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| **Researcher** | **Institution** | **Topic Area** | **Title of Effort** |
| Lizhen Lin | University of Notre Dame | Analysis, Inference and Control of Time-Varying Networks | Topological, Geometric and Statistical Foundations of Dynamic Networks |
| Paul Bogadan | University of Southern California | Analysis, Inference and Control of Time-Varying Networks | Data Driven Modeling Inference and Control of Complex Time Varying Networks A Statistical Physics Approach |
| Stefanie Jegelka | Massachusetts Instittute of Technology | Geometric Methods in Optimization | The Promise of Diversity: Geometry, Probability, Optimization and Machine Learning |
| Amir Ali Ahmadi | Princeton University | Geometric Methods in Optimization | Exploiting Geometry in the Design of Scalable Algebraic Relaxations for Nonconvex Polynomial Optimization |
| Mark Fuge | University of Maryland | Functional Mathematical Tools in Design | Topology and Synthesis of Design Manifolds |
| Ilija Zeljkovic | Boston College | Emergent Properties of Nano-engineered Materials | 3D Printing of Novel High-Temperature Superconductors |
| Vladimir Manucharyan | University of Maryland | Emergent Properties of Nano-engineered Materials | Multi-Terminal Semiconductor/Superconductor Hybrid Josephson Junctions |
| Maren Vitousek | Cornell University | How, When, and Why the Social Becomes the Biological | Uncovering the Mechanistic Links between Stressor Exposure, the Social Environment, and Future Performance |
| James Watson | Oregon State University | Characterizing Micro-Macro Dynamics in Social-like Systems | Comparing Micro-Macro Dynamics and Control Across Social-like Systems Using Equation-Free Modeling |
| Cong Trinh | The University of Tennessee | Rapid Countermeasure Discovery via Functional Evolution | ViPaRe (Virulent Pathogen Resistance): A Highly Adaptable Defense System Against Virulent Pathogens |
| Anushree Chatterjee | University of Colorado Boulder | Rapid Countermeasure Discovery via Functional Evolution | Developing Sequence Blocking Adaptable Therapeutic Strategy for Pathogen Targeting |
| Zongfu Yu | University of Wisconsin, Madison | Designing Metasurfaces Using Inverse Scattering Methods | Physics-guided Machine Learning for the Inverse Design of Metasurfaces |
| Howard (Ho Wai) Lee | Baylor University | Designing Structured Materials for Improved Parametric Processes | Ultrafast Nonlinear Epsilon-near-zero Optics in Active Conducting Oxide Metasurfaces |
| Zubin Jacob | Purdue University | Designing Structured Materials for Improved Parametric Processes | Reasonance Energy Transfer Model of No-Harmonic Light |
| Shelley Claridge | Purdue University | Synthesis of Three-dimensional Molecular Assemblies | Translating Molecular Assembly in the Cell Membrane to Nanoscopic Graphene Devices |
| Yaniv Erlich | Columbia University in the City of New York | DNA Encryption | Resistant and Scalable Storage Using Semi-synthetic DNA |
| Michael Smanski | University of Minnesota | Ecological Niche-preference Engineering | Engineering Reproductive Barriers to Accelerate Niche Differentiation |
| Andrew Nuss | University of Nevada, Reno | Ecological Niche-preference Engineering | Development of Strategies to Target Key Mosquito Host-seeking Factors Governing Human Host Preference |
| Liang Guo | The Ohio State University | Engineered Neurobiological Systems | Implantable, Programmable Integrated Cellular Circuits |
| Alexander Green | Arizona State University | Biopolymers on Demand | Artificial Ribosomes for Fully Programmable Synthesis of Nonribosomal Peptides |
| David Cook | Kansas State University | Novel Approaches to Reduce Agricultural Loss and Increase Crop Productivity | Transcriptome Engineering for Enhanced Agronomic Defense, Response and Performance |
| Mykel Kochenderfer | Stanford University | Life-Long Learning | Modular Representations and Coordination for Lifelong Learning |
| Mohit Bansal | The University of North Carolina at Chapel Hill | Life-Long Learning | Dynamically Revising Neural Networks via Commonsense and Conversational Feedback |
| Zico Kolter | Carnegie Mellon University | Online Machine Learning for Sequential Decision Making | Learning Optimization: Optimization in the Loop in Deep Learning Models |
| Jeffrey Nanzer | Michigan State University | Collaborative RF Systems | Open-Loop Coherent Distributed Arrays |
| Arun Natarajan | Oregon State University | Collaborative RF Systems | Collaborative mm-Wave Beamforming Relays with Self-Interference Cancellation for Simultaneous Transmission and Reception |
| Kurt Rohloff | New Jersey Institute of Technology | Improving Utilization of Open Source Software | MARSHAL: Modular Adaptive Reuse of Secure and High-performance Advanced Libraries |
| Kaushik Chowdhury | Northeastern University | Innovative SDR Uses | RAIDER: Reconfigurable and Application Independent DEsign for Radios |