

**Foundations of Nanoscience Meeting (FNANO 2016) - April 11-14, 2016, Snowbird, UT  
Snowbird Cliff Lodge**

**Sunday 10 April 2016**

**2:00-5:00 REGISTRATION (Ballroom 1 Lobby)**

**Monday 11 April 2016**

**7:45-9:30 REGISTRATION (Ballroom 1 Lobby)**

**9:30-9:40 Introduction: John Reif, Conference Chair and Andrew Turberfield, Program Chair (Ballroom 1)**

**11 April 2016 - Track on DNA Nanostructures 1. Track Chair: Nadrian Seeman, New York University (Ballroom 1)**

<b>9:40-10:20</b>	Keynote	<b>Chunhai Fan</b> (Key Laboratory of Interfacial Physics and Technology, Shanghai Institute of Applied Physics, Chinese Academy of Sciences, China)	Shape-dependent cell entry and intracellular transport of self-assembled DNA nanostructures
<b>10:20-11:35</b>	<b>Refreshments and Poster Session (Track on DNA Nanostructures A)</b>		
<b>Posters: Track on DNA Nanostructures A (Mezzanine Level Lobby at top of the stairs)</b>			
	Poster	Nicole Avakyan, Andrea A. Greschner, Faisal Aldaye, Christopher J. Serpell, Violeta Toader, Anne Petitjean and Hanadi F. Sleiman (Department of Chemistry, McGill University, Canada)	Reprogramming the assembly of unmodified DNA with a small molecule
	Poster	Mattia De Stefano and Kurt Vesterager Gothelf (Center for DNA Nanotechnology and Interdisciplinary Nanoscience Center, Aarhus University, Denmark)	Manipulating the stability of DNA assemblies via dynamic chemistry of disulfides
	Poster	Daniel Schiffels, Cindi Dennis and James Liddle (Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD)	Magnetic Properties of Iron Oxide Nanoparticles positioned on DNA Origami
	Poster	Hao Pei, Guangbao Yao, Jiang Li and Chunhai Fan (Key Laboratory of Interfacial Physics and Technology, Shanghai Institute of Applied Physics, Chinese Academy of Sciences, China)	Gold-Nanoparticle-Mediated Jigsaw-Puzzle-like Assembly of Supersized Plasmonic DNA Origami
	Poster	Yuhe Yang, Jinglin Fu and Hao Yan (The Biodesign Institute and School of Molecular Sciences, Arizona State University)	Swinging arm channeled artificial 2D protein array organized by DNA nanoscaffolds
	Poster	Feng Zhou, Wei Sun, Karen Ricardo, Dong Wang, Jie Shen, Peng Yin and Haitao Liu (Department of Chemistry, University of Pittsburgh)	Programmably-shaped Carbon Nanostructure from Shape-conserving Carbonization of DNA
	Poster	Clothilde Coilhac, Simona Torrenco, Vincent Forge, Olivier Bourgeois, Didier Gasparutto and Herve Guillou (Institut Néel, CNRS et Université de Grenoble Alpes, France)	Thermodynamic analysis of the folding pathway of DNA self-assembled nanostructures
	Poster	Elisa Hemmig, Celestino Creatore, Bettina Wünsch, Lisa Hecker, Philip Mair, M. Andy Parker, Stephen Emmott, Philip Tinnefeld, Ulrich Keyser and Alex Chin (Cavendish)	Programming light-harvesting efficiency using DNA origami
	Poster	Tong Lin, Luvena Ong, Joanna Robaszewski, Peng Yin and Bryan Wei (School of Life Sciences, Tsinghua University, China)	Self-assembly of preformed DNA nanostructures by toehold mediated strand displacement
	Poster	Wen Wang, Tong Lin, Suoyu Zhang, Tanxi Bai, Yongli Mi and Bryan Wei (School of Life Sciences, Tsinghua University, China)	Self-assembly of complex DNA nanostructures from double crossover tiles
	Poster	Cameron Myhrvold, Michael Baym, Nikita Hanikel, Jonathan Gootenberg and Peng Yin (Wyss Institute for Biologically Inspired Engineering, Harvard University)	Barcode Extension for Analysis and Reconstruction of Structures (BEARS)
	Poster	Haorong Chen and Jong Hyun Choi (School of Mechanical Engineering, Purdue University)	Dynamic and Progressive Control of DNA Origami Conformation Using DNA-Binding Intercalators
	Poster	Feiran Li and Jong Hyun Choi (School of Mechanical Engineering, Purdue University)	DNA Origami based Platform for Programming Molecular Capture and Release
	Poster	Fan Hong, Shuoxing Jiang, Tong Wang, Yan Liu and Hao Yan (The Biodesign Institute and School of Molecular Sciences, Arizona State University)	Multi-layered Wireframe DNA Origami Structures
	Poster	Anna Kostina and Friedrich Simmel (Physics Department, Technische Universität München, Germany)	A single molecule study of the "threading" effect in DNA origami
<b>Continued: Track on DNA Nanostructures 1 (Ballroom 1)</b>			
<b>11:35-11:55</b>	Contributed	<b>Hanadi Sleiman</b> (Department of Chemistry, McGill University, Canada)	Molecular Printing and Sequence-Controlled Polymers on DNA
<b>11:55-12:20</b>	Invited	<b>Joseph Melinger</b> , Ruojie Sha, Nadrian Seeman and Mario Ancona (Electronics Science and Technology Division, Naval Research Laboratory, Washington DC)	Optical and FRET Properties of Fluorophore-Labeled DNA Crystals
<b>12:20-1:40</b>	<b>Lunch (Golden Cliff Room - Meal Ticket Required)</b>		
<b>11 April 2016 - Track on Nanophotonics and Superresolution. Track Chair: Tim Liedl, Ludwig Maximilians University, Munich (Ballroom 1)</b>			
<b>1:40-2:20</b>	Keynote	<b>Federico Capasso</b> (School of Engineering and Applied Sciences, Harvard University)	Flat optics from the mid-infrared to the visible
<b>2:20-2:45</b>	Invited	<b>Susan Buckhout-White</b> , Carl Brown, Joseph Melinger, Mario Ancona, Ellen Goldman and Igor Medintz (Electronics Science and Technology Division, Naval Research Laboratory, Washington DC)	Modulating Photonic Networks with DNA
<b>2:45-3:05</b>	Contributed	<b>Philipp Nickels</b> , Bettina Wünsch, Phil Holzmeister, Philip Tinnefeld and Tim Liedl (Faculty of Physics and Center for NanoScience, LMU München, Germany)	Single-molecule fluorescence force spectroscopy with DNA origami

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<b>3:05-3:25</b>	Contributed	<b>Ferenc Fördös</b> and Björn Högberg (Department of Medical Biochemistry and Biophysics, Karolinska Institutet, Sweden)	Combinatorially produced sequenceable, superresolution DNA-origami barcodes for spatial transcriptomics studies
<b>3:25-4:30</b>	<b>Refreshments and Poster Session (Tracks on Nanophotonics and Superresolution / Molecular Motors / DNA Nanostructures B)</b>		
<b>Posters: Track on Nanophotonics and Superresolution (Mezzanine Level Lobby at top of the stairs)</b>			
	Poster	Maier Avendano, Ralf Jungmann, Peng Yin, Mingjie Dai, Johannes Woehrstein, Sarit Agasti, Zachary Feiger and Avital Rodal (Wyss Institute for Biologically Inspired Engineering, Harvard University)	Quantitative Super-Resolution Imaging with qPAINT using Transient Binding Analysis
	Poster	Fath Gür, Friedrich Schwarz, Jingjing Ye, Stefan Diez and Thorsten L. Schmidt (Center for Advancing Electronics Dresden, TU Dresden, Germany)	High-yield arrangement of gold nanoparticles on DNA origami templates
	Poster	Mikael Madsen Speaker, Abhichart Krissanaprasit, Samuel Pedersen, Daniel A. Gudnason, Victoria Birkedal and Kurt V. Gothelf (Center for DNA Nanotechnology and Interdisciplinary Nanoscience Center, Aarhus University, Denmark)	Transfer of Excitation Energy through a Single Conjugated Polymer Molecule
	Poster	Craig Laboda and Chris Dwyer (Dept. of Electrical and Computer Engineering, Duke University)	Upconverting Nanoparticle Relays for Signal Restoration in Resonance Energy Transfer Networks
	Poster	Eva-Maria Roller, Christos Argyropoulos, Alexander Högele, Tim Liedl and Mauricio Pilo-Pais (Faculty of Physics and Center for NanoScience, LMU München, Germany)	Plasmon-Exciton Interactions Using DNA Templates
	Poster	Francesca Nicoli, Anders Barth, Don C. Lamb and Tim Liedl (Faculty of Physics and Center for NanoScience, LMU München, Germany)	DNA origami for efficient and directional energy transfer
<b>Posters: Track on Molecular Motors (Mezzanine Level Lobby at top of the stairs)</b>			
	Poster	Feiran Li, Jing Pan and Jong Hyun Choi (School of Mechanical Engineering, Purdue University)	DNA Walker Regulated Cancer Cell Growth Inhibition
	Poster	Michael Boemo, Luca Cardelli and Andrew J. Turberfield (Department of Physics, University of Oxford, UK)	Computation by DNA Walkers: Implementing a NOR Operator
	Poster	Yusuke Sato, Yuichi Hiratsuka, Ibuki Kawamata, Satoshi Murata and Shin-Ichiro Nomura (Department of Bioengineering and Robotics, Graduate school of Engineering, Tohoku University, Japan)	Construction of liposome-based molecular robot: molecular motors and simple DNA circuit transform their compartment
<b>Posters: Track on DNA Nanostructures B (Mezzanine Level Lobby at top of the stairs)</b>			
	Poster	Xiaodong Qi, Fei Zhang, Congzhe Su, Shuoxing Jiang, Teresa Wu, Yan Liu and Hao Yan (The Biodesign Institute and School of Molecular Sciences, Arizona State University)	Scaling Up Single-stranded RNA Nanostructures
	Poster	Enzo Kopperger, Julia Müller, Jonathan List, Sushi Madhira, Anders Barth, Don C. Lamb and Friedrich C. Simmel (Physics Department, Technische Universität München, Germany)	Transient Localisation of Catalytic Hairpin Assembly Reactions
	Poster	Caroline Hartl, Stefan Fischer, Kilian Frank, Bert Nickel and Tim Liedl (Faculty of Physics and Center for NanoScience, LMU München, Germany)	Salt and Temperature Dependence of Shape and Interhelical Spacing of DNA Origami Nanostructures Studied by Small Angle X-Ray Scattering
	Poster	Kenneth Lee, John Jensen, Bibek Uprety, Tyler Westover, Robert Davis, John Harb and Adam Woolley (Departments of Chemistry and Biochemistry, Physics and Astronomy, and Chemical Engineering, Brigham Young University)	3D DNA Origami Templated Nanoscale Device Fabrication
	Poster	Di Liu, Yaming Shao, Joseph Piccirilli and Yossi Weizmann (Department of Chemistry, University of Chicago)	Crystallizing Artificially Designed Complex RNA Nanostructures
	Poster	Seham Helmi and Ralf Seidel (Institute of Experimental Physics I, University of Leipzig, Germany)	Controllable Synthesis of Gold Nanowires Using DNA Origami Molds
<b>11 April 2016 - Track on Molecular Motors. Track Chair: Andrew Turberfield, University of Oxford</b>			
<b>4:30-5:10</b>	Keynote	<b>Joseph Wang</b> (Dept. Nanoengineering, University of California, San Diego)	Man-Made Nanomachines: Design and Applications
<b>5:10-5:35</b>	Invited	<b>Masayuki Endo</b> (Institute for Integrated Cell-Material Sciences, Kyoto University, Japan)	Photo-controlled mobile DNA nanosystems constructed in the DNA nanostructures
<b>5:35-6:00</b>	Invited	<b>Zev Bryant</b> (Department of Bioengineering, Stanford University)	Engineering controllable biomolecular motors
<b>6:00-6:20</b>	Contributed	Amy Lam, Yifei Zhang and <b>Henry Hess</b> (Department of Biomedical Engineering, Columbia University)	Dynamic assembly and disassembly of molecular building blocks for adaptive and self-healing systems
<b>7:00 pm</b>	<b>The Track Chairs' dinner (at the back room of The Aerie Restaurant, at Level 10 of the Cliff Lodge)</b>		
<b>Dinner (On Your Own)</b>			

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**Tuesday 12 April 2016**

<b>7:45-8:30</b>	<b>REGISTRATION (Ballroom 1 Lobby)</b>		
<b>12 April 2016 - Track on Computational Tools for Self-Assembly. Track Chair: William Shih, Wyss Institute and Harvard Medical School</b>			
<b>8:30-9:10</b>	Keynote	<b>William Jacobs</b> (Department of Chemistry and Chemical Biology, Harvard University)	Designing self-assembly pathways for nanostructures and complex crystals
<b>9:10-9:30</b>	Contributed	<b>Pedro Fonseca</b> , Flavio Romano and John Schreck (Department of Physics, University of Oxford, UK)	Multi-scale coarse-graining for the self-assembly of two dimensional shapes from single stands of DNA
<b>9:30-9:50</b>	Contributed	<b>Byoungkwon An</b> , Dongran Han, Maxwell Bates, Wei Zhao, Mingqiu Wang, Malte Tinnus, Michael Zyracki, Merry Shiyu Wang and Peng Yin (Bio/Nano Research Group, Autodesk Research, San Francisco)	Computational Design and Fabrication for Single-Stranded DNA Origami
<b>9:50-10:50</b>	<b>Refreshments and Poster Session (Tracks on Computational Tools for Self-Assembly / Protein and Viral Nanostructures / DNA Nanostructures C) Mezzanine Level Lobby at top of the stairs</b>		
<b>Posters: Track on Computational Tools for Self-Assembly (Mezzanine Level Lobby at top of the stairs)</b>			
	Poster	John Schreck, Thomas Ouldridge, Flavio Romano, Ard Louis and Jonathan Doye (Department of Chemistry, University of Oxford, UK)	Simulating the self-assembly of DNA nanostructures using a coarse-grained model
	Poster	Simon Vecchioni, Lynn J. Rothschild and Shalom Wind (Biomedical Engineering and Applied Physics, Columbia University )	Genetic and Combinatorial Algorithms for the Design and Optimization of Oligonucleotide Sequences with Non-Canonical Base-Pairing Rules for Use in Functional DNA Nanostructures
	Poster	Inbal Wiesel, Noa Agmon and Gal Kaminka (Computer Science Department, Bar Ilan University, Israel)	A Compiler for Programming Molecular Robots
	Poster	Mingqiu Wang and Joseph Schaeffer (Bio/Nano Research Group, Autodesk Research, San Francisco)	A Simulation Toolkit Based on Coarse-grained Molecular Dynamics for Ultrafast DNA Origami Structure Prediction
	Poster	Christopher Maffeo, Jejoong Yoo and Aleksei Aksimentiev (Department of Physics, University of Illinois at Urbana-Champaign)	De Novo Reconstruction of DNA Origami Structures through Atomistic Molecular Dynamics Simulation
	Poster	Rasmus Sørensen, Jaeseung Hahn, Leo Chou and William Shih (Dana-Farber Cancer Institute and Wyss Institute for Biologically Inspired Engineering, Harvard Medical School)	Synthesis of Non-Interacting DNA Catenanes: A Study of DNA Self-Assembly Pathways
	Poster	Merry Wang, Peter Jones, Andrew Kimoto, David Parker, Joseph Schaeffer, Jean-Philippe Sobzak, Malte Tinnus, Michael Zyracki, Hendrik Dietz and Eli Groban (Bio/Nano Research Group, Autodesk Research, San Francisco)	NanoDesign: A web-based 3D application for DNA origami design visualization and validation
	Poster	Michael Tobiason, Bernard Yurke, Jennifer Padilla and William Hughes (Department of Materials Science & Engineering, Boise State University)	An evolutionary algorithm for minimizing Watson-Crick interference
<b>Posters: Track on Protein and Viral Nanostructures (Mezzanine Level Lobby at top of the stairs)</b>			
	Poster	Juan Jin, Emily G. Baker, Jonathan Bath, Derek N. Woolfson and Andrew J. Turberfield (Department of Physics, University of Oxford, UK)	A DNA-templated Heterohexameric $\alpha$ -Helical Barrel
	Poster	Jinglin Fu (Department of Chemistry, Rutgers University)	DNA-crowded enzymes with improved activity and stability
<b>Posters: Track on DNA Nanostructures C (Mezzanine Level Lobby at top of the stairs)</b>			
	Poster	Michael Matthies, Nayan Agarwal and Thorsten Schmidt (Center for Advancing Electronics Dresden, TU Dresden, Germany)	Triangulated DNA Trusses
	Poster	Chanseok Lee, Jae Young Lee, Young-Joo Kim and Do-Nyun Kim (Department of Mechanical and Aerospace Engineering, Seoul National University, Korea)	Controlling the local stiffness of DNA origami bundles by tuning the connectivity of staple strands
	Poster	Hieu Bui, Sudhanshu Garg, Reem Mokhtar, Tianqi Song and John Reif (Department of Computer Science, Duke University)	DNA Surface Hybridization Circuits Using DNA Hairpins
	Poster	Sarah Helmig and Kurt V. Gothelf (Center for DNA Nanotechnology and Interdisciplinary Nanoscience Center, Aarhus University, Denmark)	Inter-Origami Communication by the Hybridization Chain Reaction
	Poster	Benedict Snodin, John Schreck, Domen Presern, Tamara Shaw, Rahul Sharma, Flavio Romano, Ard Louis and Jonathan Doye (Department of Chemistry, University of Oxford, UK)	Coarse-grained modeling of large DNA nanostructures
<b>12 April 2016 - Track on Protein and Viral Nanostructures. Track Chair: Nicole Steinmetz, Case Western Reserve University</b>			
<b>10:50-11:30</b>	Keynote	<b>Trevor Douglas</b> (Department of Chemistry, Indiana University)	Virus Nanoreactors and the Hierarchical Assembly of Coupled Catalytic Materials
<b>11:30-11:55</b>	Invited	<b>Qian Wang</b> (Dept. of Chemistry and Biochemistry, University of South Carolina)	Virus as the enabling building blocks for tissue engineering applications
<b>11:55-12:20</b>	Invited	<b>Erik Spoerke</b> (Sandia National Laboratories)	Molecular Biomimicry: Adapting Biological Form and Function in Synthetic Supramolecular Systems

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<b>12:20-1:30</b>	<b>Lunch (Golden Cliff Room - Meal Ticket Required)</b>		
<b>12 April 2016 - Track on DNA Nanotechnology and Analytical Methods. Track Chair: Andrew Ellington, University of Texas at Austin</b>			
<b>1:30-2:10</b>	Keynote	<b>H. Tom Soh</b> (Department of Electrical Engineering, Stanford University)	Continuous, Real-Time Detection of Biomolecules in Live Animals
<b>2:10-2:35</b>	Invited	<b>Katherine Willets</b> and Karole Blythe (Department of Chemistry, Temple University)	Super-resolution imaging of fluorophore-labeled DNA assembled on gold nanoparticles
<b>2:35-3:00</b>	Invited	<b>Brian Paegel</b> (The Scripps Research Institute, Jupiter, FL)	Genetic Code and Chemistry (Re)Design for DNA-Encoded Combinatorial Synthesis
<b>3:00-3:25</b>	Invited	<b>Alexander Green</b> (The Biodesign Institute and School of Molecular Sciences, Arizona State University)	Synthetic RNAs for Nucleic Acid Detection in Vivo and on Paper
<b>3:25-4:20</b>	<b>Refreshments and Poster Session (Tracks on DNA Nanotechnology and Analytical Methods / Self-Assembly Across Scales) Mezzanine Level Lobby at top of the stairs</b>		
<b>Posters: Track on DNA Nanotechnology and Analytical Methods</b>			
	Poster	Tsz Wing Fan, Zhuo Zhang and I-Ming Hsing (Department of Chemical and Biomolecular Engineering, Hong Kong University of Science and Technology, Hong Kong)	Cooperating Target Recycling and Cascaded Self-Assembly for Enzyme-Free, Highly Sensitive and Specific Nucleic Acid Detection
	Poster	Zhuo Zhang, Tsz Wing Fan and I-Ming Hsing (Division of Biomedical Engineering, Hong Kong University of Science and Technology, Hong Kong)	Integrating DNA-Strand-Displacement Circuitry with Dendritic DNA Self-assembly for Ultrasensitive Detection of MicroRNA
	Poster	Ilenia Manuguerra, Kurt V Gothelf and Vipin Kumar (Center for DNA Nanotechnology and Interdisciplinary Nanoscience Center, Aarhus University, Denmark)	Selecting small molecule binders from modified DNA junction structures
	Poster	Laura Ruff, Ajay Sapre, Justin Plaut, Elisabeth De Maere, Charlotte Mortier, Valerie Nguyen, Kevin Separa, Sofie Vandenberghe, Laura Vandewalle, Sadik Esener and Bradley Messmer (Moores Cancer Center, University of California San Diego)	Selection of DNA Nanoparticles with Preferential Binding to Aggregated Protein Target
	Poster	Martin Sajfutdinow, Christoph Schneider, Bernd Abel and David M. Smith (Fraunhofer Institute Cell Therapy and Immunology IZI, University of Leipzig, Germany)	Single molecule contact printing for fabrication of nano-arrays
	Poster	Laura de Battice, Nesrine Aissaoui and Bo Albinsson (Department of Chemistry and Chemical Engineering, Chalmers University of Technology, Sweden)	Bottom-up nanotechnology using self-assembled DNA nanostructures
	Poster	Byung Joon Lim, Yan Du, Jonathan Sessler and Andrew Ellington (Department of Chemistry, The University of Texas at Austin)	Synthesis of Multiplexing Electrochemical DNA Sensors Based on a Combination of Various Ferrocene Derivatives
<b>Posters: Track on Self-Assembly Across Scales</b>			
	Poster	Theo Calais, Vincent Baijot, David Bourrier, Mehdi Djafari-Rouhani, Aurelien Bancaud, Alain Esteve and Carole Rossi (CNRS, LAAS and Univ. de Toulouse, France)	Self-Assembly of DNA architected Al/CuO Nanocomposites for on-chip Nano Energetic Applications
	Poster	Suneesh Karunakaran, Brian J. Cafferty, Miguel A. Pelaez-Fernandez, Alberto Fernandez-Nieves, Gary B. Schuster and Nicholas V. Hud (School of Chemistry & Biochemistry, Georgia Institute of Technology)	Length control of non-covalent supramolecular polymers: Small molecules terminators
	Poster	Akinori Kuzuya, Shizuma Tanaka, Kenta Wakabayashi, Kazuki Fukushima and Yuichi Ohya (Department of Chemistry and Materials Engineering, Kansai University, Japan)	Intelligent Biodegradable Hydrogels Made of DNA-PEG-DNA Tri-block Copolymers
	Poster	Rachel Berezik, Mary Summers and Thomas LaBean (Department of Materials Science & Engineering, North Carolina State University)	Aerogels for 3D Integration of Nanoelectronics
<b>12 April 2016 - Track on Self-Assembly Across Scales. Track Chair: Marya Lieberman, University of Notre Dame</b>			
<b>4:20-4:45</b>	Invited	Jean-Christophe Galas, Jonathan Lee Tin Wah, Anton Zadorin, Yannick Rondelez and <b>Andre Estevez-Torres</b> ( Laboratoire Jean Perrin, Université Pierre et Marie Curie, France)	Controlling molecular organization across scales: from DNA origami folding to pattern formation
<b>4:45-5:10</b>	Invited	Boxuan Shen, Veikko Linko, Kosti Tapio, Sampo Tuukkanen, Mauri Kostiaainen and <b>Jussi Toppari</b> (Department of Physics, Nanoscience Center, University of Jyväskylä, Finland)	Plasmonic nanostructures based on DNA origami silhouettes
<b>5:10-5:30</b>	Contributed	<b>Adrienne Greene</b> , Marlene Bachand, Andrew Gomez and George Bachand (Sandia National Laboratories)	Characterizing the micron-scale self-assembly of microtubules
<b>5:30-7:40</b>	<b>Refreshments and Combined Poster Session (all Monday and Tuesday posters except DNA Nanostructures C)</b>		
<b>7:45-8:45</b>	<b>ISNSCE Award Address</b>		

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**Wednesday 13 April 2016**

**13 April 2016 - Track on Synthetic Biology. Track Chair: Alex Deiters, University of Pittsburgh**

<b>8:30-9:10</b>	Invited	<b>Bryan Dickinson</b> (Department of Chemistry, The University of Chicago)	Activity-responsive RNA polymerases for protein engineering and synthetic biology
<b>9:10-9:35</b>	Invited	<b>Charles Gersbach</b> (Department of Biomedical Engineering, Duke University)	Genome and Epigenome Editing with CRISPR/Cas9 for Gene Therapy and Disease Modeling
<b>9:35-10:00</b>	Keynote	<b>Jeff Hasty</b> (University of California, San Diego)	Engineered Genetic Clocks: From "degrade and fire" to "integrate and fire" dynamics
<b>10:00-11:00</b>	<b>Refreshments and Poster Session (Track on Synthetic Biology / Principles and Theory of Self-Assembly) Mezzanine Level Lobby at top of the stairs</b>		

**Posters: Track on Synthetic Biology (Mezzanine Level Lobby at top of the stairs)**

Poster	Zhao Zhang, Michael Grome, Yang Yang and Chenxiang Lin (Department of Cell Biology, Yale University School of Medicine)	Hierarchical assembly of DNA-origami ESCRT mimics
Poster	Swati Krishnan, Vera Arnaut, Friedrich Simmel and Daniela Ziegler (Physics Department, Technische Universität München, Germany)	Membrane perforation in giant unilamellar vesicles using DNA origami pores
Poster	Celine Journot and Andrew J. Turberfield (Department of Physics, University of Oxford, UK)	Clathrin-inspired DNA structure on lipid bilayer
Poster	Alexander Johnson-Buck and William Shih (Dana-Farber Cancer Institute and Wyss Institute for Biologically Inspired Engineering, Harvard Medical School)	Quasi-Deterministic Single-Molecule Clocks
Sponsored by Guild BioSciences Poster	Patrick D. Ellis, Qi Shen, Thomas J. Melia, C. Patrick Lusk and Chenxiang Lin (Department of Cell Biology, Yale University School of Medicine)	A DNA origami mimic of the Nuclear Pore Complex
Poster	Giulio Bernardinelli and Björn Högberg (Department of Medical Biochemistry and Biophysics, Karolinska Institutet, Sweden)	A novel enzymatic toolbox for nucleic acid - protein bioconjugation
Poster	Reza M. Zadegan, Victor Zhirnov, Gurtej Sandhu, George M. Church and William L. Hughes (Department of Materials Science & Engineering, Boise State University)	Nucleic Acid Memory (NAM)

**Posters: Track on Principles and Theory of Self-Assembly (Mezzanine Level Lobby at top of the stairs)**

Poster	Weizhong Dai (College of Engineering and Science, Louisiana Tech University)	A Mathematical Model and Numerical Method for Thermal Analysis in a Double-Layered Nanoscale Thin Film
Poster	Chun-Hsiang Chan and Ho-Lin Chen (Department of Electrical Engineering, National Taiwan University, Taiwan)	Deterministic Function Computation with Phosphate Transfer Reaction Networks
Poster	Shuoxing Jiang, Fan Hong, Hao Yan and Yan Liu (The Biodesign Institute and School of Molecular Sciences, Arizona State University)	Thermodynamics and Kinetics of Single Tile Attachment in DNA Tile-Based Self-Assembly
Poster	Shalin Shah, Parth Dave and Manish Kumar Gupta (Dept. of Electrical & Computer Engineering, Duke University)	Computing Real Numbers using DNA Self-Assembly
Poster	Tianqi Song, Reem Mokhtar, Sudhanshu Garg, Hieu Bui and John Reif (Department of Computer Science, Duke University)	Toward Compact DNA Circuits for Analog Arithmetic Computation
Poster	Jacob Majikes, Jessica Nash, Yaroslava G. Yingling and Thomas H. LaBean (Department of Materials Science & Engineering, North Carolina State University)	Chemical Quenching and Competitive Annealing to Probe Folding Pathways of DNA Nanostructures
Poster	Michael Zwolak, Daniel Schiffels and J. Alexander Liddle (Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Gaithersburg, MD)	How fast – and at what temperature – does DNA origami fold?

**13 April 2016 - Track on Principles and Theory of Self-Assembly. Track Chair: Rebecca Schulman, Johns Hopkins University**

<b>11:00-11:40</b>	Keynote	<b>Eric Klavins</b> (University of Washington)	Robust digital logic circuits in eukaryotic cells with CRISPR/dCas9 NOR gates
<b>11:40-12:05</b>	Invited	<b>Arvind Murugan</b> (Gordon Center for Integrative Science, University of Chicago)	Control and pattern recognition in heterogeneous self-assembly
<b>12:05-12:30</b>	Invited	<b>Sanat Kumar</b> (Department of Chemical Engineering, Columbia University)	DNA Base Pairing Driven Self-Assembly of Non-Spherical Nanoparticles
<b>12:30-1:50</b>	<b>Lunch (Golden Cliff Room - Meal Ticket Required) Sponsored by Guild BioSciences</b>		

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<b>13 April 2016 - Track on DNA Nanostructures 2. Track Chair: Nadrian Seeman, New York University.</b>			
1:50-2:15	Invited	Yang Yang, Zhao Zhang, Jing Wang, Hideki Shigematsu, Weiming Xu, William Shih, James Rothman and <b>Chenxiang Lin</b> (Dept of Cell Biology, Yale University School of Medicine)	DNA-origami templated membrane structure and dynamics
2:15-2:40	Invited	<b>Risheng Wang</b> , Erika Penzo, Matteo Palma and Shalom Wind (Department of Chemistry, Missouri University of Science and Technology)	Directed Assembly of 1D nanostructures: From DNA motif to CNT
2:40-3:05	Invited	Xiangyi Dong, Sibai Xie and <b>Yi Chen</b> (Department of Nanoengineering, University of California, San Diego)	pH-responsive DNA nanogels for drug delivery
3:05-3:25	Contributed	Oscar Mendoza, Yan Fu, Eric Largy, Jun Zhou, Juan Elezgaray, Jean-Pierre Aimé, Valérie Gabelica, Liliya A. Yatsunyk and <b>Jean-Louis Mergny</b> (Université de Bordeaux, France)	DNA Nanostructures involving unusual structures: i-motif and G-quadruplexes
<b>3:25-4:25 Refreshments and Poster Session (Track on DNA Nanostructures D / Modified DNA) Mezzanine Level Lobby at top of the stairs.</b>			
<b>Posters: Track on DNA Nanostructures D (Mezzanine Level Lobby at top of the stairs)</b>			
	Poster	Diana Zhang and Paul Paukstelis (Department of Chemistry & Biochemistry, University of Maryland)	Enhancing DNA Crystal Durability Through Chemical Crosslinking
	Poster	Valentina Cassinelli and Antonio Manetto (baseclick GmbH, Neuried, Germany)	Ultra-stable chain-armor DNA nanostructure and its applications in life science
	Poster	Ronald McNeil and Paul Paukstelis (Department of Chemistry & Biochemistry, University of Maryland)	Functionalized 3D DNA Crystals Through Layer-by-layer Assembly
	Poster	Michelle Pillers and Marya Lieberman (Department of Chemistry, University of Notre Dame)	Rapid Thermal Processing of DNA Origami on Silicon Creates Embedded Silicon Carbide Replicas
	Poster	Guido Grossi, Jørgen Kjems and Ebbe Sloth Andersen (Center for DNA Nanotechnology and Interdisciplinary Nanoscience Center, Aarhus University, Denmark)	A DNA Origami Nanostructure To Modulate Enzymatic Activities
	Poster	Alexander Ohmann, Kerstin Göpfrich, Maria Ricci and Ulrich F. Keyser (Cavendish Laboratory, University of Cambridge, UK)	Influence of different hydrophobic tags on structural properties of artificial DNA nanopores
	Poster	Andrea Hensley, Tanner Bakhshi, Masudur Rahman, David Neff, Ghosh Kumar Manjira and Michael Norton (Department of Chemistry, Marshall University)	Toward Orthogonal "Plug and Play" Protein Immobilization on DNA Based Nanostructures
	Poster	Megan Engel, Flavio Romano, Thomas Ouldrige, Ard Louis and Jonathan Doye (Department of Physics, University of Oxford, UK)	Coarse-grained modelling of DNA origami behaviour under tension
	Poster	Carl Brown, Anirban Samanta, Susan Buckhout-White, Sebastian Diaz, Mario Ancona, Ellen Goldman, Igor Medintz and Scott Walper (Center for Bio/Molecular Science and Engineering, Naval Research Laboratory, Washington DC)	Dendritic DNA Nanostructures for Efficient Bioluminescence Resonance Energy Transfer
	Poster	Remi Veneziano, Sakul Ratanalert, Kaiming Zhang, Fei Zhang, Hao Yan, Wah Chiu and Mark Bathe (Department of Biological Engineering, Massachusetts Institute of Technology)	Designer scaffolded DNA origami based on top-down geometric specification
	Poster	Janane Rahbani, Amani Hariri, Pongphak Chidchob, Gonzalo Cosa and Hanadi Sleiman (Department of Chemistry, McGill University, Canada)	Orthogonally-Assisted Assembly of a Long-Range Network of DNA Nanofibers and DNA Nanotubes with hydrophobic pockets
	Poster	Leo Chou, Jaeseung Hahn, Rasmus Schøler Sørensen and William Shih (Dana-Farber Cancer Institute and Wyss Institute for Biologically Inspired Engineering, Harvard Medical School)	DNA Origami Nanofactory for Integrated RNA Production
	Poster	Reza M. Zadegan, Elias G. Lindau, Huizheng Huang, William P. Klein, William B. Knowlton, Jeunghoon Lee, Elton Graugnard, Bernard Yurke, Wan Kuang and William L. Hughes (Department of Materials Science & Engineering, Boise State University)	Global twisting of origami with intercalators
<b>Posters: Track on Modified DNA (Mezzanine Level Lobby at top of the stairs)</b>			
	Poster	Emily Toomey, Jimmy Xu, Simon Vecchioni, Lynn Rothschild, Shalom Wind and Gustavo Fernandes ( School of Engineering, Brown University)	Comparison of Canonical versus Silver(I)-Mediated Base-Pairing on Single Molecule Conductance in Poly-cytosine dsDNA
	Poster	Ana Carolina Suárez, Lars Petersen and Antonio Manetto (Vipergen ApS, Copenhagen, Denmark)	New cleavable linkers for small molecule DNA-encoded libraries
<b>13 April 2016 - Special Track on Modified DNA. Track Chair: Floyd Romesberg, Scripps Research Institute</b>			
4:25-5:05	Keynote	<b>Nebojsa Janjic</b> (SomaLogic, Inc., Boulder, CO)	Monitoring the proteome with modified nucleic acid ligands
5:05-5:30	Invited	<b>Yitzhak Tor</b> (Department of Chemistry and Biochemistry, University of California, San Diego)	New Responsive Fluorescent Nucleosides and Oligonucleotides
<b>5:30-7:40 Refreshments and Combined Poster Session (all Wednesday and Thursday posters and DNA Nanostructures C)</b>			
<b>7:45-8:00 ISNSCE Business Meeting</b>			
<b>8:00-8:35 Robert Dirks Prize Presentation</b>			

**Foundations of Nanoscience Meeting (FNANO 2016) - April 11-14, 2016, Snowbird, UT  
Snowbird Cliff Lodge**

**Thursday 14 April 2016**

<b>Track on Nucleic Acid Nanostructures In Vivo. Track Chair: Yamuna Krishnan, University of Chicago</b>		
<b>8:30-9:10</b>	Keynote	<b>Samie Jaffrey</b> (Weill Medical College, Cornell University) Genetically encoded RNA devices for imaging RNA biology and cellular signaling
<b>9:10-9:35</b>	Invited	Florian Schueder, Thomas Schlichthaerle, Maier Avendano, Maximilian Strauss, Johannes Woehrstein, Mingjie Dai, William Shih, Peng Yin and <b>Ralf Jungmann</b> (Department of Physics & Center for NanoScience, Ludwig-Maximilians-Universität München, Germany) DNA-PAINT: Super-Resolution Imaging with DNA Molecules
<b>9:35-9:55</b>	Contributed	<b>Dhiraj Bhatia</b> , Christian Wunder, Senthil Arumugam, Valerie Chambon, Benoit Dubertret, Ludger Johannes and Yamuna Krishnan (Institut Curie, Paris, France) DNA Based Emerging Technologies for Biological Applications
<b>9:55-10:15</b>	Contributed	<b>Nandhini Ponnuswamy</b> , Maartje Bastings, Mathias Vinther, Bhavik Nathwani, Aileen Li and William Shih (Dana-Farber Cancer Institute and Wyss Institute for Biologically Inspired Engineering, Harvard Medical School) Oligolysine-based coating protects DNA nanostructures from low-salt denaturation and nuclease degradation
<b>10:15-11:05 Refreshments and Poster Session (Track on Nucleic Acid Nanostructures in Vivo / Biomedical Nanotechnology) Mezzanine Level Lobby at top of the stairs.</b>		
<b>Posters: Track on Nucleic Acid Nanostructures In Vivo (Mezzanine Level Lobby at top of the stairs)</b>		
	Poster	Aradhana Chopra, Swati Krishnan and Friedrich Simmel (Physics Department, Technische Universität München, Germany) Mimicking the condensation of biological DNA for folding DNA nanostructures & using them for electroporation mediated delivery to mammalian cells
	Poster	Samet Kocabey, Sabine Sellner, Tao Zhang, Tim Liedl and Markus Rehberg (Department of Physics & Center for NanoScience, Ludwig-Maximilians-Universität München, Germany) Dexamethasone-conjugated DNA Nanotubes as Anti-Inflammatory Agents in vivo
	Poster	Nicole Delrosso, Nathan Derr, Sarah Hews and Lee Spector (School of Natural Sciences, Hampshire College) Triggered Regeneration of Molecular Circuit Components to Implement Iterative DNA Strand Displacement Operations
	Poster	Steffen Sparvath, Cody Geary, Paul Rothemund and Ebbe Andersen (Center for DNA Nanotechnology and Interdisciplinary Nanoscience Center, Aarhus University, Denmark) RNA origami - folding RNA nanostructures from a single strand
<b>Posters: Track on Biomedical Nanotechnology (Mezzanine Level Lobby at top of the stairs)</b>		
	Poster	Danny Bousmail, Lilian Amrein, Johans Fakhoury, Thomas G.W. Edwardson, Lawrence Panasci and Hanadi Sleiman (Department of Chemistry, McGill University, Canada ) DNA Nanoparticles for Targeted Delivery of Chronic Lymphocytic Leukemia Small-Molecule Drugs
	Poster	Katherine Bujold, Donatien de Rochambeau, Johans Fakhoury, Michael Dore and Hanadi Sleiman (Department of Chemistry, McGill University, Canada) Design and Synthesis of siRNA-Encapsulating DNA Nanocages for Conditional Release based on Oligonucleotide Sequence Recognition
	Poster	Philip Lukeman, Ekaterina Selivanovitch, Christopher Chen, Sydney Snaider and Eugene Fong (Department of Chemistry, St. John's University) Undergraduate-conducted DNA Nanotechnology: Virus-Binding Origami 'Claws' - Polyvalency, Tethering and Aptamer- attachment Studies. Making Photocleavable Set-Strand DNA Surfaces Less Prone to 'Leakage'.
	Poster	Antonio Garcia-Guerra, Wenjing Meng, Jens Gaitzsch, Kariem Ezzat, Giuseppe Battaglia, Samir El-Andaloussi, Matthew J. A. Wood and Andrew J. Turberfield (Department of Physics, University of Oxford, UK) Self-assembled vesicles for targeted delivery of nucleic acids
	Poster	Veikko Linko and Mauri Kostiaainen (Department of Biotechnology and Chemical Technology, Aalto University, Finland) Delivery Vehicles Based on DNA Origami
<b>Posters: Track on Integrated Synthetic Systems (Mezzanine Level Lobby at top of the stairs)</b>		
	Poster	Abhichart Krissanaprasit, Mikael Madsen, Jakob Knudsen, Daniel Gudnason, Werasak Surareungchai, Victoria Birkedal and Kurt Gothelf (Center for DNA Nanotechnology and Interdisciplinary Nanoscience Center, Aarhus University, Denmark) Programmable Switching of a DNA-Polymer Conjugate on DNA Origami
	Poster	Wenjing Meng, Richard Muscat, Mireya McKee, Phillip Milnes, Afaf El-Sagheer, Jonathan Bath, Benjamin Davis, Tom Brown, Rachel O'Reilly and Andrew J. Turberfield (Department of Physics, University of Oxford) Programming autonomous chemical synthesis with DNA
	Poster	Yang Yang, Jing Wang and Chenxiang Lin (Department of Cell Biology, Yale University School Medicine) A Mechanistic Study of Liposome Formation in DNA Origami Templates
	Poster	Fumiaki Tanaka, Yuta Marunaka, Jung-Hee Do, Takashi Arimura and Masami Hagiya (National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan) Towards intelligent Capsules of Alginate Gel Including DNA Logic Gates and Magnetic Beads

**Foundations of Nanoscience Meeting (FNANO 2016) - April 11-14, 2016, Snowbird, UT  
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<b>14 April 2016 - Track on Biomedical Nanotechnology. Track Chair: Thomas LaBean, North Carolina State University</b>			
11:05-11:45	Keynote	<b>Millicent Sullivan</b> (Chemical & Biomolecular Engineering, University of Delaware)	Unlocking Intracellular Therapeutic Targets through Novel Nanostructured Biomaterials
11:45-12:05	Contributed	Ronit Freeman, Nicholas Stephanopoulos and Samuel I. Stupp (Feinberg School of Medicine, Northwestern University)	Peptide-DNA Hybrid Nanomaterials for Biology and Medicine
12:05-12:30	Invited	Carsten Schuldt, Jörg Schnauß, Jessica Lorenz, Martin Glaser, Tom Golde, Tina Händler, Josef Käs and <b>David Smith</b> (Fraunhofer Institute for Cell Therapy and Immunology, Leipzig, Germany)	Bottom-up Engineering of Nanoscale Devices to Program Biological Systems
<b>12:30-2:00 Lunch (On Your Own)</b>			
<b>Track on Biomedical Nanotechnology (continued)</b>			
2:00-2:25	Invited	<b>Stefan Howorka</b> (Department of Chemistry, University College London, UK)	Artificial Membrane-Spanning DNA Nanopores: From Rational Design to Biomedical Applications
<b>14 April 2016 - Track on Integrated Synthetic Systems. Track Chair: Amar Flood, Indiana University</b>			
2:25-3:05	Keynote	<b>Jonathan Nitschke</b> (Department of Chemistry, University of Cambridge, UK)	Transformative Cages and Luminous Chains: Functional Systems through Subcomponent Self-assembly
3:05-3:30	Invited	<b>Bo Wegge Laursen</b> (Nano-Science Center & Department of Chemistry, University of Copenhagen, Denmark)	Counterion Controlled Self-Assembly of Cationic $\pi$ -systems
3:30-3:55	Invited	<b>Benjamin King</b> (Department of Chemistry, University of Nevada)	Two-Dimensional Polymers Based on the Anthracene and Triptycene Motifs