Chengsheng Zhu
Post-Doctoral Associate
Department of Biochemistry and Microbiology
Rutgers University, School of Environmental and Biological Sciences
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EDUCATION

Rutgers, the State University of New Jersey, New Brunswick, NJ
Ph.D., Microbiology and Molecular Genetics   **2010-2017**

Tentative Dissertation Title: Functional analysis of microbial genomes and metagenoms
Advisors: Yana Bromberg
Committee: Max Häggblom, Jeff Boyd, Vikas Nanda

Central Michigan University, Mt. Pleasant, MI
M.S., Biology   **2008-2010**

Dissertation Title: Prokaryotic diversity in the four stomach chambers of white tailed deer
Advisors: Peter Kourtev
Committee: Gregory Colores, Bradley Swanson

Fudan University, Shanghai, China
B.S., Biology   **2006**

Dissertation Title: The bacterial and fungal diversity in biofilms on pool sand filters
Advisors: Zhexue Quan

APPOINTMENTS

Rutgers, the State University of New Jersey, New Brunswick, NJ
Post-Doctoral Associate, Dept. of Biochemistry and Microbiology   **2017-now**

Rutgers, the State University of New Jersey, New Brunswick, NJ
Teaching Assistant, Dept. of Biochemistry and Microbiology   **2014-2017**

Rutgers, the State University of New Jersey, New Brunswick, NJ
Research Assistant, Dept. of Biochemistry and Microbiology   **2010-2014**

Central Michigan University, Mt. Pleasant, MI
Teaching Assistant, Dept. of Biology   **2008-2010**

HONORS

Travel fellowship from ISMB '2018   **2018**
The best talk award in 17th annual international conference on Critical Assessment of
Massive Data Analysis (CAMDA)
The best oral presentation award from Theobald Smith Society meeting   **2015**
The best oral presentation award from Theobald Smith Society meeting   **2014**
Travel scholarship from Department of Biochemistry and Microbiology
Central Michigan University summer scholar   **2009**

PROFESSIONAL ACTIVITY

Program Committee member, **International Society for Computational Biology Latin America, SOIBIO and EMBnet Joint Bioinformatics Conference**	**2018**
Program Committee member, **Intelligent Systems for Molecular Biology Conference**	**2016**
Member, **American Society for Microbiology**	**2009-2011**
Member, **International Society for Computational Biology**	**2013-2016** **2018-Now**
Member, **Asia Pacific BioInformatics Network (APBioNET)**	**2015-2017**

TEACHING

Rutgers, the State University of New Jersey, New Brunswick, NJ
Tools for genomic analysis (Teaching Assistant) — **2016-2017**

Rutgers, the State University of New Jersey, New Brunswick, NJ
Nucleotide Sequence Analysis (Teaching Assistant) — **2015**

Rutgers, the State University of New Jersey, New Brunswick, NJ
Bioinformatics (Lab Instructor/part-time lecturer) — **2014-2017**

Central Michigan University, Mt. Pleasant, MI
Introduction to Microbiology (Teaching Assistant) — **2008-2010**

PUBLICATIONS

Snow microbiome functional analyses reveal novel microbial use of complex organic compounds. **Zhu C**, Miller M, Lusskin N, Bergk Pinto B, Maccario L, Haggblom MM, Vogel TM, Larose C, Bromberg Y. *Computational and Structural Biotechnology Journal*. Submitted.

Fingerprinting cities: differentiating subway microbiome functionality. **Zhu C**, Miller M, Lusskin N, Mahlich Y, Wang Y, Zeng Z, Bromberg Y. *Biology Direct*. Submitted.

Functional sequencing read annotation for high precision microbiome analysis. **Zhu C**, Miller M, Marpaka S, Vaysberg P, Rühlemann MC, Wu G, Heinsen F-A, Tempel M, Zhao L, Lieb W, Franke A, Bromberg Y. *Nucleic Acids Res*. 2018 Feb.

fusionDB: assessing microbial diversity and environmental preferences via functional similarity networks. **Zhu C**, Mahlich Y, Miller M, Bromberg Y. *Nucleic Acids Res*. 2018 Jan.

CLuBBeR, removing the bioinformatics bottleneck in big data analysis. Miller M, **Zhu C**, Bromberg Y. *Journal of Integrative Bioinformatics*. 2017 Jun.

Functional Basis of Microorganism Classification. **Zhu C**, Delmont TO, Vogel TM, Bromberg Y. *PLoS. Comput. Biol.* 2015 Aug.

From mesophilic to thermophilic digestion: The transitions of anaerobic bacterial, archaeal and fungal community structures in sludge and manure samples. Sun W, Yu G, Louie T, Liu T, **Zhu C**, Xue G, Gao P. *Appl. Microbiol. Biotechnol.* 2015 Aug.

Mercury Resistance and Mercuric Reductase Activities and Expression among Chemotrophic Thermophilic Aquificae. Freedman Z, **Zhu C**, Barkay T. *Appl. Environ. Microbiol*. 2012 Sep.

TALKS

mi-faser *deciphers city subway microbiome functional fingerprints*
ISMB, CAMDA track, Chicago, IL, USA   **2018**

rHSSP, annotate metagenome reads with high accuracy
Fermentation club, Rutgers University, New Brunswick, NJ, USA   **2016**

Functional basis of microorganism classification
GIW/InCoB, Highlight track, Tokyo, Japan   **2015**

GenSpec, genome-based species identification for archaea
Theobald Smith Society meeting, New Brunswick, NJ, USA   **2014**

GenSpec, the prokaryotic taxonomy mapper
Theobald Smith Society meeting, New Brunswick, NJ, USA   **2012**

POSTERS

Zhu C, Miller M and Bromberg Y. mi-faser, faser and accurate annotation of microbiome sequencing reads	**ISMB '2018**
Zhu C, Mahlich Y, Miller M and Bromberg Y. Bacterial proteomes and microbial communities: environmental preferences and functional profiles	**GRC-AEM '2017**
Zhu C, Mahlich Y, and Bromberg Y. *Fusion*DB: Assessing Microbial Diversity and Environmental Preferences Via Functional Similarity Networks	**RU Symposium '2017**
Zhu C, Delmont TO, Vogel TM and Bromberg Y. Functional basis of microorganism classification	**RU Symposium '2016**
Zhu C and Bromberg Y. GenSpec, genome-based species identification tool for archaea.	**ISMB '2014**
Zhu C, Surowiec C, Weaver M, Swanson BJ and Kourtev PS. Prokaryotic diversity in the four stomach chambers of white tailed deer	**ASM '2009**