

## DARPA Young Faculty Awardees

### Class of 2016

Researcher	Institution	City	State	Topic Area	Title of Effort
Ahmad S. Khalil	Trustees of Boston University	Boston	MA	Gene Therapy Technology and Tools	Advanced Genetic Control for Gene Therapy Using Synthetic Biology
Alon A. Gorodetsky	University of California, Irvine	Irvine	CA	“Smart” Fabrics for Soldier Health	Reconfigurable Cephalopod-Inspired Smart Materials for Soldier Health
Amin Karbasi	Yale University	New Haven	CT	System and Method to Decode Human Intent	Efficient Learning of Human Intent from Observations
Casper Hartevelde	Northeastern University	Boston	MA	The Science of Individualized Gamification	Personalized and Crowdsourced Scenario Generation
Dae Hyun Kim	Washington State University	Pullman	WA	Monolithic, Integrated 3D Integrated Circuits	Design of High-Performance Multi-Tier Monolithic 3D Microarchitecture
Emilio Ferrara	University of Southern California Information Sciences Institute (USC ISI)	Los Angeles	CA	The Science of Individualized Gamification	Modeling Individual Trajectories and Incentives in Gamified Techno-social Environments
Fang Huang	Purdue University	West Lafayette	IN	Advancing Live Cell Super-Resolution Imaging	3D Super-resolution Imaging of Intact Animals
Hanna Cho	Ohio State University	Columbus	OH	Exploiting Nonlinearity in MEMS	Tailoring structural nonlinearity to manipulate mechanical resonances
Imre (Risi) Kondor	University of Chicago	Chicago	IL	Machine Learning and Many-Body Physics	Multiresolution Machine Learning for Molecular Modeling

Jacob Adams	North Carolina State University	Raleigh	NC	Wideband Transmitter-Antenna Interfaces	Modeling and Characterization of Wideband Communications Via Narrowband Channels Using Direct Modulation
James Boedicker	University of Southern California	Los Angeles	CA	Characterizing the Performance Envelope of Emergent Behavior	Robustness of collective behavior in heterogeneous microbial networks
James Manimala	Oklahoma State University	Stillwater	OK	Exploiting Nonlinearity in MEMS	Metamaterials-Inspired Nonlinear and Inertant MEMS Devices
Jennifer Kitchen	Arizona State University	Phoenix	AZ	Wideband Transmitter-Antenna Interfaces	Hybrid Silicon/GaN-Based Digital Transmitter Hardware for Realizing Wideband Transmitter-to-Antenna Interfaces
Jing (Jane) Li	University of Wisconsin - Madison	Madison	WI	Monolithic, Integrated 3D Integrated Circuits	Liquid Silicon: A New Computing Paradigm Enabled by Monolithic 3D cross-point memory
Kathryn A. Whitehead	Carnegie Mellon University	Pittsburgh	PA	Gene Therapy Technology and Tools	Next Generation mRNA Delivery Systems with Precise Spatial and Temporal Activity
Matthew Hirn	Michigan State University	East Lansing	MI	Machine Learning and Many-Body Physics	Deep Wavelet Scattering for Quantum Many Body Physics
Nicholas G. Reich	University of Massachusetts, Amherst	Amherst	MA	Multi-Scale Models of Infectious Diseases Dynamics	Optimal Infectious Disease Prediction with Multi-Scale Ensemble Models
Raina Plowright	Montana State University	Bozeman	MT	Multi-Scale Models of Infectious Diseases Dynamics	Modeling Pathways to Zoonotic Spillover

Rebecca Schulman	Johns Hopkins University	Baltimore	MD	Nanofluidics for Biotic-Abiotic Interfaces	Self-Targeting Biotic-Abiotic Interfaces
Samira Kiani	Arizona State University	Phoenix	AZ	Gene Therapy Technology and Tools	Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)-based synthetic genetic circuits as next generation gene therapy of inner ear
Shu Jia	Stony Brook University, State University of New York	Stony Brook	NY	Advancing Live Cell Super-Resolution Imaging	Wavefront-Engineered, High-Speed Super-Resolution Microscopy for Nanometer-Scale, Live-Tissue Imaging
Stephen Techtmann	Michigan Technological University	Houghton	MI	Microbiomes for Maritime Provenance	Bilge Water Microbiomes as Biosignatures of Maritime Provenance
Suchi Saria	Johns Hopkins University	Baltimore	MD	System and Method to Decode Human Intent	Continuous Learning of (Causal) Models from Streams
Sumeet Kumar Gupta	Pennsylvania State University	State College	PA	Sticky Logic	Ultra-Low Power Non-Volatile Processors Enabled by Ferroelectric Transistors
T. Alex Perkins	University of Notre Dame	Notre Dame	IN	Multi-Scale Models of Infectious Diseases Dynamics	Bridging Gaps Across Multiple Spatial Scales for Models of Mosquito-Borne Viral Disease Dynamics
Xiang Cheng	University of Minnesota	Minneapolis	MN	Characterizing the Performance Envelope of Emergent Behavior	Studying the emergent collective flows of active fluids using engineered bacterial strains
Zhimin Xi	University of Tennessee, Knoxville	Knoxville	TN	Accuracy and Uncertainty in Design: How Sloppy Can We Be?	New Theory in Model-Based Design: A Design Foundation Driven by Probability of Design Errors