

Nicole Bowers

Medical Researcher



Personal

Nationality US Citizen

Languages English, Spanish

Email nicolebo@umich.edu

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Software

Python

R

Linux

MATLAB

Interests



Next Generation
Sequencing



Genomics



Metabolomics



Analysis
Pipelines



High
Dimensional
Data



Automation

Education

University of Michigan Medical School

Master of Science in Bioinformatics

Expected April 2020

Capstone project: Single Cell RNA seq expression of Antigen Specific T-Cells
Pipeline analysis for high dimensional data including whole-genome, whole exome and RNA seq
Microbiome, metablomics and proteomics experience

Northern Michigan University

Bachelor of Arts in Neuroscience

2012 - 2016

Minors in Integrative Science and Spanish Language and Culture

Lead Resident Advisor & Community Assistant, Honors Hall

Deans List - Campus Compact Award - Dr Jean Rutherford and board of Trustees Scholarship

University of Salamanca

2016

Hispanic Studies Diploma (Spanish Instruction)

Work Experience

2017 - Present

Clinical Subject Coordinator (Research Coordinator)

Michigan Medicine (Internal Medicine, Gastroenterology)

- Develop data tools for automated data entry and retrieval from electronic data charts
- Electronic data capture 40%, patient recruitment 30%, sample collection 30%
- Analyze data for grant applications for state, federal and private funding mechanisms.
- Conduct protocols in agreement with FDA, IRB, HIPAA, and institutional regulations
- Lead for 11 studies - increased recruitment by 250% over 12 months, 95% consent rate
- Mentor undergraduate researchers and student employees

Head of Brain Health Center

2016-2017

Natural Balance Wellness Medical Center (Ann Arbor, MI)

- Collect and analyze EEG data and design individualized protocols for patient care
- Treated and educated patients across a broad age range, mental ability, and diagnoses
- Design interactive online and print advertisements

Data Analyst

2016

Sumatè Online Marketing (Salamanca, Spain)

- Communicate analytical results with global, non-technical clients
- Review and analyze client websites to improve usability and search engine optimization

Lab Skills and Experience

Cell and Molecular Biology, Northern Michigan University, Dr. Ottem

2013-2015

We studied the maintenance structure and function of motoneurons and the neuromuscular junction in response to androgens and neurotrophic factors in a rodent model

Lab Skills : Con-focal microscopy, polymerase chain reactions, electrophoresis, immunohistochemistry

Cognitive & Affective Behavior Integrated Neuroscience Dr. Carlson

2013-2015

This research focused on mental performance under conditions of positive and negative feedback.

Lab Skills: Near-Infrared Spectroscopy, EEG, fMRI data-post-processing with MATLAB

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Journal Publications

1. Rodrigues-Pinto E., Pereira P., Sousa-Pinto B. Shehab H., Pinho R., Larsen M., Irani S., Kozarek R., Capogreco A., Repici A., Shemmeri E., Louie B., Rogalski P., Baniukiewicz A., Dabrowski A., Correia de Sousa J., Barrias S., Ichkhanian Y., Kumbhari V., Khashab M., Bowers N., Schulman A., Macedo G.,. Retrospective multicenter study one endoscopic treatment of upper gastrointestinal postsurgical leaks *Gastrointestinal Endoscopy*, October; 2020. DOI: 10.1016/j.gie.2020.10.0115
2. Watts, LS., Baker J., Lee A. A., Harer K., **Bowers N.**, Law R., Hasler W. L. Impact of gastric per-oral endoscopic myotomy on static and dynamic pyloric function in gastroparesis patients. *Neurogastroenterology and Motility*, June; 2020. DOI: 10.1111/nmo.13892
3. Vosoughi K., Ichkhanian Y., Benias P. C., Miller L., Aadam A. A., Triggs J., Law R., **Bowers N.**, Chaves D., Ponte A. M., Draganov P. V., Kotzev A., ElHalabi M., Sanaei O., Gutierrez O. B., Kalloo A. N., Bulat R. S., Pandolfino J. E., Khashab M. A. 667 Gastric peroral endoscopic myotomy (G-POEM) for the treatment of refractory gastroparesis: final results from the first international prospective trial. *Gastrointestinal Endoscopy* 2020 June; 91(6): AB56-AB57 DOI:10.1016/j.gie.2020.03.317
4. Benias P. C., Miller L. S., Trindade A. J., Cheung M., Whitson M. J., Monteverde B., **Bowers N.**, Watts L., Hasler W. L., Law R. 688 Safety and feasibility of performing a single tunnel double myotomy for gastroparesis. *Gastrointestinal Endoscopy* 2020 June; DOI: 10.1016/j.gie.2020.03.318
5. Rodrigues-Pinto E., Pereira P., Morais R., Shehab H., Pinho R., Larsen M., Irani S. S., Kozarek R. A., Di Leo M., Repici A., Shemmeri E., Louie B. E., Rogalski P., Baniukiewicz A., Dabrowski A., Barrias S., Ichkhanian Y., Kumbhari V., Khashab M. A., **Bowers N.**, Schulman A. R., Macedo G. 725 Retrospective multicenter study on endoscopic treatment of upper gastrointestinal post-surgical leaks. *Gastrointestinal Endoscopy* 2020 June; AB62-AB63 DOI: 10.1016/j.gie.2020.03.589
6. Rodrigues-Pinto E., Pereira P., Morais R., Shehab H., Pinho R., Larsen M. C., Irani S., Kozarek R. A., Leo M. D., Repici A., Shemmeri E., Louie B. E., Rogalski P., Baniukiewicz A., Dabrowski A. D., Sousa J. C., Barrias S., Ichkhanian Y., Kumbhari V., Khashab M. A., **Bowers N.**, Schulman A. R., Macedo G. Retrospective multicenter study on endoscopic treatment of gastrointestinal post-surgical leaks. *Endoscopy*. 2020 April; DOI: 10.1055/s-0040-1704088
7. Watts L., Baker J. R., Lee A. A., Harer K., **Bowers N.**, Law R., Hasler WL. Pyloric diameter and distensibility responses utilizing Endophilicto compare double vs single myotomy in gastroparesis patients following G- POEM. *Neurogastroenterology and Motility* 2020 March; Wiley Vol. 32
8. Vosoughi K., Ichkhanian Y., Jacques J., Adam A., Benjas PC., Law R., Hasler W., Canakis A., Ragi O., Triggs J., **Bowers N.**, Brewer Gutierrez O., Kumbhari V., Kalloo A., Bulat R., Pandolfino J., Khashab M. Role of Endoscopic functional luminal imaging probe in predicting the outcome of gastric peroral endoscopic pyloromyotomy (with video). *Gastrointestinal Endoscopy* 2020 Feb; 05 DOI: 10.10/j.gie.2020.01.044

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9. Watts LS., Baker J., Lee A. A., Harer K., **Bowers N.**, Law R., Hasler W. Role of Endophilic signal averaging in measuring dynamic pyloric motor function and therapeutic response to G-POEM in refractory gastroparesis. *Neurogastroenterology and Motility* 2019 Aug; Wiley Vol. 31
10. Watts L., Baker J. R., Lee A. A., **Bowers N.**, Law R., Hasler WL. Using Endophilic to compare static and dynamic pyloric motor function before and after G-POEM for treatment of refractory gastroparesis. *Neurogastroenterology and Motility* 2019 Aug; Wiley Vol. 31
11. Bishu S., El-Zaatari M., Hayashi A., Guoqing H., **Bowers N.**, Kinnucan J., Manoogian B., Muza-Moons M, Grasberger H., Zou W., Higgins P., Spence J., Stidham., Kamada N., Kao JY. CD4+ tissue-resident memory t-cell expand and are a major source of mucosal tumor necrosis factor α in active crohn's disease *Journal of Crohn's and Colitis* 2019 Jul;905(15) DOI: 10.1093/ecco-jcc/jjz010
12. Ichkhanian Y., Vosughi K., Meybodi M., Jacques J., Sethi A., Patel A., Adam A., Triggs J., Benjas P., Chaves D., Barret M., Law R., **Bowers N.**, Pioche M., Draganov P., Kotzev A., Albeniz E., Estremera F., Ujiki M., Callahan Z., Bapaye A., Dorwat S., Brewer Gutierrez O., Khashab M. Mo1074 comprehensive case-matched study on adverse events associated with gastric peroral endoscopic myotomy. *Gastrointestinal Endoscopy* 2019 Jun; 436(7) DOI: 10.1016/j.gie.2019.03.1231
13. Vosughi K., Ichkhanian Y., Jacques J., Meybodi M., Jacques J., Ragi O., Adam A., Benjas P., Law R., **Bowers N.**, Brewer Gutierrez O., Ngamruengphong S., Kumbhari V., Kalloo A., Pandolfino J., Khashab M. 717 endoluminal functional lumen imaging probe (Endophilic) predicts the outcome of gastric per-oral endoscopic pyloromyotomy (gpoem): a multicenter prospective study. *Gastroenterology* 2019 Apr;156(6) DOI: 10.1016/S0016-5085(19)39144-9
14. Bishu S., El-Zaatari M., Hayashi A., Guoqing H., **Bowers N.**, Kinnucan J., Manoogian B., Zhang M., Grasberger H., Zou W., Higgins P., Spence J., Stidham., Kamada N., Kao JY. Mo1877 Tumor necrosis factor α and IL-17A producing CD4+ tissue resident memory t-cells are expanded in crohn's and are inhibited by the anti- inflammatory microbial metabolite butyrate. *Gastroenterology* 2019 May; 872 DOI: 10.1016/
15. Hasler W., Baker J., Watts L., **Bowers N.**, Chandrasekhar D., Lee A., Law R., 434 – Characterization of pyloric tonic and phasic pyloric motor activity using expanded Endophilic measures before and after g-poem for medication-refractory gastroparesis. *Gastroenterology* 2019 May; 88(9) DOI 10.1016/

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Oral Presentations

2020

European Society of Gastrointestinal Endoscopy (ESGE) Days: Session: Advances in endoluminal and biliopancreatic endoscopy: Retrospective Multicenter Study on Endoscopic Treatment of Upper Gastrointestinal Post-surgical Leaks (A-1109-0007-01685).

Digestive Disease Week (DDW):

Endoscopic Technology: Endoscopy: New Therapeutic Technology: Safety and feasibility of performing a single tunnel double myotomy for gastroparesis

Bariatric Endoscopy: Endoscopic Treatment of Complications from Bariatric Surgery, Including Endoscopic Revision of Gastric Bypass: Retrospective multicenter study on endoscopic treatment of upper gastrointestinal post-surgical leaks

Endoscopic Technology: Endoscopy: New Therapeutic Technology: Gastric peroral endoscopic myotomy (g-poem) for the treatment of refractory gastroparesis: final results from the first international prospective trial

2019

American Neurogastroenterology and Motility Society Annual Clinical Scientific Meeting: Using endoflip to compare static and dynamic pyloric motor function before and after g-poem treatment of refractory gastroparesis

Biennial Meeting of the European Society of Neurogastroenterology and Motility: Role of endoflip signal averaging in measuring dynamic pyloric motor function and therapeutic response to g-poem in patients with refractory gastroparesis

Poster Presentations

2020

Digestive Disease Week (DDW) 2020:

SSAT Stomach and Small Bowel Disorders I: Pneumatic Dilation of Gastric Sleeve Stenosis is Not Associated With Weight Regain

Gastroparesis and Small Intestinal Dysmotility: Minimal Impact of Acute Injection and Repeated Injections of Botulinum Toxin on Static and Dynamic Pyloric Motor Function in Gastroparesis Measured by Endoflip

*Awarded poster of distinction

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2019

Digestive Disease Week (DDW) 2019

Characterization of pyloric tonic and phasic motor activity using expanded endoflip measures before and after g-poem for medication-refractory gastroparesis

Tumor necrosis factor alpha and IL-174 producing CD4+ tissue resident memory T-cells are expended in Crohn's and are inhibited by the anti-inflammatory microbial metabolite butyrate

Comprehensive case-matched study on adverse events associated with gastric peroral myotomy
Endoluminal functional lumen imaging probe (endoflip) predicts the outcome of gastric per-oral
endoscopic pyloromyotomy (g-poem): a multicenter study