

APPENDIX 1 - RESUMES

City of Madison



Yang Tao, Ph.D., P.E. is the City Traffic Engineer and the agency head of the City of Madison's Traffic Engineering Division, which has over 140 employees and is responsible for the City's pedestrian, bicycle, and motor vehicle transportation systems. Dr. Tao has also been overseeing Madison's Smart Cities and Vision Zero Initiatives, and has been working with various City agencies, universities, and a consortium of other public and private entities in envisioning and building a next-generation people and data centered, safe, efficient, equitable and climate-friendly transportation system for Madison. He obtained his Ph.D.

degree in Civil Engineering from the University of Wisconsin-Madison with a minor degree in Business. Dr. Tao has also played leadership roles in the transportation profession both locally and nationally, and served on many national committees on Bicycle Transportation, Intelligent Transportation Systems, Smart Communities and Automated Transportation. Dr. Tao was named the 2018 Transportation Professional of the Year by the Institute of Transportation Engineers Midwestern District.

Jerry Schippa, P.E. is a Traffic Engineer with the City of Madison Traffic Engineering department where he works on development and design of traffic signals, street lighting, and infrastructure necessary for fiber optic networks. Jerry has previously worked on initiatives such as adaptive traffic signal control systems, traffic signal request analysis, and various construction and reconstruction projects over the past eight years with the City of Madison. In addition to that, he is developing the first transit signal priority system with Madison Metro along with reconfiguring traffic signals along the 15-mile stretch of the East-West Bus Rapid Transit line which involves center running buses on many of the arterials in the city. He received his B.S. in Civil Engineering from Michigan Technological University in 2010 and has been working with the city since 2015.

Renee Callaway is the City of Madison Pedestrian and Bicycle Administrator where she manages pedestrian and bicycle planning efforts, safety programs, and the school crossing guard program. She also co-leads the City's Vision Zero and Complete Green Streets initiatives. She has previously worked at the Wisconsin Department of Transportation as the Safe Routes to School Coordinator and at the University of Wisconsin-Madison as the Pedestrian and Bicycle Coordinator. She received her M.S. in Continuing and Vocational Education from the University of Wisconsin.

University of Wisconsin - Madison



David Noyce, Ph.D., P.E. has over 39 years of experience in transportation engineering including state government, private consulting, and academia. He has held positions at the University of Massachusetts-Amherst, Texas A&M University, the Illinois Department of Transportation, and several US civil engineering consulting firms. Dr. Noyce currently serves as the Executive Associate Dean of the UW-Madison College of Engineering and as the Director of the Traffic Operations and Safety (TOPS) Laboratory at UW-Madison. The TOPS Laboratory has over 40 research professionals conducting research in the areas of traffic safety, traffic operations, information technology, freight operations, ITS, CAV, and product development. Dr. Noyce

also leads the Wisconsin Driving Simulator Laboratory and directs the UW-Madison partnership in the SAFER-SIM University Transportation Center (UTC).

Pei Li, Ph.D. is a Scientist at the Department of Civil and Environmental Engineering, University of Wisconsin-Madison. Prior to that, he was a Postdoctoral Research Fellow at the University of Michigan Transportation Research Institute. He received his Ph.D. in Civil Engineering from the University of Central Florida in 2021. He has extensive research experience in proactive traffic safety, vulnerable road user safety, trajectory prediction, and artificial intelligence. He has participated in the development of a proactive traffic safety system that won the 1st prize of the USDOT Solving for Safety Visualization Challenge.

Andrew McFadden, P.E. is a researcher at the Department of Civil and Environmental Engineering, University of Wisconsin-Madison and a member of the Wisconsin Transportation Information Center. He has broad experience working for multiple state and local transportation agencies. He worked on the development and implementation of City of Denver's Vision Zero Action Plan and has experience analyzing VRU crashes and installing a broad range of engineering countermeasures.

Xiaopeng (Shaw) Li, Ph.D. is currently a Professor in the Department of Civil and Environmental Engineering and an affiliate in the Department of Electrical and Computer Engineering at the University of Wisconsin-Madison (UW-Madison). Prior to joining UW-Madison, he was a faculty member at the University of South Florida, and he served as the director of one USDOT national university transportation center, National Institute for Congestion Reduction (NICR). He established the Connected and Automated Transportation Systems Lab that developed a multi-scale CAV testbed including multiple full-scale and reduced-scale CAVs and associated system units. He was the holder of the Susan A. Bracken Faculty Fellowship and the Vasant Surti Fellowship at USF. He is a recipient of a National Science Foundation (NSF) CAREER award. He is a senior member of IEEE. He has served as the PI or a co-PI for several federal (NSF, USDOT, USDOE), local (e.g., state DOTs, UTCs, I-4 Corridor Program), and industry grants. He has published over 100 peer-reviewed journal papers. His major research interests include automated vehicle traffic control and connected & interdependent infrastructure systems. He received a B.S. degree (2006) in civil engineering from Tsinghua University, China, an M.S. degree (2007), and a Ph.D. (2011) degree in civil engineering along with an M.S. degree (2010) in applied mathematics from the University of Illinois at Urban-Champaign.

Sikai Chen, Ph.D. is an Assistant Professor at the Department of Civil and Environmental Engineering, University of Wisconsin-Madison. Prior to that, he was a Visiting Assistant Professor at the Lyles School of Civil Engineering at Purdue University, and Visiting Researcher at the Robotics Institute, School of Computer Science at Carnegie Mellon University. He received his Ph.D. in Civil Engineering focusing on Computational Science & Engineering from Purdue University in August 2019. Dr. Chen's research interests span both theoretical and applied aspects of artificial intelligence, data science, and robotics, all of which are applicable to connected and autonomous vehicles, transportation and infrastructure systems, human factors, smart cities, and cloud/fog/edge computing for large-scale network modeling and simulation. His Ph.D. dissertation, "Safety Implications of Roadway Design and Management: New Evidence and Insights in The Traditional and Emerging (Autonomous Vehicle) Operating Environments", received the 2019 best civil engineering dissertation award from Purdue University and the 2019 Milton Pikarsky Memorial Award (a national prize for best Ph.D. dissertation) from the Council of University Transportation Centers. In addition, he is a member of ASCE national committees on Connected & Autonomous Vehicle Impacts, and Economics & Finance.

Madison College



Kevin Mirus, Ph.D. is Dean for the School of Engineering, Science, and Mathematics (ESM) at Madison Area Technical College (MATC). The School of ESM houses five applied engineering departments (Civil, Electrical, Electro-Mechanical, HVAC, and Mechanical Design), one transfer engineering department, six additional transfer STEM departments (Biology, Chemistry, Computer Science, Mathematics, Physical Sciences, and Physical Education) and a STEM Center devoted to supporting STEM students. Housing all this programming under one roof provides a one-stop shop for access to STEM students and faculty for this grant. Before his role as Dean, Dr. Mirus was STEM Center Director, STEM Academy Co-Director, Associate Dean for the School of Art & Sciences, Mathematics Department Chair, and a Mathematics Instructor at MATC. His Ph.D. is in experimental plasma physics from UW-Madison. A consistent theme throughout his career at MATC has been collaboration with external stakeholders on curriculum and programming. Dr. Mirus was on the STEM Academy design and implementation team, which included several high school administrators and faculty. The STEM Academy is a dual enrollment program that provides high school students with the opportunity to pursue an Associate of Science on MATC's campus in their last two years of high school. To date, the STEM Academy has graduated 347 scholars with an average GPA of 3.5, 99 earned degrees, and an average of 53.4 college credits. The students were 60% female, 51% low income, 55% first gen, and 67% students of color. Dr. Mirus also helped design and implement ESM's transfer STEM internship program, which will be a likely source of interns for this grant. Finally, Dr. Mirus is a co-PI on a Howard Hughes Medical Institute (HHMI) Inclusive Excellence grant, which is working toward providing access to freshman- and sophomore-level classes to any student in the Wisconsin Technical College System in preparation for junior-level coursework in a variety of STEM majors in the University of Wisconsin System.

Randy Way, MS is the Associate Dean in the School of Engineering, Science, and Mathematics at Madison College. Serving over 6,000 unduplicated students annually, the school represents a major pathway from regional high schools to the workforce and institutions of higher education. Capitalizing on its institution's unique mission, the school serves the dual roles of preparing engineering technicians directly for the workforce and providing transfer pathways into the full breadth of STEM degrees at baccalaureate degree granting institutions. Associate Dean Way earned his master's degree in Career and Technical Education from Stout Polytechnic University and is currently pursuing a PhD in Educational Leadership and Policy Analysis at the University of Wisconsin – Madison. His duties to the school include budget planning and oversight, operations management, and program development and evaluation.

GINER, INC.



Avni Argun, Ph.D., Vice President of Advanced Materials received his Ph.D. from University of Florida, where he studied the patterning and electro-optical characterization of conducting polymers for electrochromic devices. During his postdoctoral work at MIT, he developed LbL assembly techniques for fabrication of electrochromic polymer layers as well as ionically and electronically conducting membranes. Joining Giner in 2010, he has worked on programs developing electrochromic devices, electrochemical sensors, and multifunctional coatings. Dr. Argun has over 20 years of experience in electrochemical systems and has authored over 20 research articles on electrochemical device technologies including electrochromic device prototyping, fuel cells, and

biosensors. Dr. Argun is also the PI for Giner's NASA program that aims to develop tintable helmet bubbles for the next generation spacesuits.

Andrew Weber, Senior Project Scientist received his M.S. in Chemistry from Tufts University where he worked extensively in the analytical and electrochemical fields. His research there required adapting standard benchtop electrochemical techniques for remote in situ environmental analysis. This necessitated development and fabrication of systems to withstand particularly harsh environments. Since joining Giner, Inc. in 2017, he has developed several devices using his expertise in electrochemical techniques and fabricated color changing electro-optical devices utilizing electrochromic polymers. Mr. Weber's experience in building and testing such devices will be beneficial in developing the electrochromic devices proposed in this program.

David Markham, Senior Mechanical Engineer received his M.S. in Mechanical Engineering from the University of Central Florida in 2017. After obtaining his master's, he worked at Raytheon where he designed and developed a test stand for a phase change heat exchanger. This included building the LabVIEW software and designing the fluid circuits. Since joining Giner, Inc. in 2019, he has designed stack hardware for several high pressure electrolyzer programs. He has extensive experience in building and designing test stands. He also has experience in automated spray processing of polymers, which will be used to coat the proposed prototypes.