YULIA NUSSBAUM

Phone: (740) 818-7102
E-mail: iid49@mail.missouri.edu URL: https://www.linkedin.com/in/inn88/

Research interests:

- pipeline development for single-cell RNA-seq data analysis,
- improving biological interpretation of scRNA-seq data,
- human anti-tumor immunity,
- computational methods for tumor microenvironment deconvolution.

Skills:

- R, python, MySQL programming,
- hands-on experience in implementing end-to-end analysis of high-throughput sequencing data (from raw fastq to downstream analyses),
- scRNA-seq analysis (cellranger, Seurat, scanpy, Slingshot, Monocle, PAGA, CellPhoneDB, CellChat, etc.),
- Expertise with Linux environment, high-performance cluster computing, and command line interfaces.

A. PROFESSIONAL

A1. EDUCATION

- **PhD in Bioinformatics**
  MU Institute of Data Science and Informatics
  University of Missouri, Columbia, MO, June 2024 (ongoing)
- **Master of Public Health**
  School of Health Professions
  University of Missouri, Columbia, MO, June 2018
- **Graduate Certificate in Epidemiology**
  School of Health Professions
  University of Missouri, Columbia, MO, June 2018
- **M.A. with Honors in Innovative and Strategic Management**
  School of Finance and Economics
  Northeastern Federal University, Yakutsk, Russia, June 2014
- **B.S. in Environmental Engineering**
  School of Chemical Technologies and Ecology
  Gubkin Russian Oil and Gas University, Moscow, Russia, June 2010

A2. EMPLOYMENT

- **Graduate Research Assistant**, 8/2018 – Present
  MU Informatics and Data Science Institute
  University of Missouri, Columbia

- **Head of Patients Service Department**, 5/2016 –7/2016
  Yakutsk Medical Center, Yakutsk, Russia

- **Chief Quality Engineer**, 4/2014 –7/2016
  Yakutsk Medical Center, Yakutsk, Russia

- **Environmental and Quality Engineer**, 1/2012 –3/2014
  RosProfi, Ltd, Yakutsk, Russia

- **Environmental Engineer,** 10/2010-12/2011
  EcoProject, Ltd, Yakutsk, Russia

A3. SCHOLARSHIPS AND GRANTS

Edmund S. Muskie Scholarship, Washington, DC, May 2018
This grant supports Fulbright grantees in getting a summer internship in the US. The grant covers monthly stipend and travel expenses.

Fulbright Grant, May 2016
This grant covers two years tuition, health insurance, travel expenses, and a monthly stipend to study in the US.

Scholarship of Department of HR of Sakha Republic, September 2005
The scholarship is given to high school graduates who were accepted to one of the recognized universities in Russia with the best exam results. It covers tuition, travel expenses, and a monthly stipend for five years.

A4. AWARDS.

- **The winner of Wearathon 2017,** American Public Health Association Annual Conference, 2017, Atlanta, GA

- **Recognition from Minister of Health,** June, 2005
  For creating and managing the first Patients Support center in the region.

B. RESEARCH

B1. PUBLICATIONS

Full Article in Refereed Conference Proceedings

1. **Innokenteva, I.***, Hammer, R., Shin, D. (2018). Knowledge Engineering Framework to Quantify Dependencies between Epidemiological and Biomolecular Factors in Breast Cancer. In *Proceedings of the First International Workshop on Semantic Web Technologies for Health Data Management. The 17th International Semantic Web Conference* (Vol. 2164, pp. 1-8). Monterey, CA.
2. Kapp, J. M., **Innokenteva, I**.*, Shin, D., & Kemner, A. (2018). Identifying Tailored Prevention Opportunities from Social Determinants of Health to Combat Diabetes Risk in a Vulnerable Pediatric Population. *Annals of Epidemiology,28*(9), 670. doi:10.1016/j.annepidem.2018.06.040
3. He, F., Wang, D., **Innokenteva, Y**.*, Kholod, O., Shin, D., Xu, D. (2019). Extracting Molecular Entities and Their Interactions from Pathway Figures Based on Deep Learning. In *Proceedings of the 10th*

ACM International Conference on Bioinformatics, Computational Biology and Health Informatics (pp. 397-404). Niagara Falls, NY

* - Iuliia (Yulia) Innokenteva is my maiden name

Journal Articles

1. Giannaris, P. S., Al-Taie, Z., Kovalenko, M., Thanintorn, N., Kholod, O., **Innokenteva, Y.**, Coberly, E., Frazier, S., Laziuk, K., Popescu, M., Shyu, C. R., Xu, D., Hammer, R. D., & Shin, D. (2020). Artificial Intelligence-Driven Structurization of Diagnostic Information in Free-Text Pathology Reports. *Journal of pathology informatics*, *11*, 4. https://doi.org/10.4103/jpi.jpi_30_19

2. **Nussbaum, Yulia I.**; Manjunath, Yariswamy; Suvilesh, Kanve N.; Warren, Wesley C.; Shyu, Chi-Ren; Kaifi, Jussuf T.; Ciorba, Matthew A.; Mitchem, Jonathan B. 2021. "Current and Prospective Methods for Assessing Anti-Tumor Immunity in Colorectal Cancer" *Int. J. Mol. Sci.* 22, no. 9: 4802. https://doi.org/10.3390/ijms22094802

3. Suvilesh, K.N., **Nussbaum, Y.I.**, Radhakrishnan, V. *et al.* Tumorigenic circulating tumor cells from xenograft mouse models of non-metastatic NSCLC patients reveal distinct single cell heterogeneity and drug responses. *Mol Cancer* **21,** 73 (2022). https://doi.org/10.1186/s12943-022-01553-5

4. **Nussbaum, Y.I.**, Manjunath, Y., Kaifi, J.T., Warren, W., Mitchem, J.B. Analysis of tumor-associated macrophages' heterogeneity in colorectal cancer patients using single-cell RNA-seq data. *Journal of Clinical Oncology* 40, no. 4_suppl (February 01, 2022) 146-146 DOI:10.1158/1538-7445.AM2022-267

5. Nussbaum, Y. I., Manjunath, Y., Shumway, E., Kaifi, J. T., Warren, W. C., & Mitchem, J. B. (2022). Abstract B57: Studying the role of OPN-CD44 interaction in colorectal cancer antitumor immunity suppression using scRNA-seq data. Cancer Immunology Research 10 (12_supplement).

B2. POSTERS

1. **Innokenteva, Y.**, He, F., Wang, D., Kholod, O., Hammer, R., Shin, D., Xu, D. An Informatics Framework for Knowledge Representation and Reconciliation of Disease Pathways. Midwest Bioinformatics Conference, Kansas City, MO, April 11-12, 2019.

2. **Innokenteva, Y.,** He, F., Wang, D., Kholod, O., Hammer, R., Shin, D., Xu, D. An Informatics Framework for Knowledge Representation and Reconciliation of Disease Pathways. 27th conference on Intelligent Systems for Molecular Biology, Basel, Switzerland, July 21-25, 2019.

3. **Nussbaum, Y.I.**, Manjunath, Y., Kaifi, J.T., Warren, W., Mitchem, J.B. Analysis of tumor-associated macrophages' heterogeneity in colorectal cancer patients using single-cell RNA-seq data. 2022 ASCO Gastrointestinal Symposium, online.

B3. PROFESSIONAL AND SOCIAL SERVICE

1. Reviewer at AMIA 2019 Annual Symposium.
2. Reviewer at IEEE International Conference on Bioinformatics and Biomedicine 2019
3. Representative from MUIDSI in Graduate and Professional Council, University of Missouri, Columbia
4. Member of Status of Women committee, University of Missouri, Columbia
5. Vice President of Alternative Career Exploration in the Sciences (ACES) at University of Missouri, Columbia

REFERENCES:

Jonathan B. Mitchem, MD
Assistant Professor
University of Missouri, Columbia
Phone: 573-882-8454
Email: mitchemj@health.missouri.edu

Wes Warren, Ph.D.
Professor of Genomics
University of Missouri, Columbia
Phone: 573-882-2559
Email: warrenwc@missouri.edu

Jussuf Kaifi, MD
Assistant Professor of Surgery
MU Medical School
University of Missouri, Columbia
Phone: (573) 882-8445
E-mail: kaifij@health.missouri.edu

Tozammel Hossain, Ph.D.
Assistant professor
College of Information
Department of Information Science
University of North Texas
Discovery Park E236L
Email: Tozammel.Hossain@unt.edu