

One-page faculty profile for UM-SJTU Research Collaboration  
8<sup>th</sup> round of seed funding  
Topic: Data Science

<b>Name</b>	Shuming Bao University of Michigan Director, Spatial Data Center and China Data Center/ISR  Group webpage: <a href="http://chinadatacenter.org/">http://chinadatacenter.org/</a>	
<b>Email</b>	<a href="mailto:sbao@umich.edu">sbao@umich.edu</a>	
<b>Research interests (general)</b>	spatial data analysis, GIS, spatial sciences	
<b>Research interests for seed program</b>	Big data analysis, spatial intelligent data analysis	
<b>Biography</b>	Shuming Bao received his Ph. D. in applied economics from Clemson University in 1996. He was a Research Scientist at MathSoft from 1996–97, and is currently an Associate Research Scientist and the Director of the Spatial Data Center and China Data Center at the University of Michigan in Ann Arbor. He has been leading in the development of many spatial data projects and online tools for spatial data analysis and service. He has more than 60 publications. Bao's primary research interests are in GIS, regional economics, spatial statistics and econometrics. Contact: Shuming Bao, 330 Packard St., Ann Arbor, MI 48106. Email: sbao@umich.edu; Tel: (734)647-9610 / Fax: (734)763-0335.	

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<b>Name</b>	<p>Paul Zimmerman University of Michigan Department of Chemistry</p> <p>Group webpage: <a href="https://sites.lsa.umich.edu/zimmerman-lab/">https://sites.lsa.umich.edu/zimmerman-lab/</a></p>	
<b>Email</b>	<a href="mailto:paulzim@umich.edu">paulzim@umich.edu</a>	
<b>Research interests (general)</b>	quantum chemistry and machine learning methods applied to catalysis	
<b>Research interests for seed program</b>	Big data approaches for reaction and catalyst design	
<b>Biography</b>	<p>Paul Zimmerman specializes in the creation and application of computational methods for catalysis development, electronic structure, and reaction dynamics. After graduating from the chemical engineering program at the University of California Berkeley, he received his PhD in chemical engineering from Stanford University in 2010 under the direction of Charles Musgrave, studying hydrogen storage catalysis and charge multiplication in organic solar cells. Afterwards, Paul did postdoctoral work at Berkeley with Alex Bell and Martin Head-Gordon, where he developed and applied new computational methods to simulate industrially-relevant zeolite-catalyzed reactions, including alkene oligomerization and alkane cracking. Since August 2012, Paul has been an assistant professor of Chemistry at the University of Michigan in Ann Arbor.</p> <p>Paul is the recipient of the ACS Emerging Technologies in Computational Chemistry award (2013), NSF CAREER award (2016), Sloan Research Fellowship (2016) and The OpenEye/ACS Outstanding Junior Faculty award (2016). Since arriving in Michigan, he has authored more than 25 papers and currently has a group composed of 12 graduate students, 4 postdocs, and 4 undergraduates.</p>	

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<p><b>Name</b></p>	<p>Aditi Misra University of Michigan University of Michigan Transportation Research Institute Group webpage: <a href="https://www.cmisst.org/">https://www.cmisst.org/</a></p>
<p><b>Email</b></p>	<p><a href="mailto:aditimis@umich.edu">aditimis@umich.edu</a></p>
<p><b>Research interests (general)</b></p>	<p>Transportation data science, statistical modelling of route and mode choice decision making, innovative data collection methods and use of big data in understanding transportation behavior in automated and connected world, non motorized transportation, land use planning and its effect on transportation choices, safety implications of vehicle technologies, rideshare technologies</p>
<p><b>Research interests for seed program</b></p>	<p>Potential data identification, augmentation and standardization methods for understanding safety implications of automated and connected vehicles in a mixed traffic mode; Use of big data to guide and inform travel choices; Use of learning algorithms and feedback loops in transportation mode choice</p>
<p><b>Biography</b></p>	<p>I am an Assistant Research Scientist in UMTRI’s CMISST group. I received my PhD in Civil Engineering from Georgia Tech in 2016 with concentration in Transportation Systems Engineering and minor in Computational Econometrics. I have an MS in Civil Engineering from University of Connecticut where I worked on developing quantitative metrics for assessing project sustainability. My doctoral research focused mainly on non-motorized transportation and travel behavior modelling using crowdsourced innovative data collection methods. Through my research, I have gained extensive experience in non-standardized data handling and management, GIS and transportation data analytics, and discrete choice modelling. I have also worked on projects related to toll lane usage and equity aspects of smartphone based information sharing. My research interests include bicycle and pedestrian safety, citizen science, smart and connected cities, and data driven learning. She is also deeply motivated by fundamental research in travel behavior model development and methodological improvements. At CMISST-UMTRI, my research and projects are aligned to my interests in safety implications and benefits of new technologies, transportation data and automated-connected vehicle interaction with mixed traffic.</p> <p>I have been a fellow of the Data Science for Social Good, Atlanta (<a href="http://dssg-atl.io/">http://dssg-atl.io/</a>) program sponsored by Georgia Tech Department of Computer Science and Engineering, Oracle Academy and other industry partners, and I have received Airsage Pass Scholarship for my transportation data related research. I am also a Foley Scholar finalist and a recipient of Wang</p>

Fellowship at Georgia Tech. I have served in multiple organizations including board of American Society of Engineering Education (Georgia Tech Chapter), Graduate Student Advisory Council for the Department of Civil and Environmental Engineering at Georgia Tech and is in the Development Committee of Georgia Tech Women Alumni Network. She is also a nominated member of the Transportation Research Board's Women's Issues in Transportation Committee and is actively involved in Bicycle and Pedestrian Data Sub-committee.

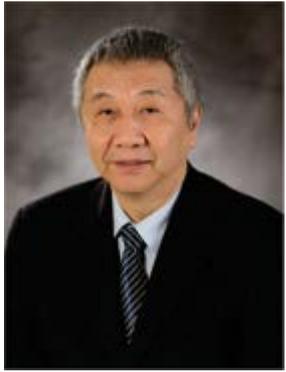
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<b>Name</b>	Don Siegel University of Michigan Associate Professor, Mechanical Engineering and Materials Science  Group webpage: <a href="http://www.umich.edu/~djsiege">www.umich.edu/~djsiege</a>	
<b>Email</b>	<a href="mailto:djsiege@umich.edu">djsiege@umich.edu</a>	
<b>Research interests (general)</b>	Computational materials science; high-throughput materials screening; materials discovery; machine learning	
<b>Research interests for seed program</b>	Machine learning on materials databases; applications including thermal energy storage materials and gas capture (CO <sub>2</sub> ) and storage (H <sub>2</sub> and CH <sub>4</sub> ).	
<b>Biography</b>	Prof. Siegel and his students employ high performance computing to model materials at the atomic scale. His group develops and applies techniques ranging from the quantum mechanical level to classical approaches such as Monte Carlo and molecular dynamics. These methods are used to predict the thermodynamic, kinetic, mechanical, and transport properties of materials of relevance for the storage of electrical and chemical energy, carbon capture, and automotive light-weighting. The primary research objectives are to characterize materials phenomena that are not easily measured using conventional experimental techniques, and to identify materials having improved properties via high-throughput screening.	

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<p><b>Name</b></p>	<p>Shan Bao University of Michigan Associate Research Scientist</p>	
<p><b>Email</b></p>	<p>Group webpage: <a href="http://www.umtri.umich.edu/who-we-are/research-groups/human-factors">http://www.umtri.umich.edu/who-we-are/research-groups/human-factors</a></p> <p>Email: <a href="mailto:shanbao@umich.edu">shanbao@umich.edu</a></p>	
<p><b>Research interests (general)</b></p>	<p>Human factors and driver distraction, behavior modeling, large-scale data analysis, automated vehicles</p>	
<p><b>Research interests for seed program</b></p>	<p>Big data and data analysis</p>	
<p><b>Biography</b></p>	<p>Dr. Shan Bao is an associate research scientist in UMTRI's Human Factors Group, where she has been conducting research on human factors and driver distraction, driver-behavior modeling, large-scale data analysis, driver training for automated vehicles, and the evaluation of advanced in-vehicle safety systems since 2009.</p> <p>Dr. Bao has led and conducted multiple, large, simulator and naturalistic-driving studies for industry and government sponsors. Her areas of expertise include the statistical analysis of crash datasets and naturalistic data, experimental design, algorithm development to identify driver states, evaluation of driving-safety technologies, measurement of driver performance, driver decision making, and statistical and stochastic modeling techniques. Dr. Bao currently serves as the chair of Surface Transportation Technical Group of the Human Factors and Ergonomics Society. She earned her PhD in mechanical and industrial engineering from the University of Iowa in 2009.</p>	

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<p><b>Name</b></p>	<p>Louis Yen University of Michigan Associate Director, Confucius Institute Group webpage: <a href="http://ihpi.umich.edu/our-experts/">http://ihpi.umich.edu/our-experts/</a></p>	
<p><b>Email</b></p>	<p><a href="mailto:Louisyen@umich.edu">Louisyen@umich.edu</a></p>	
<p><b>Research interests (general)</b></p>	<p>Study health and economic consequence of personal lifestyle choices and health risks through integrated data approach, including personal health risks, health enhance program participation, medical claims costs and individual productivity loss.</p>	
<p><b>Research interests for seed program</b></p>	<p>Collaborate with and guide Renji Hospital Health Management Center, Shanghai Jiaotong University to develop an integrated health management system which was developed and implemented successfully in the UM for past 30 years. Using the system and data science approaches to jointly study economic impact of participation in annual health exam, preventive services, personal lifestyle choices and health risks on health care costs and productivity among Chinese workforce.</p>	
<p><b>Biography</b></p>	<p>Dr. Yen worked a Research Faculty at the Health Management Research Center in the UM from 1992–2016. He estimated an Integrated Health Management System to study the health and economic impact of workplace health programs and provided decision supports for various organizations in health care cost containment and productivity improvement. As a main architect, Dr. Yen jointly developed a Health Risk Appraisal (HRA) at the HMRC which has licensed to a number of corporations by the UM Office of Technology Transfer. His research on the economic value of personal health and health management programs has been well recognized in both China and the United States through academic publications and conference presentations. Currently, he is on the editorial boards for the American Journal of Health Behavior and the Chinese Journal of Health Management and serves as a visiting professor for applied health at eight different universities in China. During the past 15 years, he developed and directed numerous Chinese Executive Programs utilizing resources at the University of Michigan to train over 500 Chinese executives, researchers and teachers in education and health management. As an invited speaker, he has made over 40 presentations in China and Japan. He earned a M.S. and Ph.D. in Movement Science from the School of Kinesiology at the University of Michigan in 1982 and 1990, respectively.</p>	

<b>Name</b>	<p>Robert Ziff University of Michigan Professor of Chemical Engineering, College of Engineering Group webpage: <a href="http://www.engin.umich.edu/che/people/faculty/robert-ziff">http://www.engin.umich.edu/che/people/faculty/robert-ziff</a></p>	
<b>Email</b>	<a href="mailto:rziff@umich.edu">rziff@umich.edu</a>	
<b>Research interests (general)</b>	Kinetic Monte Carlo modeling of catalytic and other surface reactions, percolation theory, modeling of tablet dissolution in the digestive system, statistical mechanics	
<b>Research interests for seed program</b>	Kinetic Monte Carlo Modeling	
<b>Biography</b>	<p>Robert Ziff has been a professor at the University of Michigan since 1982. Prior to that he was a post-doc at Stony Brook university, and also a post-doc at Los Alamos National Laboratory in New Mexico. He did his PhD at Rockefeller University in New York City, working with George Uhlenbeck and Mark Kac on the Bose-Einstein Condensation, and also worked with E. G. D. Cohen on kinetic theory. His undergraduate studies were done at the University of California in Los Angeles, where he grew up.</p> <p>His research interests have included vortices in liquid helium, aggregation and fragmentation theory, kinetic Monte Carlo modeling, adsorption kinetics on surfaces, random number generation, algorithm development, and computer simulation. In the field of kinetic Monte Carlo, he is one of the authors of the Ziff-Gulari-Barshad model, and in percolation theory is one of the inventors of the Newman-Ziff algorithm. In the area of percolation, he has pioneered carrying out high precision simulations with efficient algorithms to find thresholds to unprecedented accuracy, and this approach has been picked up by others to find even higher precision results.</p> <p>He has served as the Chemical Engineering Department's graduate chair. He has also served on the executive committee of the Senate Assembly of the University of Michigan. He was an associate editor of Physical Review E, and is currently on the editorial board of the Journal of Physics A: Mathematical and Theoretical, published by the Institute of Physics of the United Kingdom. He is a fellow of the American Physical Society.</p>	

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<b>Name</b>	<p>Xianglei Huang University of Michigan Associate Professor, Dept. of Climate and Space Sciences and Engineering, CoE</p> <p>Group webpage: <a href="http://www-personal.umich.edu/~xianglei/index.html">www-personal.umich.edu/~xianglei/index.html</a></p>	
<b>Email</b>	<a href="mailto:xianglei@umich.edu">xianglei@umich.edu</a>	
<b>Research interests (general)</b>	Infrared radiative transfer and satellite remote sensing. Diagnostic analysis of satellite observations and climate simulations. Climate and environmental data analysis and diagnostics.	
<b>Research interests for seed program</b>	My research area is on the hyperspectral remote sensing of our own planet from space. Such observations produces large amount of data sets with strong spatial, temporal, and spectral correlations. With availability of 10+ years of observations, I am interested in using advance data mining techniques to better utilize such data sets in the studies of climate change, environmental monitoring, as well as in the applied science of such measurements (e.g., for public health, for pollution monitoring, and for energy sector).	
<b>Biography</b>	<p>Full CV available via <a href="http://www-personal.umich.edu/~xianglei/cv.pdf">http://www-personal.umich.edu/~xianglei/cv.pdf</a></p> <p>Degrees: B.S. from USTC in China in 1997, majored in Atmospheric Physics and Environmental Science. Ph.D. from Caltech in 2004, in Planetary Science (minored in Scientific computation).</p> <p>Employment: 2004–2006, postdoctoral research associate, Princeton University 2006–present, Assistant Professor, Associate Professor with tenure, University of Michigan</p> <p>Major Awards: 2015 NASA Langley's Henry J. E. Reid award 2015 AOSS Departmental Outstanding Merit Faculty Award, University of Michigan 2003 AOS postdoctoral fellowship, Princeton University</p> <p>Associate Editors for Journal of Climate and for Journal of Atmospheric and Oceanic Technology</p>	

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<b>Name</b>	Cristiane Squarize University of Michigan Oral Pathology (Periodontics and Oral Medicine Department)  Group webpage: <a href="http://media.dent.umich.edu/labs/squarize/">http://media.dent.umich.edu/labs/squarize/</a>	
<b>Email</b>	<a href="mailto:csquariz@umich.edu">csquariz@umich.edu</a>	
<b>Research interests (general)</b>	We are determined to understand the function of the key signaling molecules and stem cells in epithelial regeneration and disease. Our research combines cutting edge technology using in vitro studies and preclinical models aiming to solve important clinical questions and problems related healing of the oral mucosa and skin, as well as, epithelial cancer progression and resistance to therapy.	
<b>Research interests for seed program</b>		
<b>Biography</b>	<a href="https://www.ncbi.nlm.nih.gov/pubmed?term=Squarize CH[Author]">https://www.ncbi.nlm.nih.gov/pubmed?term=Squarize CH[Author]</a>	

<b>Name</b>	August Evrard University of Michigan Professor of Physics and Astronomy	
<b>Email</b>	<a href="mailto:evrard@umich.edu">evrard@umich.edu</a>	
<b>Research interests (general)</b>	cosmology, large-scale cosmic structure, numerical simulations, scholarship of science, learning analytics	
<b>Research interests for seed program</b>	cosmology, large-scale cosmic structure, numerical simulations	
<b>Biography</b>	<p>Dr. August E. (Gus) Evrard, professor of Physics and Astronomy at the University of Michigan, is a first-generation computational cosmologist. Author of the first algorithm to enable general, multi-fluid simulation of cosmic structure formation, Prof. Evrard's recent research focuses on simulation and modelling in support of science studies with clusters of galaxies, the rarest and most massive cosmic structures. He currently collaborates with members of the Dark Energy Survey (optical), the XMM-XXL and LoCuSS collaborations (X-ray) and simulations teams in the UK, France, and US. Named a Fellow of the American Astronomical Society in 2012, his research includes over 160 papers in refereed journals. In the University of Michigan's Office of Academic Innovation, he leads two teams developing web services that provide academic information (Academic Reporting Tools 2.0) as well as exam study support (Problem Roulette) in use by tens of thousands of students.</p> <p>Evrard received a PhD in Physics from SUNY-Stony Brook and has held research positions at Institute d'Astrophysique, Paris, Tokyo University, Princeton University, UC, Berkeley and the University of Cambridge (England).</p>	

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<p><b>Name</b></p>	<p>Christopher Miller          University of Michigan          Associate Professor, Department of Astronomy,          Department of Physics</p>	
<p><b>Email</b></p>	<p><a href="mailto:christoq@umich.edu">christoq@umich.edu</a></p>	
<p><b>Research interests (general)</b></p>	<p>Cosmology, Galaxies, Galaxy Clusters, Astroinformatics, Statistics, Machine Learning</p>	
<p><b>Research interests for seed program</b></p>	<p>I am interested in a collaboration which facilitates the next generation of simulated sky surveys for cosmological and astrophysical research.</p>	
<p><b>Biography</b></p>	<p>Chris Miller is a leader in astroinformatics – mixing computer science, advanced statistics, and data mining to answer key cosmological questions. His specialty is looking at galaxy clusters through the field’s largest data sets to trace the distribution of matter in the universe. After years exploiting the Sloan Digital Sky Survey, he’s heavily involved in the Dark Energy Survey and Dark Energy Spectroscopic Survey.</p> <p>Miller used his galaxy-cluster research to support the Hot Big Bang theory by aligning findings from opposing cosmological epochs. He was the first to see the signatures of sound waves from the very early universe that were “frozen into” the matter-density distribution we see today. His analysis of the current universe synched neatly with the acoustic oscillations of the early universe detected in the cosmic microwave background, and demonstrated the power of combining big-survey analysis and his own observational data.</p> <p>Background:          BS, Penn State; PhD, University of Maine. Postdoc, Carnegie-Mellon; National Optical Astronomy Observatory/Chile. Hired in 2010 at U-M under a presidential initiative for advancing data mining research.</p>	

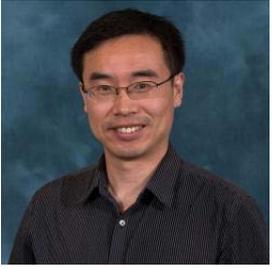


<b>Name</b>	<p>Santiago Schnell  University of Michigan  Department of Molecular &amp; Integrative Physiology/Medical School</p> <p>Group webpage: <a href="http://www.med.umich.edu/schnell-lab/">http://www.med.umich.edu/schnell-lab/</a></p>
<b>Email</b>	<a href="mailto:schnells@umich.edu">schnells@umich.edu</a>
<b>Research interests (general)</b>	<p>Dr. Schnell combines chemical kinetics, mathematical, computational and statistical methods to develop standard-based approaches to measure the rates of biochemical reactions and distinguish their molecular mechanisms under physiological conditions.</p>
<b>Research interests for seed program</b>	<p>Dr. Schnell is interested on designing optimal procedures and experiments that allows us to quantitatively measure and analyze data from enzyme catalyzed reactions and aberrant protein aggregation reactions. He also develops quantitative approaches to measure other phenomena in the biomedical sciences. Using theoretical approaches, Dr. Schnell's goal is to develop standard-based methods to obtain high-quality measurements with rigor, reproducibility, and robustness in the era of data science.</p>
<b>Biography</b>	<p>Dr. Schnell received his License in Biology from Universidad Simon Bolivar (Venezuela) and then a DPhil in Mathematical Biology from the University of Oxford (United Kingdom), respectively. Prior joining the University of Michigan in 2008, he was Assistant Professor of Informatics at the Indiana University School of Informatics &amp; Computing, and Associate Director of the Biocomplexity Institute.</p> <p>Presently, Dr. Schnell is Professor of Molecular &amp; Integrative Physiology and Computational Medicine &amp; Bioinformatics at the University of Michigan Medical School. He is presently serving as the Director of the In Sicilo Protein Analysis Module of the University of Michigan Protein Folding Disease Initiative. He also is co-Director of the University of Michigan Systems and Integrative Biology Training Grant.</p> <p>At the international level, Dr. Schnell is serving as the President of the Society for Mathematical Biology. Also, he is a member of the Standards for Reporting Enzymology Data (STRENDa) Commission to establish standard forms of data presentations for enzyme research and improve the quality of data reporting in the scientific literature. He was elected Fellow of the Royal Society of Chemistry for his work and discoveries in theoretical enzyme kinetics and modeling reactions inside cells in 2011, and Fellow of the American Association for the Advancement of Science for his contributions to the theoretical modeling of complex biochemical reactions and optional estimation of their rates in 2016.</p>

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<p><b>Name</b></p>	<p>Robert Hampshire University of Michigan Research Assistant Professor, Transportation Research Institute</p> <p>Group webpage: <a href="http://www.umtri.umich.edu/who-we-are/staff-directory/robert-c-hampshire">www.umtri.umich.edu/who-we-are/staff-directory/robert-c-hampshire</a></p>	
<p><b>Email</b></p>	<p><a href="mailto:hamp@umich.edu">hamp@umich.edu</a></p>	
<p><b>Research interests (general)</b></p>	<p>His work considers mobility services such as smart parking, connected vehicles, ride sharing, bike sharing, car sharing and person-2-person car sharing. This work is supported by the National Science Foundation, Department of Transportation and several nonprofit foundations. He uses stochastic modeling, simulation and dynamic optimization to develop design and management strategies. More specifically, his methodological interests are: dynamic control of transient stochastic systems, queueing networks with time-varying rates, and asymptotic approximations (strong approximations).</p>	
<p><b>Research interests for seed program</b></p>	<p>connected and automated on-demand transportation</p>	
<p><b>Biography</b></p>	<p>Robert C. Hampshire is research assistant professor in UMTRI's Human Factors group. He was previously an assistant professor of Operations Research and Public Policy at the H. John Heinz III College at Carnegie Mellon University. He received a PhD in Operations Research and Financial Engineering from Princeton University in 2007. His research focuses on management, modeling, and optimization of services. His work considers mobility services such as smart parking, connected vehicles, ride sharing, bike sharing, car sharing and person-2-person car sharing. This work is supported by the National Science Foundation, Department of Transportation and several nonprofit foundations. He uses stochastic modeling, simulation and dynamic optimization to develop design and management strategies. More specifically, his methodological interests are: dynamic control of transient stochastic systems, queueing networks with time-varying rates, and asymptotic approximations (strong approximations).</p>	

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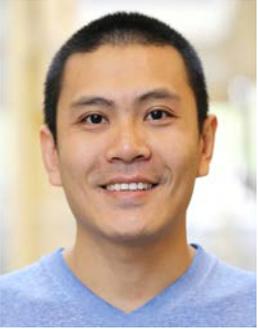
<p><b>Name</b></p>	<p>Jingwen Hu University of Michigan Associate Research Scientist at the U of M Transportation Research Institute</p> <p>Group webpage: <a href="http://www.umtri.umich.edu/who-we-are/research-groups/biosciences">www.umtri.umich.edu/who-we-are/research-groups/biosciences</a></p>	
<p><b>Email</b></p>	<p><a href="mailto:jwhu@umich.edu">jwhu@umich.edu</a></p>	
<p><b>Research interests (general)</b></p>	<p>My research interests focus on injury prevention and safety design optimization in motor-vehicle crashes and other injurious events by a multidisciplinary approach using a combination of experimental, numerical, and epidemiological procedures. It involves 1) collecting and analyzing large-scale injury data to identify the safety/injury problems and assess the performance of safety designs, 2) performing physical tests and computational simulations to investigate injury causation and injury mechanism under field-relevant loading conditions, and 3) developing tools for large-scale computational simulations to explore the best solutions for reducing impact-induced injuries.</p>	
<p><b>Research interests for seed program</b></p>	<p>For this seed program, I am specifically interested in identifying the differences between the U.S. and Chinese populations in terms of motor-vehicle crash type and injury distributions, vehicle safety technology and safety standard progression over the years, human skeleton and body shape variations (which will impact human injury tolerance), as well as human driving behaviors.</p>	
<p><b>Biography</b></p>	<p>Dr. Hu is an associate research scientist in the University of Michigan Transportation Research Institute Biosciences Group. He earned a PhD in biomedical engineering from Wayne State University and an MS and a BS in automotive engineering from Tsinghua University.</p> <p>His research interests focus on injury prevention and safety design optimization in motor-vehicle crashes and other injurious events by a multidisciplinary approach using a combination of experimental, numerical, and epidemiological procedures. It involves 1) collecting and analyzing large-scale injury data to identify the safety/injury problems and assess the performance of safety designs, 2) performing physical tests and computational simulations to investigate injury causation and injury mechanism under field-relevant loading conditions, and 3) developing tools for large-scale computational simulations to explore the best solutions for reducing impact-induced injuries.</p> <p>Dr. Hu is also interested in human modeling for other applications, including but not limited to, pediatric head injuries in falls and child abuse cases, computer-aided surgery, medical device design, and seating comfort. His recent research primarily focused on computational investigations on injury mechanism and safety-system optimization for various vulnerable populations,</p>	

including children, elderly, pregnant occupants, wheelchair users, obese occupants, and pedestrian.

Dr. Hu has extensive expertise on conducting computational (rigid-body models or finite element models) crash simulations and physical crash tests under various crash conditions, including frontal, side, rear, and rollover crashes. He also has extensive experiences on statistical analysis of field crash data to identify injury problems and associated risk factors.

Dr. Hu's research has been sponsored by the National Highway Traffic Safety Administration (NHTSA), the National Science Foundation (NSF), the National Institute of Justice (NIJ), the US Army Tank Automotive Research, Development and Engineering Center (TARDEC), and the auto industry (Ford, Toyota, GM, TRW, etc.). Dr. Hu is an author of 54 peer-reviewed journal articles and more than 40 peer-reviewed conference papers. He is the lead author of three "Best Paper Awards" on developing and applying human and dummy models for injury mitigation in crashes.

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<p><b>Name</b></p>	<p>LIANG HE University of Michigan Research Fellow, EECS</p> <p>Group webpage: <a href="http://web.eecs.umich.edu/~lianghe/">http://web.eecs.umich.edu/~lianghe/</a></p>	
<p><b>Email</b></p>	<p><a href="mailto:lianghe@umich.edu">lianghe@umich.edu</a></p>	
<p><b>Research interests (general)</b></p>	<p>cyber physical systems, battery management</p>	
<p><b>Research interests for seed program</b></p>		
<p><b>Biography</b></p>	<p>Dr. Liang He is currently a research fellow at The University of Michigan, Ann Arbor, MI, USA. He worked as a research scientist at Singapore University of Technology and Design during 2011–2014, and a research assistant at University of Victoria, Canada, during 2009–2011. His research interests mainly focus on cyber–physical systems, cognitive battery management, mobile computing, and internet of things. He has published over 50 research papers at premier conferences such as ACM MobiSys, ACM MobiHoc, IEEE RTSS, IEEE INFOCOM, and ACM/IEEE ICCPS, and journals such as IEEE TMC, IEEE TC, IEEE TSG, and ACM TCPS. He is the recipient of the best paper awards of GLOBECOM’11, WCSP’11, and QShine’14, and a best paper candidate of GLOBECOM’14. He also served as TPC members for over 20 international conferences and workshops.</p>	

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<b>Name</b>	Perry Samson University of Michigan Professor, Climate and Space Sciences and Engineering  Group webpage: <a href="http://samson.engin.umich.edu/">http://samson.engin.umich.edu/</a>	
<b>Email</b>	<a href="mailto:samson@umich.edu">samson@umich.edu</a>	
<b>Research interests (general)</b>	My research has focused on two areas of data science: 1) climate science with emphasis on understanding trends in atmospheric flows and relating them to changing air quality and 2) learning analytics with emphasis on building models that predict student success earlier using student behaviors in class as input.	
<b>Research interests for seed program</b>	I have been calculating atmospheric trajectories in the United States ( <a href="http://www.sharedair.org">http://www.sharedair.org</a> ), China and India ( <a href="http://asia.sharedair.org">http://asia.sharedair.org</a> ) for over a decade. These data can be coupled with air quality data to ascertain how air quality is affected by the trajectory delivering the air and how measures of air quality are changing over the years within clusters of similar airflow.	
<b>Biography</b>	<p>Perry Samson is an Arthur Thurnau Professor at the University of Michigan with appointments in both the College of Engineering and the School of Information. Prof. Samson teaches courses in extreme weather and climate, air pollution modeling and entrepreneurship and has been honored as “Professor of the Year” in the State of Michigan. His research interests include air quality meteorology and learning analytics.</p> <p>In addition to teaching and research, Perry is an entrepreneur as a co-founder of The Weather Underground and LectureTools which has been acquired by Echo360.</p>	

One-page faculty profile for UM-SJTU Research Collaboration  
8<sup>th</sup> round of seed funding  
Topic: Data Science

<p><b>Name</b></p>	<p>Carlos Aguilar University of Michigan Assistant Professor of Biomedical Engineering</p> <p>Group webpage: <a href="https://nobel.bme.umich.edu/">https://nobel.bme.umich.edu/</a></p>	
<p><b>Email</b></p>	<p><a href="mailto:caguilar@umich.edu">caguilar@umich.edu</a></p>	
<p><b>Research interests (general)</b></p>	<p>Our lab is interested in studying the molecular mechanisms of muscle regeneration, development and adaptation. We are particularly interested in the role of epigenetic and transcriptional regulation (chromatin, DNAm, RNA, miRNA, lncRNA) of muscle stem cells during responses to trauma, aging and exercise and are beginning to use single-cell profiling, genome editing and cell-based therapeutics to understand these phenomena.</p>	
<p><b>Research interests for seed program</b></p>	<p>Bioinformatics Analysis, Integrative Genomics, Muscle Regeneration, Stem Cells, Reprogramming</p>	
<p><b>Biography</b></p>	<p>Prof. Aguilar is an assistant professor of biomedical engineering at the University of Michigan. He completed his B.S.E. in mechanical engineering from the University of Michigan and his M.S.E. and Ph.D. in biomedical engineering from the University of Texas. He was a principal investigator at M.I.T. Lincoln Laboratory in the bioengineering systems and technology group prior to assuming his role at Michigan. Professor Aguilar and his research group develop, optimize and apply innovative technologies such as integrative genomic assays and high-throughput sequencing, micro/nanofabricated devices, genome editing and computational modeling to study skeletal muscle. The main research thrusts of the laboratory are in 1) muscle stem cell biology and muscle regeneration (myogenic lineage progression, cellular communication networks, adaptation to stimuli), 2) cellular reprogramming and cell-fate plasticity (transcriptional and epigenetic factors, microenvironment interactions, chromatin memory), 3) regenerative medicine (rehabilitation, cell-based therapies and artificial scaffolds) and 4) micro/nanodevices for interacting with and manipulating single cells and molecules.</p>	

<p><b>Name</b></p>	<p>Yan Chen University of Michigan Daniel Kahneman Collegiate Professor of Information, School of Information</p>	
<p><b>Email</b></p>	<p><a href="mailto:yanchen@umich.edu">yanchen@umich.edu</a></p>	
<p><b>Research interests (general)</b></p>	<p>Behavioral and experimental economics, information economics, mechanism design</p>	
<p><b>Research interests for seed program</b></p>	<p>biology and economics, health economics</p>	
<p><b>Biography</b></p>	<p>Chen is the Daniel Kahneman Collegiate Professor of Information at the University of Michigan, and Distinguished Visiting Professor of Economics at Tsinghua University.</p> <p>Chen’s research focuses on mechanism design, behavioral and experimental economics. The fundamental challenge Chen addresses in her research is the design of robust mechanisms when the agents involved are not perfectly rational. In meeting this challenge, she applies experimental, computational, and theoretical approaches to incorporate dynamic learning theories from economics and cognitive psychology into the static mechanism design framework.</p> <p>In other work she synthesizes economic and social psychology theories to understand the effects of social identity in economic decision making, and to develop approaches to increasing member contributions in online communities. In comparison, she has also been working on how hormones affect economic preferences and decision making.</p> <p>Chen has published in leading economic journals, such as the American Economic Review, Journal of Political Economy, Journal of Economic Theory, Journal of Public Economics, and Games and Economic Behavior. She has also published in conference proceedings in computer science, such as CHI and WSDM, and general interest journals such as the Proceedings of the National Academy of Sciences.</p> <p>Chen’s research is funded by the National Science Foundation, the Russell Sage Foundation, and Google. She serves as an associate editor of Management Science, an advisory editor of Games and Economic Behavior, and an associate editor of Experimental Economics. She is the President of the Economic Science Association.</p>	

<b>Name</b>	<p>Peter Adriaens  University of Michigan  Professor of Entrepreneurship and Finance,  Environmental Engineering and Ross</p> <p>Group webpage:  <a href="https://sites.google.com/umich.edu/profits/">https://sites.google.com/umich.edu/profits/</a></p>	
<b>Email</b>	<a href="mailto:adriaens@umich.edu">adriaens@umich.edu</a>	
<b>Research interests (general)</b>	<p>My research focuses on the use of unstructured (mainly text-based) and financial dataset to drive green growth and sustainability. One example is a combining stock market data and environmental data to understand how risk signaling influence asset risk pricing. A second example is the integration of network theory and microfinance to understand evolving economic structures. A third example structures learning algorithms to public data on stage startup companies to uncover investment risk.</p>	
<b>Research interests for seed program</b>	<p>Integration of microeconomic data and unstructured environmental data to understand corporate risks and investment opportunities related to water exposures using network and portfolio theory</p>	
<b>Biography</b>	<p><b>Academic Experience</b></p> <p><i>Research.</i> My expertise is in environmental technology development and field implementation, and environmental finance, funded by \$25M. in grants and industry support. Since 2005, my work has focused on an emerging area in sustainability: <a href="#">How can the capital markets and financial technology be harnessed to stimulate industrial renewal and green growth?</a> Areas of study: (1) Development of financial technology for risk pricing of financial assets in the capital markets exposed to water constraints; (2) Financial network analysis and risk analytics for the design of industry ecosystem-driven multi-asset renewal funds (MARF) in support of emerging sustainable industries; (3) New business models to scale or diffuse technologies and companies engaged in the energy-food-water nexus space, smart mobility, smart grid, and green chemistry.</p> <p><i>Teaching and Service.</i> I teach Business Model Design, Entrepreneurial Business Fundamentals (for Scientists and Engineers), CleanTech Venture Assessment, and Environmental Finance. My service activities include: US National Science Foundation - Division of Chemical, Bioengineering, Environmental, and Transport Systems; International advisor to Tekes, the Finnish Funding Agency of Innovation; Strategic consultant to the Asia Development Bank and the World Bank on cleantech project investments in Southeast Asia.</p>	

### **Business Experience**

CEO, Equarius Risk Analytics LLC ([www.equariusrisk.com](http://www.equariusrisk.com)), a financial technology firm addressing equity, portfolio, and infrastructure valuation impacts from water quality and quantity risk exposures.

CEO, Corymbus Asset Management ([www.corymbus.co](http://www.corymbus.co)), a financial technology firm focused on end-to-end macro- and microeconomic services for industry ecosystem analysis, algorithmic assessment of investment grade, asset allocation strategies, and blended finance fund designs.

Co-Founder, Global CleanTech Cluster Association ([www.globalcleantech.org](http://www.globalcleantech.org)), a Swiss-based foundation catalyzing global value systems for green economic transitioning. Active in the Americas, Asia-Pacific, and Europe.

### **Honors and Awards**

Finnish Distinguished Professor, Research Institute of the Finnish Economy, Helsinki, Finland

Distinguished Professor of Entrepreneurship, Sichuan University, Chengdu/Suzhou, China

Past-President, Assn. Environmental Engineering & Science Profs. (AEESP)

Member-by-eminence, American Academy Environmental Engineering (AAEE)

Member, Belgian Royal Academy of Applied Sciences (2013)

### **Education**

Postdoctoral training: Stanford University (1989-1992); PhD, University of California (1986-1989); MS, University of Gent (1984-1986); BSE, University of Gent (1981-1984).

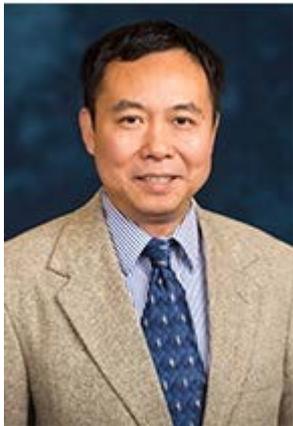
One-page faculty profile for UM-SJTU Research Collaboration  
8<sup>th</sup> round of seed funding  
Topic: Data Science



<p><b>Name</b></p>	<p>Carlos Cesnik University of Michigan Professor of Aerospace Engineering</p> <p>Group webpage: <a href="http://a2srl.engin.umich.edu/">http://a2srl.engin.umich.edu/</a></p>
<p><b>Email</b></p>	<p><a href="mailto:cesnik@umich.edu">cesnik@umich.edu</a></p>
<p><b>Research interests (general)</b></p>	<p>His research interests have focused on computational and experimental aeroelasticity of very flexible wings, coupled nonlinear aeroelasticity and flight dynamic response in hypersonic vehicles and high–altitude long–endurance aircraft, bio–inspired micro air vehicle aeroelasticity, aeromechanics and active vibration and noise reductions in helicopters. His research also spans the field of structural health monitoring for damage detection in metallic and composite structures: guided–wave modeling, transducer design, and signal processing.</p>
<p><b>Research interests for seed program</b></p>	<p>Data–driven damage identification, localization and characterization in structures. Data sciences applied to the field of structural health monitoring for damage detection in metallic and composite structures.</p>
<p><b>Biography</b></p>	<p>Carlos E. S. Cesnik is a Professor of Aerospace Engineering and the Director of the Active Aeroelasticity and Structures Research Laboratory (<a href="http://a2srl.engin.umich.edu">http://a2srl.engin.umich.edu</a>) at the University of Michigan. He received his B.S. and Masters in Aeronautical Engineering degrees from the Instituto Tecnológico de Aeronáutica (ITA), Brazil, and M.S. in Aerospace Engineering, and Ph.D. degrees from the Georgia Institute of Technology. His research interests have focused on computational and experimental aeroelasticity of very flexible wings, coupled nonlinear aeroelasticity and flight dynamic response in hypersonic vehicles and high–altitude long–endurance aircraft, bio–inspired micro air vehicle aeroelasticity, aeromechanics and active vibration and noise reductions in helicopters. His research also spans the field of structural health monitoring for damage detection in metallic and composite structures: guided–wave modeling, transducer design, and signal processing. Prof. Cesnik’s research has been supported by the Air Force Office of Scientific Research (AFOSR), the Air Force Research Laboratories (AFRL), the Defense Advanced Research Project Agency (DARPA), the Army Research Office (ARO), the Army Research Laboratories (ARL), the National Aeronautics and Space Administration (NASA), the Boeing Co., Northrop–Grumman Co., Aurora Flight Sciences, and many other industries. He also serves as a consultant to industry and government.</p> <p>Professor Cesnik is a Fellow of the AIAA and a Fellow of the Royal Aeronautical</p>

Society. He serves as AIAA's Director for the Aerospace Design and Structures Group and is a member of AIAA's Structural Dynamics Technical Committee. He is the chair for the American Helicopter Society Dynamics Technical Committee. He has over 280 publications as archival journal and conference papers, and several invited lectures in the areas of aeroelasticity, smart structures, structural mechanics, and structural health monitoring.

Prior to his appointment as a tenured associate professor at the University of Michigan in 2001, Prof. Cesnik was the Boeing Assistant Professor of Aeronautics and Astronautics and then Associate Professor of Aeronautics and Astronautics at the Massachusetts Institute of Technology. He has also worked as a research engineer at Embraer S.A., and has extensive experience in aeroelasticity, finite element modeling and structural and design optimization. He has also been an active private pilot since 1981.

<b>Name</b>	<p>Yi Li  University of Michigan  Director of China Initiative/Professor Biostatistics  School of Public Health</p>	
<b>Email</b>	<a href="mailto:yili@med.umich.edu">yili@med.umich.edu</a>	
<b>Research interests (general)</b>	<p>His current research interests are survival analysis, longitudinal and correlated data analysis, measurement error problems, spatial models and clinical trial designs. His group is developing methodologies for analyzing large-scale and high-dimensional datasets, with direct applications in observational studies as well in genetics/genomics.</p>	
<b>Research interests for seed program</b>		
<b>Biography</b>	<p>Dr. Li is a biostatistician with broad interests in the research of chronic diseases, including renal disease, cancer, cardiovascular disease, and diabetes. He has published more than 130 research papers, many of which have appeared in top statistical journals, such as JASA, JRSSB, Biometrika and Biometrics. For the past several years, Dr. Li has focused his effort in the measure development for the evaluation of facility performance in chronic disease management. This research has led to numerous NIH and CMS grants/contracts. He is now the PI or the statistical PI for several grants and contracts at UM's Kidney Epidemiology and Cost Center (KECC). Dr. Li is actively involved in collaborative research in clinical trials and observational studies with researchers from various universities within the United States such as University of Michigan, Harvard University and Duke University. His statistical expertise includes big data analysis, hierarchical modeling, survival analysis, risk assessment and score development. Dr. Li is taking a prominent role in the statistical society and is currently serving as an AE for major statistical journals, including JASA, Biometrics, and Scandinavia Journal of Statistics. In addition, Dr. Li holds positions on various NIH and NSF grant review panels.</p>	