Foundations of Nanoscience 22-25 April 2024 Snowbird, Utah

Sunday April 21

3:00-5:00 & 7:00-8:00 REGISTRATION (Ballroom 1 Lobby)

Monday April 22

7:45-8:45 AM Continental Breakfast & REGISTRATION (Ballroom 1 Lobby)

8:45-8:55 Introduction: John Reif, Conference Chair and Andrew Turberfield, Programme Chair (Ballroom 1)

Track on DNA Nanostructures: Semantomorphic Science I. Track Chair: Hao Yan, Arizona State University

8:55-9:35 AM	Keynote	Do-Nyun Kim	Department of Mechanical Engineering, Seoul National University, Republic of Korea	Design strategies for reconfigurable DNA origami
9:35-9:55 AM	Contributed	Fei Zhang	Department of Chemistry, Rutgers University - Newark, USA	Engineering Assemblies and Dynamic Structures with DNA and RNA
9:55-10:20 AM	Invited	Shawn Douglas	Department of Cellular and Molecular Pharmacology, University of California, San Francisco, USA	Thermodynamic optimization of staple routing improves DNA origami folding accuracy

10:20-11:30 AM Refreshments and Poster Session (Primrose Room)

Posters Track on DNA Nanostructures: Semantomorphic Science A	Poster	Feng Zhou, Heng Ni, Guolong Zhu, Lev Bershadsky, Ruojie Sha, Nadrian Seeman and Paul Chaikin	Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Science, China	Toward three-dimensional DNA industrial nanorobots
	Poster	Liangxiao Chen, Aleksandra Petrova, Hao Yan, Peng Yin and Di Liu	School of Molecular Science, Arizona State University, USA	dsRNA Bricks: Complex Self-Assembled RNA Nanostructures of More than 100 Unique Components
	Poster	Jonathan F. Berengut, Willi R. Berg, Felix J. Rizzuto and Lawrence K. Lee	School of Biomedical Sciences, University of New South Wales, Australia	Passivating blunt-ended helices to control monodispersity and multi-subunit assembly of DNA origami structures
	Poster	Chufan Yang, Ruojie Sha and James Canary	Department of Chemistry, New York University, USA	Controlled synthesis of DNA-GNR conjugates and guided assembly of GNR incorporated DNA nanostructures
	Poster	Nicolas Triomphe, Ludwig Rotsen, Allan Mills, Joséphine Lai-Kee-Him, Aurélie Ancelin, Guido Rademaker, Raluca Tiron and Gaëtan Bellot	Centre de Biologie Structurale, INSERM, CNRS, University of Montpellier, France	2D self-assembly of shape-complementary DNA origamis for lithographic applications
	Poster	Enya Engström, Georges Kiriako, David F Bonet, Joel Spratt, Elena Ambrosetti, Ian T Hoffecker and Ana I Teixeira	Department of Physiology and Pharmacology, Karolinska Institute, Stockholm, Sweden	NanoSiTE: Characterization of Site-Occupancy in Functionalized Nanostructures through Combinatorial Barcoding
	Poster	Longfei Liu, Eason Cao, Kun Zhou, Chunxiang Wu, Yong Xiong and Chenxiang Lin	Department of Cell Biology and Nanobiology Institute, Yale University, USA	Controlling membrane tension by dilatable DNA nanorings
Posters Track on Principles and Theory of Self-Assembly	Poster	Casey Platnich and Ulrich Keyser	Cavendish Laboratory, University of Cambridge, UK	Single-molecule nanopore sensing enables optimized assembly of DNA/RNA hybrid nanostructures
	Poster	Eshana Bethur and Stacy Copp	Department of Materials Science and Engineering, University of California-Irvine, USA	Silver-mediated DNA base pairing: uncovering solution-phase self-assembly and nanomechanical properties
	Poster	Sarah Youssef, Thomas Swope, Thorsten-Lars Schmidt and Diana Goncalves	Department of Chemistry and Biochemistry, Kent State University, USA	Hairygami Re-Visited, Overhangs and Intrinsic Curvature in Flat origami
	Poster	Muhammad Ghufran Rafique, Yihao Wu, Quentin Laurent, Abelrahman Elmanzalawy, Dmytro Perepichka and Hanadi Sleiman	McGill University, Canada	Complex donuts: subtle modifications to DNA sequence dictate pathway complexity in supramolecular DNA toroids
	Poster	Stefan Zauscher, Gaurav Arya and Yonggang Ke	Mechanical Engineering and Materials Science, Duke University, USA	Mesoscale Assembly and Silicification of DNA Origami through Controlled Growth of Polynucleotide Brush Patches

Track on Principles and Theory of Self-Assembly. Track Chair: Rebecca Schulman, Johns Hopkins University

11:30-12:10 PM	Keynote	Lakshminarayanan Mahadevan	Harvard University, USA	Macromolecular assemblies: growth, form and dynamics
12:10-12:30 PM	Contributed	Karuna Skipper and Shelley Wickham	School of Chemistry, University of Sydney, Australia	Core-shell architecture in DNA nanostar droplets
12:30-12:55 PM	Invited	Evelyn Tang	Center for Theoretical Biological Physics and Department of Physics, Rice University, USA	A topological mechanism for robust and targeted function in biological networks

12:55-2:00 PM Lunch (Golden Cliff Room - Meal Ticket Required)

Sponsor Presentation - Parabon Nano-Labs				
2:00-2:10 PM		Steven L Armentrout	Parabon Nano-Labs	inSēquio: A Programmable 3D CAD Application for Designing DNA Nanostructures
Track on Chemical Tools for DNA Nanotechnology. Track Chair: Andrew Ellington, University of Texas at Austin				
2:10-2:50 PM	Keynote	Allen Liu	Department of Mechanical Engineering, University of Michigan, USA	Building Synthetic Cells: From Actin Assembly to Membrane Fusion
2:50-3:15 PM	Invited	Ahmed Sihorwala, Alexander Lin and Brian Belardi	McKetta Department of Chemical Engineering, University of Texas at Austin, USA	Synthetic Communication Networks via Engineered Nanopores
3:15-3:35 PM	Contributed	Felix Rizzuto, Willi Berg, Laura Wimberger and Jonathon Beves	School of Chemistry, University of New South Wales, Australia	Photo-control of DNA assemblies through time and space
3:35-4:45 PM Refreshments and Poster Session (Primrose Room)				
Posters Track on Chemical Tools for DNA Nanotechnology	Poster	Rweetuparna Guha and Stacy Marla Copp	Department of Materials Science and Engineering, University of California, Irvine, USA	Elucidating the structure-property relationships of chiral DNAstabilized silver nanoclusters
	Poster	Arlin Rodriguez, Bharath Raj Madhanagopal, Johnsi Mathivanan and Arun Richard Chandrasekaran	The RNA Institute, University at Albany, USA	Isothermal self-assembly of DNA nanostructures in different cations
	Poster	Yichen Li, Sierra Sterling, Yonggang Ke and Tao Ye	Materials and Biomaterials Science and Engineering, University of California, Merced, USA	DNA Origami Placement on Nanopatterned Self-assembled Monolayers
Posters Track on Protein and Viral Nanostructures	Poster	Paige Pistono, Matthew Francis, Paul Huang, Junyi Xu and Jenny Fetzer	Department of Chemistry, UC Berkeley, USA	Engineered control of virus-like particle structure and stability via intersubunit interface mutations
	Poster	Iris Seitz, Mauri Kostiainen and Juha T. Huiskonen	Department of Bioproducts and Biosystems, Aalto University, Finland	DNA origami directed virus capsid polymorphism
	Poster	Laureen Moreaud, Sébastien Viollet, Jessalyn Miller, Janak Prasad, Franck Artzner, Agathe Urvoas, Marie Valerio-Lepiniec, Philippe Minard and Erik Dujardin	Interdisciplinary Laboratory Carnot Bougogne, CNRS, University of Burgundy, Dijon, France	Directed evolution of artificial repeat proteins for bionanomaterial science: Protein origami and nanocrystal growth directors.
	Poster	Isaiah Shriner and Aaron Schmidt	Biological and Biomedical Sciences Program, Harvard Medical School, USA	Engineering Trojan Horse Nanoparticles for Targeted Endosomal Delivery of Viral Fusion Inhibitors
	Poster	Zhongchao Zhao and Nicole Steinmetz	Department of NanoEngineering, UC San Diego, USA	Co-delivery of Tumor Antigens from Cell Lysates with Adjuvant Cowpea Mosaic Virus for Ovarian Cancer Treatment
	Poster	Bryan Duoto and Nicole Steinmetz	Dept of NanoEngineering, UC San Diego, USA	Nucleic acids meet plant viruses: from assembly to gene delivery
Posters Track on DNA Nanostructures: Semantomorphic Science B	Poster	Siyuan Stella Wang, Jaewon Lee and William Shih	Wyss Institute, Harvard Medical School, USA	Solid phase, user-friendly assembly of micrometer hierarchical DNA origami structures
	Poster	Sonji Kurishita, Rafael Carrascosa Marzo, Erik Benson, Tamara Bojanic, Jonathan Bath and Andrew Turberfield	Department of Physics, University of Oxford, UK	A DNA molecular printer capable of printing on a glass surface
	Poster	Kalven Bonin, Yuchen Wang, Ralf Bundschuh, Carlos E. Castro and Michael Poirier	Department of Physics, Ohio State University, USA	DNA Based Nanodevices for Understanding Eukaryotic Epigenomes
Track on Protein and Viral Nanostructures. Track Chair: Nicole Steinmetz, University of California San Diego				
4:45-5:25 PM	Keynote	Rees Garmann	Department of Chemistry and Biochemistry, San Diego State University, USA	Self-assembly, genome packaging, and structure-based discovery of RNA phages
5:25-5:50 PM	Invited	Bogdan Dragnea	Department of Chemistry, Indiana University Bloomington, USA	On the Link between Molecular Mechanics and Photonics in Super-radiant Virus-like Particles
5:50-6:10 PM	Contributed	Bin Liu, Hung Nguyen and Jeremiah Johnson	Massachusetts Institute of Technology, USA	Antibody Bottlebrush Conjugates (ABCs): A New Platform for Targeted Delivery
6:15 PM Track Chairs' Meeting (Twin Peaks Room)				
Dinner (On Your Own)				

Tuesday April 23				
7:45-8:30 AM Continental Breakfast (Ballroom 1 Lobby)				
Track on Synthetic Biology. Track Chair: Alex Deiters, University of Pittsburgh				
8:30-8:55 AM	Invited	Andrej Luptak	Department of Pharmaceutical Sciences, UC Irvine, USA	Illuminating the RNA world
8:55-9:20 AM	Invited	Ryan Potts	Department of Discovery Technology Platforms, Amgen Research, USA	Next generation drug discovery: Induced proximity medicines
9:20-9:40 AM	Contributed	Abhay Prasad, Rong Zheng, Deeksha Satyabola, Yang Xu and Hao Yan	Molecular Design and Biomimetics, School of Molecular Sciences, Arizona State University, USA	DTAC: DNA-based Proteolysis Targeting Chimera
9:40-10:05 AM	Invited	Abhishek Chatterjee	Department of Chemistry, Boston College, USA	Virus-assisted directed evolution and deep mutation profiling in mammalian cells
10:05-11:15 AM Refreshments and Poster Session (Primrose Room)				
Posters Track on Synthetic Biology	Poster	Roee Amit	Department of Biotechnology and Food Engineering, Technion - Israel Institute of Technology, Haifa, Israel	Synthetic capacitor-like RNA and protein biocondensate facilitate a variety of biotechnological and therapeutic applications
	Poster	Konlin Shen, Jake Flood, Zihuizi Zhang, Alvin Ha, Brian Shy, John Dueber and Shawn Douglas	Department of Cellular and Molecular Pharmacology, UCSF, USA	eScaf: an engineered Escherichia coli strain for scalable production of long single-stranded DNA
	Poster	Parker Jackson, Michael Reed and Reza Zadegan	Department of Nanoengineering, Joint School of Nanoscience and Nanoengineering, NC A&T State University, USA	Robust Bio-Secure DNA Based Memory
Posters Track on DNA Nanosystems: Programmed Function A	Poster	Alireza Ebrahimimojarad and Jinglin Fu	Center for Computational and Integrative Biology, Rutgers University–Camden, USA	Engineering of sigmoidal enzyme reaction kinetics on DNA origami by the modulation of local substrate binding
	Poster	Maja Illig, Kevin Jahnke, Lukas P. Weise, Stefan Diez, Jan Kierfeld and Kerstin Göpfrich	Center for Molecular Biology, Heidelberg University, Germany	Triggered contraction of self-assembled micron-scale DNA nanotube rings
	Poster	Anirudh Madhvacharyula, Ruixin Li, Alexander Swett, Friedrich Simmel and Jong Hyun Choi	School of Mechanical Engineering, Purdue University, USA	Free Energy Profiles of Geometrically Frustrated DNA Origami
	Poster	Michael Tobiason, Bernard Yurke and William Hughes	Department of Computer Science, Boise State University, USA	Generation of DNA oligomers with similar chemical kinetics via in-silico optimization
	Poster	Ieva Berzina and Björn Högberg	Department of Medical Biochemistry and Biophysics, Karolinska Institutet, Sweden	Employing DNA origami to elucidate protein structure and function using cryo-EM
	Poster	Mengying Deng, Yanqi Jiang, Yiwen Jin, Alison Grinthal and Rebecca Schulman	Institute for NanoBioTechnology, Johns Hopkins University, USA	Microscale DNA Tethers Can Connect Cells Separated by Large Distances
	Poster	Eryk Ratajczyk, Jonathan Bath, Petr Sulc, Andrew Turberfield, Jonathan Doye and Ard Louis	Department of Physics, University of Oxford, UK	Coarse-grained modelling of DNA-RNA hybrids
	Poster	Shibani Basu, Simon Roy, German Barcenas, Lan Li, Bernard Yurke, William Knowlton and Jeunghoon Lee	Micron School of Materials Science and Engineering Science and Technology, Boise State University, USA	Enhancing Interstrand Thymine Photo-crosslinking Efficiency in DNA-Templated Dye Aggregates through the Use of Shorter Linkers
Track on DNA Nanosystems: Programmed Function I. Track Chair: Friedrich Simmel, Technical University Munich				
11:15-11:55 AM	Keynote	Mark Bathe	Department of Biological Engineering, MIT, USA	A Tale of 2 Strands: From Genomes to Origami, Vaccines, Data Storage, and Back
11:55-12:15 PM	Contributed	Erik Poppleton, Alessandra Griffo, Tim Karrasch, Vanessa Huth, Emil Kristoffersen, Ebbe Andersen, Frauke Gräter and Kerstin Göpfrich	Center for Molecular Biology (ZMBH), Heidelberg University, Germany	Single-stranded RNA nanopores without chemical functionalization
12:15-12:40 PM	Invited	Gaurav Arya	Department of Mechanical Engineering and Materials Science, Duke University, USA	Higher-order assembly of DNA origami: new strategies, new functions
12:40-1:50 PM Lunch (Golden Cliff Room - Meal Ticket Required)				

Track on Integrated Chemical Systems. Track Chair: Jeremiah Gassensmith, University of Texas at Dallas				
1:50-2:20 PM	Keynote	Suzie Pun	University of Washington, USA	Integrated Chemical Systems for Cancer Immunotherapy Applications
2:30-2:55 PM	Invited	Juan Vivero-Escoto	Department of Chemistry, University of North Carolina Charlotte, USA	Multifunctional mesoporous silica nanoparticles for cancer treatment
2:55-3:15 PM	Contributed	Adam Urbach	Department of Chemistry, Trinity University, USA	Sequence-Based Recognition of Peptides and Proteins for Programmable Assembly
3:15-4:25 PM Refreshments and Poster Session (Primrose Room)				
Posters Track on Integrated Chemical Systems	Poster	Orikeda Trashi, Neha Satish, Ikeda Trashi, Laurel Hagge, Yalini Wijesundara, Connie Hu and Jeremiah Gassensmith	Chemistry and Biochemistry, University of Texas at Dallas, USA	Carrier Gas Triggered Controlled Biolistic Delivery of DNA and Protein Therapeutics from Metal-Organic Frameworks
	Poster	Drew Lysne, Sebastian Diaz, Chris Green, Jeunghoon Lee and Elton Graugnard	Center for Bio/Molecular Science and Engineering, U.S. Naval Research Laboratory, USA	The Influence of Steric Hindrance in Nanotechnological Devices and Processes
	Poster	Brian Ee, Zhong Guo, Patricia Walden, Richard Morris, Kirill Alexandrov and Lawrence Lee	Department of Molecular Medicine, University of New South Wales, Australia.	Signal amplification of biosensors through DNA-scaffolded assembly
	Poster	Nathan Oldenhuis, Wynter Paiva, Shaina Hughes, Aylin Aykanat and Nick Pierini	University of New Hampshire, USA	Leveraging DNA Intercalation to Tune Bulk Properties of Supramolecular Hydrogels
Posters Track on DNA Nanostructures: Semantomorphic Science C	Poster	Jacob Majikes, Ruohong Shi and Arvind Balijepalli	National Institute of Standards and Technology, USA	Electrochemical Impedance Spectroscopy of a DNA Origami Hinge
	Poster	Cheetar Lee, Yehan Zhang and Tao Ye	Department of Chemistry and Biochemistry, University of California-Merced, USA	DNA origami cage assembled nanoparticles
	Poster	Johann Moritz Weck and Amelie Heuer-Jungemann	DNA Nanohybridmaterials Group, Deparment for molecular Medicine, Max-Planck Institut for Biochemistry, Germany	Fully addressable, designer superstructures assembled from a single modular DNA origami
	Poster	Thorsten L Schmidt, Soumya Chandrasekhar, Thomas Swope, Fatemeh Fadaei, Daniel Hollis, Rachel Bricker and John Portman	Department of Physics, Kent State University, USA	oxDNA Simulations of Nicked Minicircles
	Poster	Simon Vecchioni, Brandon Lu, Karol Woloszyn, Yoel Ohayon, Chengde Mao, Chu-Fan Yang, James Canary and Ruojie Sha	Department of Chemistry, New York University, USA	Metal-Mediated Molecular Electronics in DNA: A Use Case for Semantomorphic Crystals
	Poster	Christoph Karfusehr, Markus Eder and Friedrich C. Simmel	Department of Bioscience, Technical University Munich, Germany	Self-assembled cell-scale containers made from DNA origami membranes
	Poster	Karol Woloszyn, Simon Vecchioni, Jordan Janowski, Brandon Lu, Yoel Ohayon, Chengde Mao, James Canary and Ruojie Sha	Department of Chemistry, New York University, USA	Rational Design and Engineering of Complex 3D DNA Tensegrity Triangle Variants
	Poster	Madhanagopal Bharath Raj, Hannah Talbot, Arlin Rodriguez, Jiss Maria Louis, Hana Zeghal, Sweta Vangaveti, Kaalak Reddy and Arun Richard	The RNA Institute, University at Albany, State University of New York, USA	Switchback DNA: A tale of two duplexes
Track on DNA Nanostructures: Semantomorphic Science II. Track Chair: Hao Yan, Arizona State University				
4:25-4:50 PM	Invited	Thorsten L Schmidt, Soumya Chandrasekhar, Thomas Swope, Fatemeh Fadaei, Daniel Hollis, Rachel Bricker and John Portman	Department of Physics, Kent State University, USA	Bending Unwinds DNA
4:50-5:15 PM	Invited	Laura Liu	2nd Physics Institute, University of Stuttgart, Germany	Functional DNA nanotechnology for cell mimics
5:15-5:35 PM	Contributed	Julie Finkel, Nicolas Levy, Allan Mills, Nicolas Schabanel and Gaetan Bellot	Center for Structural Biology, National Institute of Health and Medical Research, France	DNA origami self-assembly with complex curved surfaces defined in 3D space
5:35-7:30 PM Refreshments and Combined Poster Session ... all Monday and Tuesday posters (Primrose Room)				
7:30-8:30 PM ISNSCE Ned Seeman Nanoscience Prize (Ballroom 1)				

Wednesday April 24				
7:45-8:30 AM Continental Breakfast (Ballroom 1 Lobby)				
Track on Nanophotonics and Superresolution. Track Chair: Ralf Jungmann, Max Planck Institute for Biochemistry				
8:30-9:10 AM	Keynote	Tim Liedl	Faculty of Phsysics, LMU Munich, Germany	DNA-assembly for photonics, plasmonics and biosensing
9:10-9:30 AM	Contributed	Niklas Hansen, Jakub Čopák, David Roesel, Petr Cígler and Vladimíra Petráková	Department of Biophysical Chemistry, J. Heyrovsky Institute of Physical Chemistry, Czechia	Building a DNA-based platform for studying the interactions between plasmonic nanoparticles and fluorescent nanodiamonds
9:30-9:55 AM	Invited	Tim Schröder, Alan M. Szalai, Giovanni Ferrari, Lars Richter, Izabela Kamińska, Jonas Zahringer, Fiona Cole, Sebastian Bange, Jakob Hartmann, Merve-Zeynep Kesici, Bosong Ji, Kush Coshic, Annika Jaeger, Aleksei Aksimentiev, Ingrid Tessmer, Florian Steiner, Philip Wutz, Andrés M. Vera, John Lupton, Jan Vogelsang and Philip Tinnefeld	Department of Chemistry and Center for NanoScience, Ludwig-Maximilians-Universität Munich, Germany	Energy transfer process controlled by DNA
9:55-10:20 AM	Invited	Mingjie Dai	Rice University, Department of Bioengineering, Houston, TX, USA	Programmable DNA-based Super-Resolution Microscopy for Spatial and Single-Molecule Proteomics
10:20-11:30 AM Refreshments and Poster Session (Primrose Room)				
Posters Track on Nanophotonics and Superresolution	Poster	Khalilullah Umar, Niklas Hansen, Zbigniew Zawada and Vladimíra Petráková	Department of Biophysical Chemistry, Jaroslav Heyrovsky Institute of Physical Chemistry, Czech Republic.	Single molecule localization microscopy imaging with fluorescent gold nanoclusters
	Poster	Sara Ansteatt, Adam Meares, Sebastian Diaz, Paul Cunningham, Young Kim, Igor Medintz and Joseph Melinger	U.S. Naval Research Laboratory, Washington, DC, USA	Variable-Length Chemical Linkers as a Tool for Controlling Relative Dye Orientation on DNA Scaffolds
	Poster	Matthew Barclay, Paul Cunningham, William Knowlton, Bernard Yurke, Ryan Pensack, Igor Medintz, Joseph Melinger and Daniel Turner	Boise State University, USA	Signatures of Exciton Relaxation Dynamics in DNA-Assembled Molecular Dimers Measured with Two-Dimensional Electronic Spectroscopy
	Poster	Nicholas Wright, Matthew Barclay, Sebastian Diaz, Igor Medintz, Joseph Melinger, William Knowlton, Bernard Yurke, Paul Davis, Ryan Pensack and Daniel Turner	Micron School of Material Science and Engineering, Boise State University, USA	Probing homogeneous and inhomogeneous broadening in DNA-templated cyanine heteroaggregates using two-dimensional electronic spectroscopy
	Poster	Micheal Brandon Reed and Reza Zadegan	Department of Nanoengineering, Joint School of Nanoscience and Nanoengineering, NC A&T State University, USA	Towards Sequence Parameterized Simulations of DNA-PAINT
	Poster	Jacob Hastings, David Neff and Michael Norton	Department of Chemistry, Marshall University, USA	Decoupling sphere diameter and binding site size in microsphere/nanosphere lithography
Posters Track on DNA Nanosystems: Programmed Function B	Poster	Sarah Speed, Krishna Gupta, Yu-Hsuan Peng and Elisha Krieg	Institute for Biofunctional Polymers, Leibniz Institute for Polymer Research Dresden, Germany	Programmable capture of diverse biomolecules on a DNA-functionalized polymer
	Poster	Xu Zhou and Jeffrey Martell	Department of Chemistry, University of Wisconsin−Madison, USA	Switchable DNA Catalysts for the Detection of Intercellular Protein−Protein Interactions
	Poster	Patrick Irmisch, Naveen Kumar and Ralf Seidel	Peter Debye Institute for Soft Matter Physics, University of Leipzig, Germany	Strand displacement reactions beyond room temperature
	Poster	Emily Tsang, Annelies Dillen, Claudia Scarpellini, Jeroen Lammertyn and Kurt Gothelf	Interdisciplinary Nanoscience Center (iNANO), Aarhus University, Denmark	DNA Origami-gold Nanostructures for Enhancing Sensitivity in Fiber-optic Surface Plasmon Resonance Biosensors
	Poster	Peter Beshay, Zachary Osborn-King, Marissa Kruse, Jordin Marshall, Jordan Rife, Jonathan Song, Benjamin Walter and Carlos Castro	Department of Mechanical and Aerospace Engineering, The Ohio State University, USA	Probing and Controlling the Sensitivity of a Dynamic DNA Origami Device to Multiple Stimuli
	Poster	Ranjan Sasmal, Gde Bimananda Mahardika Wisna and Rizal Hariadi	Center for Molecular Design and Biomimetics at the Biodesign Institute, Arizona State University, USA	Gated transport of DNA nanostructures across lipid membranes by amphiphilic DNA hairpins
	Poster	Daniel Duke, Marcello DeLuca, Tao Ye, Michael Poirier, Yonggang Ke, Carlos Castro and Gaurav Arya	Thomas Lord Department of Mechanical Engineering and Materials Science, Duke University, USA	Illuminating the mechanism of DNA origami folding with a new mesoscopic model
Track on DNA Nanosystems: Programmed Function II. Track Chair: Friedrich Simmel, Technical University Munich				
11:30-11:55 PM	Invited	Irina V. Martynenko	Faculty of Physics, Ludwig Maximilian University of Munich, Germany	Site-directed placement of three-dimensional DNA origami
11:55-12:15 PM	Contributed	Wolfgang Pfeifer, Diana Lopez, Daniel Duke, Gaurav Arya, Michael Poirier and Carlos Castro	Department of Mechanical and Aerospace Engineering, The Ohio State University, USA	Cryptic binding sites for polymorphic materials self-assembly
12:15-12:35 PM	Contributed	Hannah Talbot, Arun Richard Chandrasekaran and Ken Halvorsen	RNA Institute, University at Albany, USA	Data storage and encryption using a 5-bit DNA nanoswitch library
12:35-1:45 PM Lunch (Golden Cliff Room - Meal Ticket Required)				

Track on Molecular Machinery. Track Chair: Andrew Turberfield, University of Oxford				
1:45-2:25 PM	Keynote	Alexis Courbet	Department of Biochemistry, Institute for Protein Design, University of Washington, USA	AI based design of genetically encodable nanomachines
2:25-2:45 PM	Contributed	Jeffrey Martell	Department of Chemistry, University of Wisconsin-Madison, USA	DNA Nanoscaffolds to Enhance Synthetic Catalysis
2:45-3:10 PM	Invited	Xin Shi	Department of Chemistry, KU Leuven, Belgium	Nanopore-powered DNA turbines: towards bio-inspired nanorobotics
Community Update - Molecular Programming Society				
3:10-3:20 PM		Jacob Majikes	Molecular Programming Society	Textbook project: "The Art of Molecular Programming"
3:20-4:30 PM Refreshments and Poster Session (Primrose Room)				
Posters Track on Molecular Machinery	Poster	Jing Huang and Barbara Saccà	Bionanotechnology, CENIDE and ZMB, University of Duisburg-Essen, Germany	A Modular DNA Origami Model of an Unfolding-Assisted Protease Machine
	Poster	Soumya Chandrasekhar, Thorsten L Schmidt, Christopher Maffeo and Aleksei Aksimentiev	Department of Physics, Kent State University, USA	Polyethylene glycol-modified DNA-based nanodiscs for incorporation and characterization of membrane proteins
Posters Track on Biomedical Nanotechnology A	Poster	Dhiraj Bhatia	Department of Biological Sciences and Engineering, Indian Institute of Technology Gandhinagar, India	DNA based programmable nanodevices to instruct biological systems
	Poster	Matthew Aquilina, Gerrit Wilkens, Martin Singleton, Artur Biela, Leoni Abendstein, Thomas Sharp, Antonia Mey, Jonathan Heddle and Katherine Dunn	Department of Cancer Biology, Dana-Farber Cancer Institute, USA	DNA Origami Affinity Zones: A Customisable Testbed for Multivalent Interactions
	Poster	Swathi Manda, Le Luo, Yunjeong Park, Busra Demir, Ersin Emre-Oren, Anantram M.P., Marco Rolandi and Ashwin Gopinath	Department of Mechanical Engineering, Massachusetts Institute of Technology, USA	DNA nanopores as artificial membrane channels for bioprotonics
	Poster	Kensuke Osada	Department of Molecular Imaging and Theranostics, Institute for Quantum Medical Science, National Institutes for Quantum Science and Technology (QST), Japan	Polymer-regulated pDNA nanoarchitectures expressing virus functions and challenges to cancer therapy
	Poster	Ruohong Shi, Jacob Majikes and Arvind Balijepalli	Microsystems and Nanotechnology Division, National Institute of Standards and Technology, USA	Investigating the Effects Ionic Strength on the Electric Response of DNA Nanostructures
Posters Track on DNA Nanostructures: Semantomorphic Science D	Poster	Curt LaRock, Paul Sorensen, Douglas Blair, Dabrien Murphy, James O'Connor and Steven Armentrout	Parabon NanoLabs, USA	inSequio: A Programmable 3D CAD Application for Designing DNA Nanostructures
	Poster	Eason Cao, Qingzhou Feng and Chenxiang Lin	Department of Cell Biology and Nanobiology institute, Yale University, USA	Modeling the collective behavior of FG-Nups in the nuclear pore complex by dynamic DNA nano-rings
	Poster	Teng Teng, Julio Bernal-Chanchavac, Nicholas Stephanopoulos, Wolfgang Pfeifer, Barbara Sacca and Carlos Castro	Department of Mechanical and Aerospace Engineering, The Ohio State University, USA	Controlling higher order DNA origami assembly with peptide patterns and tunable mechanical properties
	Poster	Hao Liu, Michael Matthies, Thong Diep, Matthew Sample, Diogo Pinto, John Russo, Hao Yan and Petr Sulc	Center for Molecular Design and Biomimetics at the Biodesign Institute, Arizona State University, USA	Modeling driven synthesis of DNA origami superlattice and complex finite-size structures
	Poster	Yusuke Sakai, Joanna Markiewicz, Martyna Adamiak, Dmitry Ghilarov, Piotr Stepien and Jonathan G Heddle	Malopolska Centre of Biotehcnology, Jagiellonian University, Poland	Dimeric DNA origami nanocapsules for controllable cargo accessibility
Track on Biomedical Nanotechnology I. Track Chair: Thom LaBean, North Carolina State University				
4:30-4:55 PM	Invited	Sarah Youssef, Emily Tsang, Anirban Samanta, Vipin Kumar and Kurt Gothelf	Interdisciplinary Nano science centre (iNANO)- Aarhus University-Denmark	Reversible Protection and Targeted Delivery of DNA Origami with a Disulfide-Containing Cationic Polymer
4:55-5:15 PM	Contributed	Jinglin Fu, Alireza Ebrahimimojarad, Zhicheng Wang and Qiaochu Zhang	Department of Chemistry, Rutgers University Camden, USA	Biomimetic Nanosystems by Spatial Organization of Protein Components on DNA nanostructures
5:15-5:35 PM	Contributed	Xinyi Tu, Hao Yan, Di Liu, Liangxiao Chen and Aleksandra Petrova	Center for Molecular Design and Biomimetics at Biodesign Institute, Arizona State University, USA	Base modifications eliminate the innate immunogenicity of single-stranded RNA origami
5:35-7:30 PM Refreshments and Combined Poster Session ... all Wedesday and Thursday posters (Primrose Room)				
7:30-7:50 PM ISNSCE Business Meeting (Ballroom 1)				
7:50-8:20 PM Robert Dirks Prize Address (Ballroom 1)				

Thursday April 25				
7:45-8:30 AM Continental Breakfast (Ballroom 1 Lobby)				
Track on Nucleic Acid Nanostructures In Vivo. Track Chair: Björn Högberg, Karolinska Institutet				
8:30-9:10 AM	Keynote	Ana Teixeira	Department of Physiology and Pharmacology, Karolinska Institute, Sweden	DNA-origami nanostructures in zebrafish embryos
9:10-9:30 AM	Contributed	Yang Wang and Björn Högberg	Department of Immunology, Harvard Medical School, USA	A DNA-Based Robotic Device Exhibiting Controlled and Autonomous Presentation of Nano-patterned Cytotoxic Ligands in vivo
9:30-9:50 AM	Contributed	Abhichart Krissanaprasit and Thom LaBean	Materials Science & Engineering Department, North Carolina State University, USA	In vivo Testing and Commercial Development of an RNA-Origami Direct Thrombin Inhibitor Anticoagulant and Reversal Agent
9:50-10:15 AM	Invited	Joshua Weinstein and Nianchao Qian	Department of Medicine and Pritzker School of Molecular Engineering, University of Chicago, USA	DNA microscopy in two and three dimensions
10:15-10:55 AM Refreshments and Poster Session (Primrose Room)				
Poster Track on Nucleic Acid Nanostructures In Vivo	Poster	Tyler Brown, Jathavan Asohan, Daniel Saliba and Hanadi Sleiman	Department of Chemistry, McGill University, Canada	Stabilization of Functional DNA Nanomaterials through Minimal Photochemical Methods
	Poster	Rokas Dargis, Marc Morais, Paul Jardine and Gaurav Arya	Department of Mechanical Engineering and Materials Science, Duke University, USA	Regulation of Ordinal DNA Translocation in Bacteriophage Φ29 through Trans-subunit Interactions
Posters Track on Biomedical Nanotechnology B	Poster	Nicholas Vantangoli, Patrick Halley, Niksa Roki, Kayla Stevens, Jackson Bean, Karilyn Larkin, Christopher Lucas and Carlos Castro	Department of Mechanical and Aerospace Engineering, The Ohio State University, USA	Targeted Drug Delivery of Chemotherapy Drugs using Antibody-Labelled DNA Origami Nanostructures
	Poster	Lanshen Zhao, Joseph Georges, Yang Xu and Hao Yan	School of Molecular Sciences, Arizona State University, USA	Rapid Glioblastoma Diagnosis Using Glial Fibrillary Acidic Protein (GFAP) targeted multivalent aptamer nanoprobe
	Poster	Melika Shahhosseini, Peter Beshay, Anjelica Kucinic, Jonathan W. Song and Carlos E. Castro	Department of Mechanical Engineering, The Ohio State University, Columbus, OH, USA	Integration of DNA Origami-Based Molecular Sensors for Real-Time Monitoring of Cell-Extracellular Matrix Interactions
	Poster	Prathamesh Chopade, Aaron Sakai and Rizal F. Hariadi	Center for Molecular Design and Biomimetics, The Biodesign Institute, Arizona State University, USA	Using silica beads to improve the quality of low-cost DNA origami nanoarrays
Track on Biomedical Nanotechnology II. Track Chair: Thom LaBean, North Carolina State University				
10:55-11:15 AM	Contributed	Björn Högberg	Karolinska Institutet, Sweden	No pulling required? - Using DNA origami to decipher the molecular mechanism of Notch activation
11:15-11:40 AM	Invited	Deblin Jana and Tejal Desai	Institute for Biology, Engineering and Medicine, Brown University, USA	Enhanced PSMA-targeting by Precision Control of DNA Scaffolded Nanoparticle Ligand Presentation
11:40-12:05 PM	Invited	Tingting Zheng, Lauren Grace Rigby, John Marshall and Matteo Palma	Department of Chemistry, Queen Mary University of London, UK	DNA Origami Nanoarrays for Dissection of Multivalent Cancer Cell Signalling
12:05-12:25 PM	Contributed	Yang Xu, Rong Zheng, Abhay Prasad, Minghui Liu, Zijian Wan, Xiaoyan Zhou, Ryan Porter, Matthew Sample, Erik Poppleton, Jonah Procyk, Hao Liu, Yize Li, Shaopeng Wang, Hao Yan, Petr Sulc and Nicholas Stephanopoulos	School of Molecular Sciences, Center for Molecular Design and Biomimetics, The Biodesign Institute, Arizona State University, USA	Multivalent, IgG-mimetic protein-DNA nanostructures for high-affinity binding to biomolecular targets
12:25 PM Conference Close				