Mingxun Wang

Phone: 650‑646‑4986
email: mwang87@gmail.com
URL: http://www.mingxunwang.com

Current position

Post Doctoral Scholar, Skaggs School of Pharmacy and Pharmaceutical Sciences, UC San Diego
Founder, Ometa Labs LLC, San Diego
Consultant, WWomics LLC, San Diego

Areas of specialization

Computer Engineering - Computer Science - Bioinformatics - Computational Mass Spectrometry

Education

2017	Ph.D. in Computer Science, UC San Diego
2014	C Phil. in Computer Science, UC San Diego
2013	MS in Computer Science, UC San Diego
2009	BS in Computer Engineering summa cum laude, University of Illinois

Publications & Talks

Journal articles

2019   James T Morton, Alexander A Aksenov, Louis Felix Nothias, James R Foulds, Robert A Quinn, Michelle H Badri, Tami L Swenson, Marc W Van Goethem, Trent R Northen, Yoshiki Vazquez‑Baeza, **Mingxun Wang**, Nicholas A Bokulich, Aaron Watters, Se Jin Song, Richard Bonneau, Pieter C Dorrestein, Rob Knight. "Learning representations of microbe–metabolite interactions" ***Nature Methods***

2019   Jeffrey A van Santen, Grégoire Jacob, Amrit Leen Singh, Victor Aniebok, Marcy J Balunas, Derek Bunsko, Fausto Carnevale Neto, Laia Castaño‑Espriu, Chen Chang, Trevor N Clark, Jessica L Cleary Little, David A Delgadillo, Pieter C Dorrestein, Katherine R Duncan, Joseph M Egan, Melissa M Galey, FP Jake Haeckl, Alex Hua, Alison H Hughes, Dasha Iskakova, Aswad Khadilkar, Jung‑Ho Lee, Sanghoon Lee, Nicole LeGrow, Dennis Y Liu, Jocelyn M Macho, Catherine S McCaughey, Marnix H Medema, Ram P Neupane, Timothy J O'Donnell, Jasmine S Paula, Laura M Sanchez, Anam F Shaikh, Sylvia Soldatou, Barbara R Terlouw, Tuan Anh Tran, Mercia Valentine, Justin JJ van der Hooft, Duy A Vo, **Mingxun Wang**, Darryl Wilson, Katherine E Zink, Roger G Linington. "The natural products atlas: an open access knowledge base for microbial natural products discovery" ***ACS Central Science***

2019   Melissa M Galey, Alexandria N Young, Valentina Z Petukhova, **Mingxun Wang**, Jian Wang, Amrita Salvi, Angela Russo, Joanna E Burdette, Laura M Sanchez. "Detection of Ovarian Cancer Using

Samples Sourced from the Vaginal Microenvironment" *Journal of proteome research*

2019   Alexey V Melnik, Yoshiki Vázquez-Baeza, Alexander A Aksenov, Embriette Hyde, Andrew C McAvoy, **Mingxun Wang**, Ricardo R da Silva, Ivan Protsyuk, Jason V Wu, Amina Bouslimani, Yan Wei Lim, Tal Luzzatto-Knaan, William Comstock, Robert A Quinn, Richard Wong, Greg Humphrey, Gail Ackermann, Timothy Spivey, Sharon S Brouha, Nuno Bandeira, Grace Y Lin, Forest Rohwer, Douglas J Conrad, Theodore Alexandrov, Rob Knight, Pieter C Dorrestein, Neha Garg. "Molecular and Microbial Microenvironments in Chronically Diseased Lungs Associated with Cystic Fibrosis" *MSystems*

2019   Daniel Petras, Jeremiah J Minich, Emily Kunselman, **Mingxun Wang**, Margot E White, Eric E Allen, Lihini I Aluwihare, Pieter C Dorrestein. "Non-Targeted Metabolomics Enables the Prioritization and Tracking of Anthropogenic Pollutants in Coastal Seawater" *Preprint in ChemRxiv*

2019   Allegra T Aron, Emily Gentry, Kerry L McPhail, Louis Felix Nothias, Mélissa Nothias-Esposito, Amina Bouslimani, Daniel Petras, Julia M Gauglitz, Nicole Sikora, Fernando Vargas, J van der Hooft, Madeleine Ernst, Kyo Bin Kang, Christine M Aceves, Andrés Mauricio Caraballo-Rodríguez, Irina Koester, Kelly C Weldon, Samuel Bertrand, Catherine Roullier, Kunyang Sun, Richard M Tehan, Cristopher A Boya, H Christian Martin, Marcelino Gutiérrez, Aldo Moreno Ulloa, Javier Andres Tejeda Mora, Randy Mojica-Flores, Johant Lakey-Beitia, Victor Vásquez-Chaves, Angela I Calderón, Nicole Tayler, A Robert, Fidele Tugizimana Keyzers, Nombuso Ndlovu, Alexander A Aksenov, Alan K Jarmusch, Robin Schmid, Andrew W Truman, Nuno Bandeira, **Mingxun Wang**, Pieter Dorrestein. "Reproducible Molecular Networking Of Untargeted Mass Spectrometry Data Using GNPS" *Preprint in ChemRxiv*

2019   Evan Bolyen, Jai Ram Rideout, Matthew R Dillon, Nicholas A Bokulich, Christian C Abnet, Gabriel A Al-Ghalith, Harriet Alexander, Eric J Alm, Manimozhiyan Arumugam, Francesco Asnicar, Yang Bai, Jordan E Bisanz, Kyle Bittinger, Asker Brejnrod, Colin J Brislawn, C Titus Brown, Benjamin J Callahan, Andrés Mauricio Caraballo-Rodríguez, John Chase, Emily K Cope, Ricardo Da Silva, Christian Diener, Pieter C Dorrestein, Gavin M Douglas, Daniel M Durall, Claire Duvallet, Christian F Edwardson, Madeleine Ernst, Mehrbod Estaki, Jennifer Fouquier, Julia M Gauglitz, Sean M Gibbons, Deanna L Gibson, Antonio Gonzalez, Kestrel Gorlick, Jiarong Guo, Benjamin Hillmann, Susan Holmes, Hannes Holste, Curtis Huttenhower, Gavin A Huttley, Stefan Janssen, Alan K Jarmusch, Lingjing Jiang, Benjamin D Kaehler, Kyo Bin Kang, Christopher R Keefe, Paul Keim, Scott T Kelley, Dan Knights, Irina Koester, Tomasz Kosciolek, Jorden Kreps, Morgan GI Langille, Joslynn Lee, Ruth Ley, Yong-Xin Liu, Erikka Loftfield, Catherine Lozupone, Massoud Maher, Clarisse Marotz, Bryan D Martin, Daniel McDonald, Lauren J McIver, Alexey V Melnik, Jessica L Metcalf, Sydney C Morgan, Jamie T Morton, Ahmad Turan Naimey, Jose A Navas-Molina, Louis Felix Nothias, Stephanie B Orchanian, Talima Pearson, Samuel L Peoples, Daniel Petras, Mary Lai Preuss, Elmar Pruesse, Lasse Buur Rasmussen, Adam Rivers, Michael S Robeson, Patrick Rosenthal, Nicola Segata, Michael Shaffer, Arron Shiffer, Rashmi Sinha, Se Jin Song, John R Spear, Austin D Swafford, Luke R Thompson, Pedro J Torres, Pauline Trinh, Anupriya Tripathi, Peter J Turnbaugh, Sabah Ul-Hasan, Justin JJ van der Hooft, Fernando Vargas, Yoshiki Vázquez-Baeza, Emily Vogtmann, Max von Hippel, William Walters, Yunhu Wan, **Mingxun Wang**, Jonathan Warren, Kyle C Weber, Charles HD Williamson, Amy D Willis, Zhenjiang Zech Xu, Jesse R Zaneveld, Yilong Zhang, Qiyun Zhu, Rob Knight, J Gregory Caporaso. "Reproducible, interactive, scalable and extensible microbiome data science using QIIME 2" *Nature Methods*

2019   Madeleine Ernst, Kyo Bin Kang, Andrés Mauricio Caraballo-Rodríguez, Louis-Felix Nothias, Joe Wandy, Christopher Chen, **Mingxun Wang**, Simon Rogers, Marnix H Medema, Pieter C Dorrestein, Justin JJ van der Hooft. "Molnetenhancer: enhanced molecular networks by integrating

metabolome mining and annotation tools" *Metabolites*

2019   Alan K Jarmusch, Emmanuel O Elijah, Fernando Vargas, Amina Bouslimani, Ricardo R da Silva, Madeleine Ernst, **Mingxun Wang**, Krizia K del Rosario, Pieter C Dorrestein, Shirley M Tsunoda. "Initial Development Towards Non-Invasive Drug Monitoring via Untargeted Mass Spectrometric Analysis of Human Skin" *Analytical chemistry*

2019   Valentina Z Petukhova, Alexandria N Young, Jian Wang, **Mingxun Wang**, Andras Ladanyi, Rajul Kothari, Joanna E Burdette, Laura M Sanchez. "Whole Cell MALDI Fingerprinting Is a Robust Tool for Differential Profiling of Two-Component Mammalian Cell Mixtures" *Journal of The American Society for Mass Spectrometry*

2019   Andrea G Albarracín Orio, Daniel Petras, Romina A Tobares, Alexander Aksenov, **Mingxun Wang**, Florencia Juncosa, Pamela Sayago, Alejandro Moyano, Pieter C Dorrestein, Andrea M Smania, Daniel A Ducasse. "Fungal-bacterial interaction selects for quorum sensing mutants and a metabolic shift towards the production of natural antifungal compounds" *Preprint in Biorxiv*

2019   Louis Felix Nothias, Daniel Petras, Robin Schmid, Kai Dührkop, Johannes Rainer, Abinesh Sarvepalli, Ivan Protsyuk, Madeleine Ernst, Hiroshi Tsugawa, Markus Fleischauer, Fabian Aicheler, Alexander Aksenov, Oliver Alka, Pierre-Marie Allard, Aiko Barsch, Xavier Cachet, Mauricio Caraballo, Ricardo R Da Silva, Tam Dang, Neha Garg, Julia M Gauglitz, Alexey Gurevich, Giorgis Isaac, Alan K Jarmusch, Zdeněk Kameník, Kyo Bin Kang, Nikolas Kessler, Irina Koester, Ansgar Korf, Audrey Le Gouellec, Marcus Ludwig, Martin H Christian, Laura-Isobel McCall, Jonathan McSayles, Sven W Meyer, Hosein Mohimani, Mustafa Morsy, Oriane Moyne, Steffen Neumann, Heiko Neuweger, Ngoc Hung Nguyen, Melissa Nothias-Esposito, Julien Paolini, Vanessa V Phelan, Tomáš Pluskal, Robert A Quinn, Simon Rogers, Bindesh Shrestha, Anupriya Tripathi, Justin JJ van der Hooft, Fernando Vargas, Kelly C Weldon, Michael Witting, Heejung Yang, Zheng Zhang, Florian Zubeil, Oliver Kohlbacher, Sebastian Böcker, Theodore Alexandrov, Nuno Bandeira, **Mingxun Wang**, Pieter C Dorrestein. "Feature-based Molecular Networking in the GNPS Analysis Environment" *Preprint in Biorxiv*

2019   Fernando Vargas, Kelly C Weldon, Nicole Sikora, **Mingxun Wang**, Zheng Zhang, Emily C Gentry, Morgan W Panitchpakdi, Mauricio Caraballo, Pieter C Dorrestein, Alan K Jarmusch. "Protocol for Community-created Public MS/MS Reference Library Within the GNPS Infrastructure." *Preprint in Biorxiv*

2019   Alan K Jarmusch, **Mingxun Wang**, Christine M Aceves, Rohit S Advani, Shaden Aguire, Alexander A Aksenov, Gajender Aleti, Allegra T Aron, Anelize Bauermeister, Sanjana Bolleddu, Amina Bouslimani, Andres Mauricio Caraballo-Rodriguez, Rama Chaar, Roxana Coras, Emmanuel O Elijah, Madeleine Ernst, Julia M Gauglitz, Emily C Gentry, Makhai Husband, Scott A Jarmusch, Kenneth L Jones, Zdenek Kamenik, Audrey Le Gouellec, Aileen Lu, Laura-Isobel McCall, Kerry L McPhail, Michael J Meehan, Alexey V Melnik, Riya C Menezes, Yessica Alejandra Montoya-Giraldo, Ngoc Hung Nguyen, Louis Felix Nothias, Melissa Nothias-Esposito, Morgan Panitchpakdi, Daniel Petras, Robert Quinn, Nicole Sikora, Justin JJ van der Hooft, Fernando Vargas, Alison Vrbanac, Kelly Weldon, Rob Knight, Nuno Bandeira, Pieter C Dorrestein. "Repository-scale Co-and Re-analysis of Tandem Mass Spectrometry Data" *Preprint in Biorxiv*

2019   Neha Garg, Alexey V Melnik, Yoshiki Vasquez-Baeza, Alexander Aksenov, Embriette R Hyde, Andrew C McAvoy, **Mingxun Wang**, Ricardo da Silva, Ivan Protsyuk, Jason V Wu, Amina Bouslimani, Yan Wei Lim, Tal Luzzatto-Knaan, William Comstock, Robert Andrew Quinn, Richard Wong, Greg Humphrey, Gail Ackermann, Timothy Spivey, Sharon S Brouha, Nuno Bandeira, Grace Y

Lin, Forest Rohwer, Douglas Conrad, Theodore Alexandrov, Pieter C Dorrestein, Rob Knight. "The Molecular and Microbial Microenvironments in Chronically Diseased Lungs." *Preprint in Biorxiv*

2019   Robert A. Quinn, Alison Vrbanac, Alexey V. Melnik, Kathryn A. Patras, Mitchell Christy, Andrew T. Nelson, Alexander Aksenov, Anupriya Tripathi, Greg Humphrey, Ricardo da Silva, Robert Bussell, Taren Thron, **Mingxun Wang**, Fernando Vargas, Julia M. Gauglitz, Michael J. Meehan, Orit Poulsen, Brigid S. Boland, John T. Chang, William J. Sandborn, Meerana Lim, Neha Garg, Julie Lumeng, Barbara I. Kazmierczak, Ruchi Jain, Marie Egan, Kyung E. Rhee, Gabriel G. Haddad, Dionicio Siegel, Sarkis Mazmanian, Victor Nizet, Rob Knight, Pieter C. Dorrestein. "Chemical Impacts of the Microbiome Across Scales Reveal Novel Conjugated Bile Acids." *Preprint in Biorxiv*

2019   **Mingxun Wang**, Alan K. Jarmusch, Fernando Vargas, Alexander A. Aksenov, Julia Gauglitz, Kelly Weldon, Daniel Petras et al. "MASST: A Web-based Basic Mass Spectrometry Search Tool for Molecules to Search Public Data." *Preprint in Biorxiv*

2019   Valentina Z. Petukhova, Alexandria N. Young, Jian Wang, **Mingxun Wang**, Andras Ladanyi, Rajul Kothari, Joanna E. Burdette, and Laura M. Sanchez. "Whole Cell MALDI Fingerprinting Is a Robust Tool for Differential Profiling of Two-Component Mammalian Cell Mixtures.", *Journal of The American Society for Mass Spectrometry*

2018   Antonio Gonzalez, Jose A. Navas-Molina, Tomasz Kosciolek, Daniel McDonald, Yoshiki Vázquez-Baeza, Gail Ackermann, Jeff DeReus, Stefan Janssen, Austin D. Swafford, Stephanie B. Orchanian, Jon G. Sanders, Joshua Shorenstein, Hannes Holste, Semar Petrus, Adam Robbins-Pianka, Colin J. Brislawn, **Mingxun Wang**, Jai Ram Rideout, Evan Bolyen, Matthew Dillon, J. Gregory Caporaso, Pieter C. Dorrestein, and Rob Knight. "Qiita: rapid, web-enabled microbiome meta-analysis", *Nature Methods*

2018   Ricardo R. da Silva, **Mingxun Wang**, Louis-Félix Nothias, Justin JJ van der Hooft, Andrés Mauricio Caraballo-Rodríguez, Evan Fox, Marcy J. Balunas, Jonathan L. Klassen, Norberto Peporine Lopes, and Pieter C. Dorrestein. "Propagating annotations of molecular networks using in silico fragmentation" *PLoS Computational Biology*

2018   Louis-Félix Nothias, Mélissa Nothias-Esposito, Ricardo da Silva, **Mingxun Wang**, Ivan Protsyuk, Zheng Zhang, Abi Sarvepalli et al. "Bioactivity-based molecular networking for the discovery of drug leads in natural product bioassay-guided fractionation." *Journal of natural products*

2018   **Mingxun Wang**, Jian Wang, Jeremy Carver, Benjamin Pullman, Seong Cha, Nuno Bandeira, "Assembling the Community-Scale Discoverable Human Proteome", *Cell Systems*

2017   Kerstin Scheubert, Franziska Hufsky, Daniel Petras, **Mingxun Wang**, Louis-Felix Nothias, Kai Duehrkop, Nuno Bandeira, Pieter Dorrestein, Sebastian Boecker, "Significance estimation for large scale untargeted metabolomics annotations", *Nature Communications*

2017   Neha Garg, **Mingxun Wang**, Embriette Hyde, Ricardo R. da Silva, Alexey V. Melnik, Ivan Protsyuk, Amina Bouslimani, Yan Wei Lim, William Comstock, Richard Wong, Greg Humphrey, James Gaffney, Gail Ackermann, Timothy Spivey, Sharon S. Brouha, Nuno Bandeira, Grace Y. Lin, Forest Rohwer, Douglas J. Conrad, Theodore Alexandrov, Rob Knight, Pieter C. Dorrestein, "Three dimensional volume cartography of microbiome and metabolome data onto radiological images of the human lung", *Cell Host Microbe*

2017

Tal Luzzatto Knaan, Neha Garg, **Mingxun Wang**, Evgenia Glukhov, Yao Peng, Gail Ackermann, Amnon Amir, Brendan M Duggan, Sergey Ryazanov, Lena Gerwick, Rob Knight, Theodore Alexandrov, Nuno Bandeira, William H Gerwick, Pieter C Dorrestein, "Digitizing mass spectrometry data to explore the chemical diversity and distribution of marine cyanobacteria and algae", *eLife*

2016   Yasset Perez-Riverol, Mingze Bai, Felipe da Veiga Leprevost, Silvano Squizzato, Young Mi Park, Kenneth Haug, Adam J Carroll, Dylan Spalding, Justin Paschall, **Mingxun Wang**, Noemi del-Toro, Tobias Ternent, Peng Zhang, Nicola Buso, Nuno Bandeira, Eric W Deutsch, David S Campbell, Ronald C Beavis, Reza M Salek, Ugis Sarkans, Robert Petryszak, Maria Keays, Ariana Barbera, Rafael C Jiménez, Alexey I Nesvizhskii, Susanna-Assunta Sansone, Christoph Steinbeck, Rodrigo Lopez, Juan Antonio Vizcaíno, Peipei Ping, Henning Hermjakob, "Omics Discovery Index – Discovering and Linking Public 'Omics' Datasets", *Nature Biotechnology*

2016   Amina Bouslimania, Alexey V Melnik, Zhenjiang Xu, Amnon Amir, Ricardo R da Silva, **Mingxun Wang**, Nuno Bandeira, Theodore Alexandrov, Rob Knight, and Pieter C. Dorrestein, "Lifestyle chemistries from phones for individual profiling", *Proceedings of the National Academy of Sciences*

2016   Gert Wohlgemuth, Sajjan S Mehta, Ramon F Mejia, Steffen Neumann, Diego Pedrosa, Tomáš Pluskal, Emma L Schymanski, Egon L Willighagen, Michael Wilson, David S Wishart, Masanori Arita, Pieter C. Dorrestein, Nuno Bandeira, **Mingxun Wang**, Tobias Schulze, Reza M Salek, Christoph Steinbeck, Venkata Chandrasekhar Nainala, Robert Mistrik, Takaaki Nishioka, Oliver Fiehn, "SPLASH, A hashed identifier for mass spectra", *Nature Biotechnology*

2016   Eric W Deutsch, Attila Csordas, Zhi Sun, Andrew Jarnuczak, Yasset Perez-Riverol, Tobias Ternent, David S Campbell, Manuel Bernal-Llinares, Shujiro Okuda, Shin Kawano, Robert L Moritz, Jeremy J Carver, **Mingxun Wang**, Yasushi Ishihama, Nuno Bandeira, Henning Hermjakob, Juan Antonio Vizcaíno, "The ProteomeXchange consortium in 2017: supporting the cultural change in proteomics public data deposition", *Nucleic Acids Research*

2016   **Mingxun Wang**, Jeremy J Carver, Vanessa V Phelan, Laura M Sanchez, Neha Garg, Yao Peng, Don Duy Nguyen, Jeramie Watrous, Clifford A Kapono, Tal Luzzatto-Knaan, Carla Porto, Amina Bouslimani, Alexey V Melnik, Michael J Meehan, Wei-Ting Liu, Max Crüsemann, Paul D Boudreau, Eduardo Esquenazi, Mario Sandoval-Calderón, Roland D Kersten, Laura A Pace, Robert A Quinn, Katherine R Duncan, Cheng-Chih Hsu, Dimitrios J Floros, Ronnie G Gavilan, Karin Kleigrewe, Trent Northen, Rachel J Dutton, Delphine Parrot, Erin E Carlson, Bertrand Aigle, Charlotte F Michelsen, Lars Jelsbak, Christian Sohlenkamp, Pavel Pevzner, Anna Edlund, Jeffrey McLean, Jörn Piel, Brian T Murphy, Lena Gerwick, Chih-Chuang Liaw, Yu-Liang Yang, Hans-Ulrich Humpf, Maria Maansson, Robert A Keyzers, Amy C Sims, Andrew R Johnson, Ashley M Sidebottom, Brian E Sedio, Andreas Klitgaard, Charles B Larson, Daniel Torres-Mendoza, David J Gonzalez, Denise B Silva, Lucas M Marques, Daniel P Demarque, Egle Pociute, Ellis C O'Neill, Enora Briand, Eric JN Helfrich, Eve A Granatosky, Evgenia Glukhov, Florian Ryffel, Hailey Houson, Hosein Mohimani, Jenan J Kharbush, Yi Zeng, Julia A Vorholt, Kenji L Kurita, Pep Charusanti, Kerry L McPhail, Kristian Fog Nielsen, Lisa Vuong, Maryam Elfeki, Matthew F Traxler, Niclas Engene, Nobuhiro Koyama, Oliver B Vining, Ralph Baric, Ricardo R Silva, Samantha J Mascuch, Sophie Tomasi, Stefan Jenkins, Venkat Macherla, Thomas Hoffman, Vinayak Agarwal, Philip G Williams, Jingqui Dai, Ram Neupane, Joshua Gurr, Andrés MC Rodríguez, Anne Lamsa, Chen Zhang, Kathleen Dorrestein, Brendan M Duggan, Jehad Almaliti, Pierre-Marie Allard, Prasad Phapale, Louis-Felix Nothias, Theodore Alexandrov, Marc Litaudon, Jean-Luc Wolfender, Jennifer E Kyle, Thomas O Metz, Tyler Peryea, Dac-Trung Nguyen, Danielle VanLeer, Paul Shinn, Ajit Jadhav, Rolf Müller, Katrina M Waters, Wenyuan Shi, Xueting Liu, Lixin Zhang, Rob Knight, Paul R Jensen, Bernhard Ø Pals-

son, Kit Pogliano, Roger G Linington, Marcelino Gutiérrez, Norberto P Lopes, William H Gerwick, Bradley S Moore, Pieter C Dorrestein, Nuno Bandeira, "Sharing and community curation of mass spectrometry data with Global Natural Products Social Molecular Networking", ***Nature Biotechnology***

2016   Waqas Nasir, Alejandro Gomez Toledo, Fredrik Noborn, Jonas Nilsson, **Mingxun Wang**, Nuno Bandeira, Goran Larson, "SweetNET: A bioinformatics workflow for glycopeptide MS/MS spectral analysis" ***Journal of Proteome Research***

2015   Amina Bouslimani, Carla Porto, Christopher M Rath, **Mingxun Wang**, Yurong Guo, Antonio Gonzalez, Donna Berg-Lyon, Gail Ackermann, Gitte Julie Moeller Christensen, Teruaki Nakatsuji, Lingjuan Zhang, Andrew W Borkowski, Michael J Meehan, Kathleen Dorrestein, Richard L Gallo, Nuno Bandeira, Rob Knight, Theodore Alexandrov, Pieter C Dorrestein, "Molecular cartography of the human skin surface in 3D", ***Proceedings of the National Academy of Sciences***

2015   Katherine R Duncan, Max Crüsemann, Anna Lechner, Anindita Sarkar, Jie Li, Nadine Ziemert, **Mingxun Wang**, Nuno Bandeira, Bradley S Moore, Pieter C Dorrestein, Paul R Jensen, "Molecular networking and pattern-based genome mining improves discovery of biosynthetic gene clusters and their products from Salinispora species", ***Chemistry Biology***

2014   Hosein Mohimani, Roland D Kersten, Wei-Ting Liu, **Mingxun Wang**, Samuel O Purvine, Si Wu, Heather M Brewer, Ljiljana Pasa-Tolic, Nuno Bandeira, Bradley S Moore, Pavel A Pevzner, Pieter C Dorrestein, "Automated genome mining of ribosomal peptide natural products", ***ACS Chemical Biology***

2013   **Mingxun Wang**, Nuno Bandeira, "Spectral library generating function for assessing spectrum-spectrum match significance", ***Journal of Proteome Research***

Conference Talks

2019   Skin Beauty Congress in San Francisco
2018   Skin Microbiome Congress in San Francisco
2018   ASP 2018 - Introduction to Global Natural Product Social (GNPS) Molecular Networking and 3D Visualization of Natural Product Data Workshop
2018   Metabolomics 2018 - Compound Identification Workshop
2018   ASM Oral Presentation - Sharing and Community Curation of Mass Spec Data with GNPS
2018   Skin Microbiome Congress in Boston
2017   ASMS Workshop - MassIVE Big Data Workshop
2017   ASM Workshop - Qiita and GNPS Analysis Workshop
2016   ASMS Oral - Collaborative Human Computing: The Next Generation Paradigm in Metabolomics
2016   ASMS Workshop - Big Data Workshop
2016   Sloan Microbiology of the Built Environment Data Analysis Workshop - Introduction to GNPS
2015   Plant Animal Genome Conference - GNPS - A Preview of the Future of Community Wide Collaboration and the Power of Social Networking in Mass Spectrometry
2013   RECOMB 2013 - Spectral Library Generating Function for Assessing Spectrum-Spectrum Match Significance

Poster Presentations

2017

	ASP - GNPS: High Throughput Mass Spectrometry Dereplication and Discovery with Molecular Networking and Crowd Sourced Annotation
2017	ASMS - Assembling the community-scale discoverable human proteome
2016	Gordon Research Seminar/Conference Chemistry Biology of Peptides - Exploring the Highly Post Translationally Modified Peptide Space with Molecular Networks
2015	ASMS - GNPS: Charting Molecular Families and Structure of Tens of Thousands of Mass Spectrometry Runs
2014	ASMS - GNPS: Global Natural Product Molecular Social Networking – Enabling High Throughput Compound Discovery
2013	ASMS - Beyond Exact Match Spectral Library Search: Mutation Tolerant Search
2012	ASMS - Spectral Library Generating Function: Assessing the Signicance of Spectral Similarity

Service

2017	**Session Moderator** - US Human Proteome Organization (HUPO) - Metaproteomics
2016	**Session Moderator** - Summer Research Conference at UC San Diego
2016	**Session Moderator** - Gordon Research Seminar/Conference Chemistry Biology of Peptides
2014/2015	**Committee Member** - Proteomics Standards Initiative - defined standard representation and file formats for bioinformatics tools in proteomics and metabolomics
2012	**Organizing Committee** - RECOMB Satellite Conference on Computational Proteomics
2012-2017	**Reviewer** - RECOMB - Research in Computational Molecular Biology
	Reviewer - Nature Methods
	Reviewer - Molecular Cellular Proteomics
	Reviewer - Journal of Proteome Research
	Reviewer - Bioinformatics
	Reviewer - Organic Geochemistry
2013-2016	**Community Science Outreach** - Fleet Science Center

Research Experience

Bandeira Lab - Computer Science and Engineering - UC San Diego

2015 - 2016	Visualized microbe/molecular distribution of the lung in Cystic Fibrosis
2015 - 2016	Mapped microbe/molecular distribution in the gut microbiome
2015 - 2016	Developed algorithms to build peptide reference spectral libraries
2014 - 2016	Designed and developed mass spectrometry living data repository for Proteomics (MassIVE)
2013 - 2016	Designed and developed crowd sourced analysis platform for natural products research (GNPS)
2010 - 2012	Developed methods for assessing spectral matching significance in peptide library searches

Zhong Lab - Bioengineering - University of Illinois

2009 - 2010	Developed software to map bisulfite reads to reference genomes to detect methylation patterns

Teaching

UC San Diego

2015	

	Teaching Assistant - Computer Science and Engineering 100 - Advanced Data Structures, Instructors: Nuno Bandeira and Debashis Sahoo
2014/2015	**Instructor** - Extension Academic Connections - Introduction to Bioinformatics
2014-2016	**Guest Lecturer** - School of Pharmacy and Pharmaceutical Sciences 205 - Pharmacy Informatics
2013-2016	**Guest Lecturer** - Biology 4 - Introductory Biology Lab

University of Illinois

2009 - Spring	**Lab Tutor** - ECE 391 - Computer Systems Engineering, Instructor: Nikita Borisov
2009 - Fall	**Lab Tutor** - ECE 391 - Computer Systems Engineering, Instructor: Steve Lumetta

Work Experience

2010	**Software Engineer** - Nuvixa Inc. (now Personify Inc.)
2010	**Software Engineer Intern** - Qualcomm Inc.
2008/2009	**Software Development Engineering Intern** - Amazon.com

Extracurriculars

UC San Diego Chamber Singers

2013-2018	Ensemble Member

UC San Diego A Cappella - Acamazing

2010-2011	Founding Member
2011-2012	President and Musical Director
2012-2013	Leadership Mentor

Web Video Platform - Potato Surfer

2014	Project Leader - Designed and developed website, Android App, and Chromecast app.

Folk Music Duo - Marlena and the Wang

2011/2012	Arranged, rehearsed, performed, and recorded folk music as a folk music duo with Marlena Fecho.

Alan Alda Center for Communicating Science - Stony Brook University

2015	Trained to improve science communication skills using improvisation exercises

Reuben H. Fleet Science Center

2014-2016	Community Science Outreach - Two Scientists Walk into a Bar

Honors and Awards

2014	CSE 25th Anniversary - Excellent Presentation Award
2012	San Diego Fellowship
2010/2011	UC San Diego CSE Department Fellowship E. C. Jordan Award
2009	Brian Sophie Leung Scholarship
2008	Henry O. Koehler Merit Scholarship
2006	University Achievement Scholarship

Societies and Honoraries

Tau Beta Pi, Engineering Honor Society Historian
IEEE, Institute of Electrical and Electronics Engineers Publicity Chair
Eta Kappa Nu, Electrical Engineering Honor Society Member

Language Competency

English - Native
Mandarin - Conversational