Fatima Aboulalazm

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SUMMARY

Ph.D trained scientist with comprehensive experience in utilizing computational approaches and data analysis to investigate relationships between microbiota and human disease through large-scale biological data. Seeking a research scientist or consulting position to challenge my professional and technical skills toward accelerating innovative health therapeutics.

RESEARCH EXPERIENCE

Medical College of Wisconsin (Aug 2020 – Expected Apr 2026) Wauwatosa, WI
PhD Candidate

- Investigated how second-generation antipsychotic-induced gut microbiota contribute to weight gain via modulation of host energy expenditure.
- Analyzed large datasets using amplicon and NGS pipelines for projects involving weight-inducive xenobiotics (P1-2), amnestic cognitive impairment (P3), and sleeve gastrectomy (P4).
- Developed analysis pipelines to automate extracting proteins seed sequences from UniProt database for building Hidden Markov Models (HMMs).
- Awarded 2024 Karen Evangelista Humanitarian Award for leadership initiatives and service.

Hofstra University (Oct 2018 – May 2020) Hempstead, NY
Undergraduate Researcher

- Characterized two cellulolytic thermophiles in co-cultures to improve production efficiency of biofuel and bioplastic substrates.
- Awarded 2019 Summer Undergraduate Research Fellowship to continue research.

SKILLS

Professional: Project Management, Problem Solving, Teamwork, Data-driven decision making**.**
Technical: MS Office, Adobe Creative Cloud, HTML/CSS, R, Python.
Bioinformatics: NGS pipelines, Amplicon sequencing analysis, Predictive modeling, Data visualization.

EDUCATION

Ph.D. Candidate*,* Medical College of Wisconsin **Expected Apr 2026**
Dissertation: Elucidating a role for gut microbiota in olanzapine-induced weight gain through energy flux.
Advisor Name: John R Kirby, PhD

B.S. Biology, Minor in Biochemistry, Hofstra University **2016-2020**
Project: Characterization of co-culture interactions and metabolism of cellulolytic isolates *Clostridium* clariflavum & *Clostridium thermosuccinogenes.*
Advisor Name: Javier Izquierdo, PhD

PUBLICATIONS

P1. **Aboulalazm, F.A**., Kazen, A.B., Deleon, O., Müller, S., Saravia, F.L., Lozada-Fernandez, V., Hadiono, M.A., Keyes, R.F., Smith, B.C., Kellogg, S.L., Grobe, J.L., Kindel, T.L., Kirby, J.R., 2025. Reutericyclin, a specialized metabolite of *Limosilactobacillus reuteri*, mitigates risperidone-induced weight gain in mice. Gut Microbes 17.

P2. Matthew A. Hadiono, Alexis B. Kazen, **Fatima A. Aboulalazm**, Colin M. L. Burnett, John J. Reho, Tammy L. Kindel, Justin L. Grobe & John R. Kirby. (2025) Reutericyclin mitigates risperidone-induced suppression of anaerobic energy expenditure. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology* 328:6, pages R741-R757.

P3. Kazen, A.B., Umfleet, L.G., **Aboulalazm, F.A**., Cohen, A.D., Terhune, S., Mason, L., Obarski, S., Franczak, M., Kindel, T.L., Wang, Y., Kirby, J.R., 2025. Gut Microbiota and Neurovascular Patterns in Amnestic Mild Cognitive Impairment. Brain Sciences 15, 538.

P4. Welsch, E.C., Barron, M.R., Storage, K.M., Kazen, A.B., **Aboulalazm, F.A**., Kirby, J.R., Kindel, T.L., 2025. Gut microbiome and bile acid changes after male rodent sleeve gastrectomy: what comes first?. American Journal of Physiology-Regulatory, Integrative and Comparative Physiology 329, R410–R421.