

Yunfeng Yang (David)

ORGANIZATION INFORMATION

Biosciences Division
Oak Ridge National Laboratory
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EDUCATION

Ph.D., 2003. Albert Einstein College of Medicine, Microbiology, Bronx, NY, USA, 10461
M.S., 2002. City University of New York, Computer Sciences, Bronx, NY, USA, 10461
B.S., 1996. University of Science & Technology of China, Biology, Hefei, Anhui, P.R. China

POSITIONS

Research Staff Scientist, 2006-present, Biosciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA, 37831
Postdoctoral Research Associate, 2003-2006, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA, 37831

RESEARCH EXPERTISE

Ongoing research: (1) Develop a genetic mutagenesis system in *Clostridium cellulolyticum* for bioenergy needs; (2) Characterize cellulosome subunits by antisense RNA inhibition in *Clostridium cellulolyticum*; (3) Characterize novel functional and regulatory genes involved in metal reduction pathway of *Shewanella oneidensis*; (4) Characterize regulators (protein and small regulatory RNA) of iron acquisition systems in *Shewanella oneidensis*; and (5) Develop novel methods to reconstruct gene co-expression, regulatory and protein-protein interaction networks; improve gene annotation via experimental methods.

Research skills: Excellent in integrating genetics, physiology, biochemistry, cell and systems biology approaches to dissect biological pathways and gene function; Experienced in utilizing computational tools for biological applications.

COLLABORATORS

Jizhong Zhou (Univ. of Oklahoma), Lee Ann McCue (PNNL), Adam Arkin (LBNL), Feng Luo (Clemson Univ.), Matthew W. Fields (Montana State Univ.), Slava Epstein (Northeastern Univ.), Jim Tiedje (Michigan State Univ.) and Sheng Feng (Duke Univ.)

TEACHING EXPERIENCE

Lecturer of Course BIOL325: Genetics (3 hrs/week, 16 weeks) to undergraduate students from The Oak Ridge Science Semester Program, fall semester of 2007.
Lecturer of Course BIOL201: Cell and Molecular Biology (3 hrs/week, 16 weeks) to undergraduate students from The Oak Ridge Science Semester Program, fall semester of 2006.

COMMUNITY SERVICE

Participant of Farragut High School Pilot Program advisory committee, 2006-2007

BOOK CHAPTER

Yunfeng Yang, Use of Genomic DNA as Reference in DNA Microarrays (*Methods Molecular Biology*, in review)

PEER-REVIEWED PUBLICATIONS (*Corresponding author)

Yunfeng Yang*, Daniel P. Harris, Feng Luo, Marcin Joachimiak, Liyou Wu, Paramvir Dehal, Janet Jacobsen, Zamin Yang, Haichun Gao, Adam P. Arkin and Jizhong Zhou, Reconstruction of Gene Networks of Iron Response in *Shewanella oneidensis* (In review)

Yunfeng Yang*, Lee Ann McCue, Andrea B. Parsons, Charles X. Guan, Feng Sheng and Jizhong Zhou*, Identification and Characterization of Small RNA RyhB in *Shewanella oneidensis* (In review)

Yunfeng Yang*, Soumitra Barua, Samantha Reed, Wendy W. Xiong, Liyou Wu, Charles X. Guan, Andrea Parsons, Feng Luo, Margaret Romine and Jizhong Zhou, Characterization of Novel C-type Cytochromes Implicated in Metal Reduction in *Shewanella oneidensis* (In review)

Yunfeng Yang*, Daniel P. Harris, Feng Luo, Liyou Wu, Andrea B. Parsons, Anthony V. Palumbo and Jizhong Zhou (2007), Physiological and Transcriptomic Analyses to Characterize the Function of Fur and Iron Response in *Shewanella oneidensis* (BMC Genomics, accepted)

Yunfeng Yang*, Mengxia Zhu, Liyou Wu and Jizhong Zhou (2007), Biostatistical Considerations of the Use of Genomic DNA Reference in Microarrays (IEEE 7th International Symposium on Bioinformatics & Bioengineering, accepted)

Feng Luo, **Yunfeng Yang**, Jianxin Zhong, Haichun Gao, Latifur Khan, Dorothea K. Thompson and Jizhong Zhou (2007), Constructing Gene Co-expression Networks and Predicting Functions of Unknown Genes by Random Matrix Theory (**co-first author**; BMC Bioinformatics 8: 299)

Feng Luo, **Yunfeng Yang**, Chin-Fu Chen, Roger Chang, Jizhong Zhou and Richard Scheuermann (2007), Modular Organization of Protein Interaction Networks (Bioinformatics 23(2):207-214)

Mengxia Zhu, Qishi Wu, **Yunfeng Yang** and Jizhong Zhou (2006), A New Approach to Identify Functional Modules Using Random Matrix Theory (Annual IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology 1:117-123)

Feng Luo, Jianxin Zhong, **Yunfeng Yang**, Richard Scheuermann and Jizhong Zhou (2006), Application of Random Matrix Theory to Biological Networks Physics Letter A 357(6): 420-423

Feng Luo, Jianxin Zhong, **Yunfeng Yang** and Jizhong Zhou (2006), Application of random matrix theory to microarray data for discovering functional gene modules. Physical Review E. 73, 031924

Steven D. Brown, Madhavi Martin, Sameer Deshpande, Sudipta Seal, Katherine Huang, Eric Alm, **Yunfeng Yang**, Liyou Wu, Tingfen Yan, Xueduan Liu, Adam Arkin, Karuna Chourey, Jizhong Zhou and Dorothea K. Thompson (2006) Cellular Response of *Shewanella oneidensis* to Strontium Stress. Applied and Environmental Microbiology 72(1), 890-900

Yunfeng Yang and U. Thomas Meier (2003) Genetic interaction between a chaperone of small nucleolar ribonucleoprotein particles and cytosolic serine hydroxymethyltransferase. Journal of Biological Chemistry 278(26), 23553-23560

Yunfeng Yang, Cynthia Isaac, Chen Wang, Francois Dragon, Vanda Pogacic & U. Thomas Meier (2000) Conserved composition of mammalian box H/ACA and box C/D small nucleolar ribonucleoprotein particles and their interaction with the common factor Nopp140. Molecular Biology of the Cell 11, 567-577

Cynthia Isaac, **Yunfeng Yang** & U. Thomas Meier (1998) Nopp140 functions as a molecular link between the nucleolus and coiled bodies. Journal of Cell Biology 142, 319-329