retnakaran R, Zinman B, Bazinet RP, Hanley AJ. Serum Phospholipid (PL) Fatty Acid Composition Predicts Declines in Insulin Sensitivity (IS) and Beta-Cell Function Over 6-years in the Prospective Metabolism And Islet Cell Evaluation (PROMISE) Cohort. In: *International Diabetes Epidemiology Group Scientific Meeting*. Vancouver, Canada; 2015. https://figshare.com/s/1cce7abacad54e48aa0a.
- 5. **Johnston L**, Lee C, Harris S, Retnakaran R, Zinman B, Bazinet R, Hanley A. Serum Non-Esterified Fatty Acid (NEFA) Concentrations are Associated with Longitudinal Progression of Beta-Cell Dysfunction: Prospective Metabolism and Islet Cell Evaluation (PROMISE) Cohort. In: *33rd*

- *International Symposium on Diabetes & Nutrition in Toronto, Canada*. Toronto, Canada; 2015. doi: 10.6084/m9.figshare.1545567.
- 6. **Johnston L**, Kayaniyil S, Lee C, Harris S, Retnakaran R, Zinman B, Bazinet R, Hanley A. Lower Serum Non-Esterified Eicosapentaenoic Acid (EPA) is Associated with Insulin Resistance in the PROspective Metabolism and ISlet Cell Evaluation (PROMISE) Cohort. In: *Biennial Congress of the International Society for the Study of Fatty Acids and Lipids*. Stockholm, Sweden; 2014. https://figshare.com/s/89dbdcb4695f19cbd2b1.

Poster presentation

- 1. Semnani-Azad Z, Connelly PW, **Johnston LW**, Retnakaran R, Harris SB, Zinman B, Hanley AJ. Longitudinal Associations of Soluble CD163 with Insulin Sensitivity and Beta-Cell Function: The Prospective Metabolism and Islet Cell Evaluation (PROMISE) Cohort. In: 4th Annual Bbdc-Joslin-Ucph Conference in Toronto, Canada.; 2017.
- 2. Semnani-Azad Z, Connelly PW, **Johnston LW**, Hanley AJ. Determinants of Longitudinal Change in sCD163, a Biomarker of Adipose Tissue Macrophage Activation. In: *ObesityWeek, Washington, United States.*; 2017.
- 3. **Johnston LW**, Retnakaran R, Harris SB, Liu Z, Bazinet RP, Hanley. AJ. Fatty Acids Produced by De Novo Lipogenesis (DNL) of Refined Carbohydrates are Associated with Worsening of Metabolic Syndrome (MetS) Components: The Prospective Metabolism and Islet Cell Evaluation (PROMISE) Cohort. *Diabetes*. 2017;66(Supplement 1)(1669-P):A445. doi: 10.2337/db17-1489-1795.
- 4. Wang WZ, Cole DE, **Johnston LW**, Wong BY, Fu L, Retnakaran R, Harris SB, Zinman B, Hanley. AJ. Urinary Vitamin D Binding Protein as a Potential Biomarker for Nephropathy in Subjects at Risk for Type 2 Diabetes: The Prospective Metabolism and Islet Cell Evaluation (PROMISE) Cohort Study. *Diabetes*. 2017;66(Supplement 1)(1627-P):A435. doi: 10.2337/db17-1489-1795.
- 5. Semnani-Azad Z, Connelly PW, **Johnston LW**, Retnakaran R, Harris SB, Zinman B, Hanley AJ. Longitudinal Associations of Soluble CD163 with Insulin Sensitivity and Beta-Cell Function: The Prospective Metabolism and Islet Cell Evaluation (PROMISE) Cohort. *Diabetes*. 2017;66(Supplement 1)(1674-P):A447. doi: 10.2337/db17-1489-1795.
- 6. **Johnston LW**, Retnakaran R, Harris S, Zinman B, Liu Z, Bazinet RP, Hanley AJ. Triglyceride Fatty Acid (TGFA) Composition Longitudinally Associates with Changes in Insulin Sensitivity (IS) and Beta-Cell Function Over 6-yrs in the Prospective Metabolism and Islet Cell Evaluation (PROMISE) Cohort. *Diabetes*. 2016;65(Supplemental 1):A406. doi: 10.6084/m9.figshare.3422767.
- Semnani-Azad Z, Johnston LW, Harris SB, Retnakaran R, Zinman B, Connelly PW, Hanley. AJ. Multivariate Determinants of Reduced Insulin Clearance in Prospective Metabolism and Islet Cell Evaluation (PROMISE) Cohort. *Diabetes*. 2016;65(Supplement 1):A405. doi: 10.2337/db16-1375-1656.
- 8. **Johnston L**, Lee C, Harris S, Retnakaran R, Zinman B, Bazinet R, Hanley A. Serum Non-Esterified Fatty Acid (NEFA) Concentration is Associated with Longitudinal Progression of Beta-Cell Dysfunction: Prospective Metabolism and Islet Cell Evaluation (PROMISE) Cohort. *Diabetes*. 2015;64(Suppl. 1):A421, 1621-P. doi: 10.6084/m9.figshare.1545566.
- 9. **Johnston L**, Lee C, Harris S, Retnakaran R, Zinman B, Bazinet R, Hanley A. Serum Non-Esterified Fatty Acid (NEFA) Composition and Longitudinal Associations with Beta-Cell Dysfunction. In: *International Diabetes Federation World Diabetes Congress in Vancouver, Canada.*; 2015. https://figshare.com/s/7301482497f6a6349dc8.
- 10. Johnston L, Kayaniyil S, Lee C, Harris S, Retnakaran R, Zinman B, Bazinet R, Hanley A. Lower

- Serum Non-Esterified Eicosapentaenoic Acid (EPA) Is Associated with Insulin Resistance: PROspective Metabolism and ISlet Cell Evaluation (PROMISE) Cohort. *Diabetes*. 2014;63(Suppl. 1):A384, 1463-P. https://figshare.com/s/a7cf86f77bc4be78ac7f.
- 11. **Johnston LW**, Harris SB, Retnakaran R, Gerstein HC, Hamilton J, Zinman B, Hanley AJ. The association of leg length with metabolic abnormalities underlying type 2 diabetes mellitus: The PROMISE cohort. *Diabetes*. 2013;62(Suppl. 1):A912, 1578-P. https://figshare.com/s/271bfd6c988efcdb5921.

Panel member

1. Saderi D, Vousden-Dishington GR, Patterson L, **Johnston L**. Community building. In: *Working Open Workshop, Mozilla Science Lab*. Montreal, Canada; 2017. https://mzl.la/2017wow.

R packages

CRAN

- **prodigenr** *Research Project Directory Generator*: Create a project directory structure, along with typical files for that project. This allows projects to be quickly and easily created, as well as for them to be standardized. Designed specifically with scientists in mind (mainly bio-medical researchers, but likely applies to other fields). *First published*: Apr, 2016
- **mason** *Build Data Structures for Common Statistical Analysis*: Use a consistent syntax to create data structures of common statistical techniques that can be continued in a magrittr pipe chain. Design the analysis, add settings and variables, construct the results, and polish the final structure. Rinse and repeat for any number of statistical techniques. *First published*: Jul, 2016
- **carpenter** *Build Common Tables of Summary Statistics for Reports*: Easily create tables commonly used in scientific papers that can be reproduced and automatically updated whenever new data is included or from suggestions by reviewers. *First published*: Jul, 2016

GitHub

- **seer** Become a seer of data to gain insights into the structure of your results. Use a common syntax to quickly create commonly used plots from analyses.
- **fost** Formatting and style templates for (biomedical) journal submission. These templates convert reproducible R Markdown documents into Word documents ready for journal submission.
- **PROMISE.audit** Checks given values of a dataset for 'wrong' values (e.g. a DaysPerWeek column should only contain integers 1 to 7 since there are 7 days in a week). Adds these 'flaws' to the data so that a 'flaw' report can be created to look into the violations in the raw data source.
- **PROMISE.scrub** Scrub the PROMISE dataset. Functions to take the raw PROMISE datasets and scrub, clean, and organize them into a 'tidy', single dataset.
- **PROMISE.methods** Programmatically construct data dictionaries of the PROMISE datasets. Any additions or changes to the data will be automatically updated and reflected in the data dictionary.
- **ggepi** ggplot2 extensions for visualizing epidemiological analyses. This package expands on my seer package by developing underlying ggplot2 geom layers. This allows the epi graphs to be easily customized and extensible.

aide Aiding with common and simple utility functions. More of a helper package to the other packages.

Contributed to

broom Convert statistical analysis objects from R into tidy data frames, so that they can more easily be combined, reshaped and otherwise processed with tools like 'dplyr', 'tidyr' and 'ggplot2'. The package provides three S3 generics: tidy, which summarizes a model's statistical findings such as coefficients of a regression; augment, which adds columns to the original data such as predictions, residuals and cluster assignments; and glance, which provides a one-row summary of model-level statistics. I added S3 methods to the functions for generalized estimating equation results.

Awards

2017 Michael C. Archer Research Excellence Award, University of Toronto, Canada

Recognition for the best research article published in 2016 by a graduate student in the Department of Nutritional Sciences.

2017 Marie Skłodowska-Curie Master Class and Travel Fund, Aarhus University, Denmark

Participation in a workshop aimed at applying for the Marie Curie Fellowship, with travel expenses and accommodations paid.

2017 Working Open Workshop and Travel Scholarship, Mozilla Science Lab

Value: USD 300. Attendance to a workshop hosted by the Mozilla Science Lab to train on using open source and processes for research projects.

2017 *Gordon Cressy Student Leadership Award*, University of Toronto

For recognition of outstanding extra-curricular contributions to the faculty and the university as a whole. Contributions include creating a workshop series (offered in the Graduate Professional Skills program) to teach coding to graduate students, playing an instrumental role in starting a student group (UofTCoders) to allow for peer-level skill sharing of coding and programming for science and research, and for running short, twice-monthly coding sessions in the Department of Nutritional Sciences.

2014 - 2017 Doctoral Student Research Award, Canadian Diabetes Association

Value: \$21000. National competitive award

2014 - 2015 *Graduate Novo Nordisk Studentship*, Banting and Best Diabetes Centre, University of Toronto, Canada

Value: \$3840.

2014 - 2015 *Margaret and Nicholas Fodor Fellowship*, School of Graduate Studies, University of Toronto, Canada

Value: \$3000. University-wide awards

- **2014 2015** *Ontario Graduate Scholarship*, Government of Ontario, Canada
 - Value: \$15000. Awarded, but declined for the CDA Doctoral Award
- **2015** *Trainee Travel Award*, Banting and Best Diabetes Centre, University of Toronto, Canada Value: \$1000. For attendance to the American Diabetes Association 75rd Scientific Sessions
- **2013 2014** Ontario Graduate Scholarship, Government of Ontario, Canada Value: \$15000.
- **2014** *Trainee Travel Award*, Banting and Best Diabetes Centre, University of Toronto, Canada Value: \$1000. For attendance to the American Diabetes Association 74rd Scientific Sessions
- 2014 Conference Travel Grant, School of Graduate Studies, University of Toronto, Canada
 Value: \$1120. For attendance to the International Society for the Study of Fatty Acids and Lipids 2014 Biennial Congress
- 2014 Alumni Travel Award, Department of Nutritional Sciences, University of Toronto, Canada
 Value: \$200. For attendance to the International Society for the Study of Fatty Acids and Lipids
 2014 Biennial Congress
- 2014 New Investigator Award, International Society for the Study of Fatty Acids and Lipids
 Given out during the International Society for the Study of Fatty Acids and Lipids 2014 Biennial Congress
- **2012 2013** *Ontario Graduate Scholarship*, Government of Ontario, Canada Value: \$15000.
- 2013 Trainee Travel Award, Banting and Best Diabetes Centre, University of Toronto, Canada Value: \$1000. For attendance to the American Diabetes Association 73rd Scientific Sessions

Teaching

- **Sep, 2017 present** *Teaching Assistant*, Theoretical Ecology and Reproducible Quantitative Methods in R (EEB430), Department of Ecology and Evolutionary Biology, University of Toronto, Canada Created the curriculum (along with five other members). Taught three lectures, created and marked assignments. Website: https://uoftcoders.github.io/rcourse.
- **Sep, 2017 present** *Teaching Assistant*, Public Health Nutrition (NFS1201), Department of Nutritional Sciences, University of Toronto, Canada
 - Gave a lecture and created the assignment (see website). Marked the assignment. Website: https://gitlab.com/lwjohnst/nfs1201-2017.
- **Jun, 2015 present** *Instructor*, Programming code-alongs, UofT Coders, University of Toronto, Canada Various coding sessions (Git, R). Website: http://uoftcoders.github.io.

May, 2017 Instructor, Software Carpentry workshops (R), Software Carpentry

Instructed the second day of the two-day workshop at Ryserson University on advanced uses of R.

Jan – Apr, 2017 *Teaching Assistant*, Basic Human Nutrition (NFS284), Department of Nutritional Sciences, University of Toronto, Canada

Marked assignments and exams.

May, 2016 - Apr, 2017 Instructor, Departmental R workshops, Code As Manuscript

I wanted to increase the computing capacity of my graduate department and to start to promote a culture of code-sharing and code reviews. Since how analyses are conducted and what the code is to create the scientific results is increasingly becoming more important, I wanted to start teaching students how to use R efficiently and productively. I've also set up a code review with my lab, so it was efficient for me to wrap these workshops up with the code reviews. Website: http://codeasmanuscript.github.io/code-along.

Feb, 2017 Helper, Software Carpentry workshops (Python), Software Carpentry

Acted as helper to the instructors at a two-day workshop introducing computing to researchers and students at the University of Toronto. Duties were to answer any questions and fix any problems that novice learners encountered during the two day workshop. Website: http://uoftcoders.github.io/2017-02-03-utoronto/.

Sep – Dec, 2016 *Teaching Assistant*, Advanced Nutrition (NFS484-1484), Department of Nutritional Sciences, University of Toronto, Canada

Marked exams. Developed and marked a short assignment. Answered any student questions.

Sep, 2016 Instructor, Software Carpentry workshops (R), Software Carpentry

Taught the first R session to novice learners at a two-day workshop on introducing computing to researchers and students at York University. Website: https://gvwilson.github.io/2016-09-14-yorku/.

Jul - Aug, 2016 Helper, CUPE3902 Post-doc Python workshops, CUPE3902 Unit 5

The UofTCoders members were hired by CUPE3902 Unit 5 to teach Python to post-doctoral fellows. As a core member of the UofTCoders, I acted as a helper to the instructors at the three-part workshop series introducing the Python programming language. Duties were to answer any questions and fix any problems that novice learners encountered during the Python sessions.

May, 2016 Instructor, Software Carpentry workshops (Python), Software Carpentry

Taught the Git session to novice learners at a two-day workshop on introducing computing to researchers and students at the University of Toronto, as well as acted as helper during the Shell and Python sessions. Website: http://uoftcoders.github.io/2016-05-09-utoronto/.

Apr, 2016 Helper, Software Carpentry workshops (R), Software Carpentry

Acted as helper to the instructors at a two-day workshop introducing computing to researchers and students at the University of Toronto. Duties were to answer any questions and fix any problems that novice learners encountered during the R sessions. Website: http://uoftcoders.github.io/2016-04-25-utoronto/.

Sep – Dec, 2015 *Teaching Assistant*, Public Health Nutrition (NFS1201), Department of Nutritional Sciences, University of Toronto, Canada

Gave two lectures during the course and developed and marked the final (third) assignment.

Oct, 2014 – Nov, 2015 *Instructor and founder*, Code as Manuscript: Data wrangling, visualization, and reproducibility in R, Graduate Professional Skills Program, University of Toronto, Canada

I started this workshop series in the Department of Nutritional Sciences and eventually got it approved for teaching in the GPS program. Initially I taught with colleague Dr. Daiva Nielsen and we taught graduate students SAS coding and computing skills. I now teach R and Git, having coinstructed with Sarah Meister. We teach version control, beginner and advanced coding techniques, and how to structure research projects around the idea of reproducibility. Consistent with our mission statement, our material is publicly available online at http://github.com/codeasmanuscript/workshops. Website: http://codeasmanuscript.org.

Jul, 2015 Instructor, Software Carpentry Workshop (R), Software Carpentry

Coding workshop hosted at the Hospital for Sick Children, Toronto. I taught version control using Git and acted as helper for the Shell and R sessions. Website: http://blog.tomwright.ca/2015-07-16-sickkids/.

Jan, 2015 Teaching Helper, Software Carpentry Workshop (R), Software Carpentry

Coding workshop hosted at the Hospital for Sick Children, Toronto. I provided technical support, worked through students' problems and issues with them, and answered any questions. Website: http://tomwright01.github.io/2015-01-29-sickkids/.

Sep – Dec, 2014 *Teaching Assistant*, Advanced Nutrition (NFS484-1484), Department of Nutritional Sciences, University of Toronto, Canada

Developed and lead tutorials for graduate students. Developed and marked the final exam. Answered any student questions.

Oct, 2014 Teaching Helper, Software Carpentry Workshop (Python), Software Carpentry

Coding workshop hosted at the Gerstein Library, University of Toronto. I provided technical support, assisted students' with problems and issues, and answered student questions. Website: http://swcarpentry.github.io/2014-10-30-utoronto/.

Sep – Dec, 2013 *Teaching Assistant*, Advanced Nutrition (NFS484-1484), Department of Nutritional Sciences, University of Toronto, Canada

Lead tutorials for undergraduate students. Developed and marked the midterm exam. Answered any student questions.

Jan – Apr, 2013 *Teaching Assistant*, Nutritional Microbiology (NFS485), Department of Nutritional Sciences, University of Toronto, Canada

Answer student emails and questions. Mark midterm exam, assignment and final exam. Invigilate midterm and final exam.

Curriculum

Sep, 2017 – Dec, 2016 *Theoretical Ecology and Reproducible Quantitative Methods in R (EEB430)*, Department of Ecology and Evolutionary Biology, University of Toronto, Canada

Pilot course to teach computational and quantative analyses in R for ecology and evolutionary biology undergraduate students. Website: https://github.com/uoftcoders/rcourse. DOI: 10.5281/zenodo.1117432.

Mentoring

Undergraduate students

Sep, 2014 – Apr, 2015 Windy Wang. Project: Validating a bioelectric impedance instrument against the gold standard dual-energy x-ray absorptiometry on measures of adiposity.

For the Research Projects course (NFS394) in Nutritional Sciences. Co-mentored with Dr. Anthony Hanley. Supervision consisted of helping guide the development of the research question and teaching Windy coding in SAS and using statistical techniques to analyze the data.

Master's students

Sep, 2017 – present Shahen Yashpal. Project: *Metabolomic Profiling of the DASH Diet: Novel Insights for the Nutritional Epidemiology of Type 2 Diabetes Mellitus*

Master's Student in Nutritional Sciences. Co-mentored with Dr. Anthony Hanley. Currently training Shahen in R and statistics, helping to guide the research project and analysis.

Affiliations

May, 2015 – present Instructor and member, Software Carpentry

Jan, 2016 - present Treasurer, UofT Coders, University of Toronto & Mozilla Science Lab

Responsible for managing the finances, identifying potential sources of funding and applying to them as applicable, reimbursing students for expenses, and buying the snacks for the coding sessions. Other communal duties include maintaining the GitHub repository and dealing with Issues and Pull Requests (via GitHub) that may arise. Website: https://github.com/UofTCoders/council/tree/master/treasurer.

Sep, 2014 – Aug, 2017 *Treasurer*, Nutritional Sciences Graduate Student Association, University of Toronto, Canada

Responsible for the accounting of the NSGSA finances, reimbursing students for expenses, applying for the Graduate Student Union Head Grant to secure funding, and dealing with any finance related issues that may come up.

Miscellaneous

Programming languages

Competent

- R (ggplot2, knitr, rmarkdown, dplyr, tidyr, devtools, testthat, roxygen2)
- SAS (macros, ODS system)
- LaTeX (beamer, beamerposter)
- Web (HTML, CSS, Jekyll, Github Pages)
- Makefiles
- Bash/Linux OS
- Git
- Pandoc
- Markdown
- YAML
- GraphViz
- Unit testing, code coverage, continuous integration

Familiar

- Python
- SQLite
- Elisp

Statistical techniques

Competent

- Basic statistics (mean, sd, t-test, etc)
- ANOVA, ANCOVA
- Correlation
- Linear regression
- Logistic regression
- Generalized estimating equations
- Principal component analysis
- · Latent class mixed models
- Partial least squares regression
- Partial least squares discriminant analysis
- Cross-validation
- Directed Acyclic Graphs (covariate selection)
- Information Criterion (AIC, QIC)
- Resampling (bootstrap)

Familiar

- Linear discriminant analysis
- Mixed effects models
- · Factor analysis

• Structural Equation Modeling

Employment

Dec, 2017 - present Course developer, DataCamp

Developing an online course on analyzing cohort studies using R. Supervisor:

Sep, 2017 – present *Postdoctoral researcher*, Department of Nutritional Sciences, University of Toronto, Canada

Finishing up PhD research projects, maintaining and developing a website for the PROMISE data dictionary and description (https://promise-cohort.gitlab.io/PROMISE), and training new graduate students on data analysis using R. Supervisor: Dr. Anthony Hanley