Poster Group A	Posters numbered 1-120, 256, 257 will be presented in Poster Session A on Monday, June 24 (7:00PM - 8:00PM). Authors bearing a * after their name will additionally present their work during the Rapid Fire Poster Presentation session on Monday, June 24 (6:30PM - 7:00PM).		
Poster #	Abstract Title	First Name	Last Name
1	Engineering Aphid Symbionts for Food Security	Kate	Elston
2	Managing Data with the Experiment Data Depot	Mark	Forrer
3	Development of Cell-Free Protein Expression Biosensors for Detection of Human Performance Biomarkers	Kathryn	Beabout
4	New genetic tools for DOPA incorporation enable catechol-metalloprotein engineering	Simon	d'Oelsnitz
5	Directed Evolution of Antimutator Cells to Stabilize Synthetic Biology Against Evolution	Jeffrey E.	Barrick*
6	Genetic Circuits to Detect Nano-Toxicity through Engineered Heat Shock Response Mechanism	Behide	Saltepe
7	Harnessing Tardigrade-Specific Intrinsically Disordered Proteins to Enhance the Robustness of Living Medicines	Danny	Collins
8	Phase Space Analysis for Gene Circuit Design	Tim	Rudge
9	A Simple, Robust, and Low-Cost Method to Produce the Pure Cell-Free System	Barbora	Lavickova*
10	Controlling Heterogeneity and Increasing Titer from Riboswitch-Regulated *Bacillus Subtilis* spores for Time-Delayed Protein Expression Applications	Nigel	Reuel
11	Scalable Cell-Free Extract Preparation and Minimal Genetic Template Methods for Rapid Protein Prototyping	Nigel	Reuel
12	Engineering of Crassulacean Acid Metabolism (CAM) Pathway to Enhance Photosynthesis and Abiotic Stress Tolerance in C_3 Plants	Xiaohan	Yang
13	3-D Multicellular Co-Culture Model As a Platform for Rapid Screening of Engineered Microbial Therapies	Tetsuhiro	Harimoto*
14	Capturing Provenance of Designing and Building Biological Systems	John	Meng
15	Development of an Optogenetically-Controlled Recombinase for *E. coli*	Michael	Sheets
16	Building an Orthogonal Initiation System in a Genomically Recoded Organism	Russel M.	Vincent*
17	Building Fungal Factories That Generate Potent Insecticides	Rosannah	Cameron
18	Control of Bacterial Communities Using Deep Reinforcement Learning	Neythen J.	Treloar
19	Improving Sakuranetin Biosynthesis Using Metabolically Engineered Microbial Co-Cultures	Xiaonan	Wang
20	Retrosynthesis of All Available Pathways to Microbial Production of Precursors to Target Chemicals Based on Chemical Separation Characteristics	Leanne	Whitmore*
21	Controlling Protein Expression Levels in Synthetic, Polycistronic Operon Systems	Daniel	Gerngross*
22	Genetic Code Expansion in *Bacillus Subtilis*	Devon	Stork*
23	Synthetic Genomic Contexts in Bacteria for Extreme Expression Properties	Scott	Scholz*
24	Leveraging a Yeast Display-Based Stop Codon Suppression Reporter for Rapid Screening of Aminoacyl-tRNA Synthetases	Jessica T.	Stieglitz

25	A Broadly Applicable and Integrated Biological Strategy to Induce Ammonia Excretion from Symbiotic Diazotrophs for Plant Fertilization	Tim	Schnabel*
26	Characterization of the Met25 As a Facile, Color-Associated, and Counter-Selectable Genetic Marker in *Yarrowia Lipolytica*	Harley	Edwards
27	Developing Computational Design Tools for RNA-Based Gene Regulatory Elements	Calvin M.	Schmidt
28	Natural-Vanillin Fermentation from Sugar : Production on Industrial Scale	Jun	Takakura*
29	Nucleic Acid Cleavage with a Hyperthermophilic Cas9 from an Unculturable Ignavibacterium	Stephanie Tzouanas	Schmidt
30	A Fusion Method to Develop an Expanded Artificial Genomic RNA Replicable By Qbeta Replicase	Kensuke	Ueda*
31	An Efficient Platform for Standardized Genome Engineering in Bacteria	Carolyn	Bayer
32	Using Triplex-Forming Oligos (TFOs) to Repress Promoter Activity in Chinese Hamster Ovary (CHO) Cells	Mohamed K.	Hussein*
33	*Engineered Mammalian Bioluminescence Enzymes - the First Sensitive Glowing Mouse Reporter Gene for Biomedicine*	James A.	Long
34	A Synthetic Live Bacterial Therapeutic Organism for the Treatment of the Human Metabolic Disease Phenylketonuria (PKU)	Vincent	Isabella
35	Synthetic Sequence Entanglement Augments Stability and Containment of Genetic Information in Cells	Hsing-I	Ho*
36	Synthetic Symbiosis	Paul	de Figueiredo
37	Programmable Gene Activation in Bacteria	Jennifer	Fang
38	Learning Protein Structure-Function Relationships from Data	Zhiyuan	Duan
39	Genomic Deoxyxylulose Phosphate Reductoisomerase (DXR) Mutations Conferring Resistance to the Antimalarial Drug Fosmidomycin in *E. coli*	Gur	Pines*
40	A Synthetic RNA-Mediated Evolution System in Yeast	Emil	Damgaard Jensen
41	Expanding Boundaries of Synthetic Biology: Discovery and High-Throughput Characterisation of Inducible Gene Expression Systems	Erik	Hanko
42	Measuring the Efficiency of CRISPR Genome-Editing Systems with Single-Cell DNA Analysis	Keith W.	Jones
43	Multiplex Transcriptional Characterizations across Diverse Bacterial Species Using Cell-Free Systems	Sung Sun	Yim
44	Predictable Tuning of Synthetic Microbial Consortium Pulse Generator Dynamics	Mehdi	Sadeghpour
45	Bere: Bayesian Quality-Estimator for Reproducible Biological Experiments	Shuowei	Li
46	Single Cell Chemical Imaging with Stimulated Raman Scattering for Biofuel Production Screening	Nathan	Tague
47	Towards Life with Fewer Than 20 Amino Acids	Liyuan	Liu
48	Molecular Recording Indefinitely in Mammalian Systems	Christian E.	Cuba Samaniego
49	Expression of RNA Origami Scaffolds in *Saccharomyces Cerevisiae for Transcriptional Control*	Georgios	Pothoulakis
50	Cytosolic Folding Biosensors for Discovery of Abeta42 and Alpha-Synuclein Folding Factors in *Saccharomyces Cerevisiae*	Veronika	Sachsenhauser
51	Metabolic Engineering of Oleaginous Yeast *Yarrowia Lipolytica* for Production of Flavor Lactones	Eko Roy	Marella

52	Challenging the Workhorse: Comparative Analysis of Eukaryotic Microorganisms for Expressing Monoclonal Antibodies	Elizabeth	Znameroski
53	The Development of Leucine Consuming Strains As Therapeutics for Maple Syrup Urine Disease	JR	Gao
54	An Electrofermentation Platform for Diterpene Production	Emily	Lanier
55	Structural and Sequential Analysis Comparing Residues between Functionally Divergent Terpene Synthases in *Prunella vulgaris*	Garret P.	Miller*
56	Patterns of Microbial Colonization in the Murine Gut Reveals Design Rules for Robust Microbial Engraftment	Ravi U.	Sheth
57	Engineered Bacteria to Assess and Augment Human Performance: Expanding Sensing Capabilities	Amy M. Ehrenworth	Breedon
58	Just Add DNA: *Occam Cloning* Facilitates One-Step and Scarless *In Vivo* Assembly of Expression Vectors	Maja	Rennig*
59	Autonomous Platform for Protein Design	Jacob	Rapp
60	Deep Learning for RNA Synthetic Biology	Nicolaas M.	Angenent-Mari
61	Controlled Assembly of RNA-Protein Nanostructures in *Escherichia coli*	Michael T.	Nguyen
62	Rapid Construction of Highly Multiplexed Gene Pools	Rebecca	Nugent
63	Leveraging Twist Matrixed Oligo Pools for Multiplexed Gene Editing	Elian	Lee
64	Creating Diverse Combinatorial Pathways with High-Throughput DNA Assembly	Nathan	Raynard
65	Improving Desiccation Tolerance in *Synechococcus* Sp. PCC 7002 Towards Regeneration of Biomaterials	Juliana	Artier*
66	Engineering Multi-Input/Single-Output Systems in Yeast for Neural Network Computation	Alberto	Carignano
67	Development of Synthetic Biology Kits for STEM Education	Andrew	Walters*
68	A Tunable Integrase Differentiation Circuit Improves Output of Burdensome Functions	Rory	Williams*
69	Living Foundations: Building Hierarchical Materials with Synthetic Biology	Marimikel	Charrier*
70	High Throughput Approaches to Dissecting Gene Regulation of Biosynthetic Gene Clusters	Jimin	Park
71	High-Throughput Anaerobic Platform to Turbocharge Strain Engineering of Gas Fermenting Microorganisms	Fungmin (Eric)	Liew
72	Synthetic Biology Approaches for Improving Production of Semi-Synthetic Artemisinin	Stephanie H.	Kung
73	Broad Loading Substrate Specificity, Diverse Extenders, and DefinedÂ ÃŸ-Oxidation for a Platform Polyketide Synthase	Amin	Zargar*
74	Continuous Directed Evolution of Tryptophan Synthase Toward Production of Unnatural Aromatic Amino Acids	Gordon	Rix
75	Cell-Free System in Aqueous Two-Phase Enables Multiplexing of Small Molecule and Nucleic Acids	Yan	Zhang
76	Expanding the Diversity of Reporters for Use in Multiplexed Cell-Free Protein Synthesis Systems for Paper Based Sensing Platforms	Caitlin	Sharpes
77	Engineering Mammalian Cells to Record Their Own History	Courtney	Carlson
78	Engineering of *Lactobacillus Reuteri* As a Biotherapeutic Delivery System	Annie	Goodwin

79	Anti-CRISPR-Mediated Control of Gene Editing and Synthetic Circuits in Eukaryotic Cells	Muneaki	Nakamura
80	Development of a Commercially Available Targeted Integration CHOZN® gs -/- Cell Line	James	Ravellette*
81	Proteomics-Driven Genome Remodeling to Boost Cellular Capacity for Engineered Functions	Adam	Chazin-Gray*
82	Optimal Protein Reclamation with Maxmass	Neeraj	Kumar
83	Development of a CRISPR-Mediated Methodology to Re-Write Microalgal Genomes	Alexandra	Mystikou
84	A Cell-Free Expression System for the Site-Specific Incorporation of Natural Amino Acid Probes	Annika	Urbanek
85	Rewiring the Bacterial Genome By Retromutagenesis for Tolerance Development in Microbial Cell Factories	Sophia A. H.	Heyde*
86	CRISPR-cas9 Platform Development for a Wild-Type White-Rot Fungus *Cerrena Unicolor* BBP6	Anli	Geng
87	Development of an Insoluble Protein Biosensor and Application in Yeast Cell Factories	David	Romero-Suarez
88	Discovering Druggable Gene Combinations for Parkinson's Disease by CombiGEM-CRISPR	Ka Ching	Chan
89	Synthetic Enzymology: Directed Computational Evolution of Quorum-Quenching Lactonases	Maybelle Kho	Go*
90	Engineering the Human Compass Family of Histone H3K4 Methylases in Yeast	Max	Haase
91	Design and Rapid Emulation of a Synthetic Microbial Operational Amplifier on Cytomorphic Silicon Chips	Rahul	Sarpeshkar
92	Natural and Directed Evolution of Substrate Specificity in Family 5 Glycoside Hydrolases	Evan	Glasgow
93	Cell Free Transcription-Translation for Natural Product Research	Patrick D.	Capel*
94	Whole-Cell Living Bioreporters for Butanol Production: Directed Evolution of a Transcriptional Regulator Towards Short-Chain Alcohols	Maximilian O.	Bahls*
95	Beacon Riboregulators: Exploiting Loop-Mediated RNA-RNA Interactions for Molecular Computing and Diagnostics	Duo	Ma*
96	Simultaneous Regulation of Many Genes Using Crispri with Highly Non-Repetitive Extra Long Sgrna Arrays (ELSAs)	Alexander	Reis
97	Synchronising a Population of Yeast Cells By Microfluidics-Based Feedback Control	Diego	di Bernardo
98	Dynamic Control of Pathway Expression with Riboregulated Switchable Feedback Promoters	Cameron J.	Glasscock
99	Diagnosing Limitations to High Titer Ethanol Production in *Clostridium Thermocellum* Using a Cell-Free System	Daniel	Olson*
100	Automated DNA Construction: From j5 Protocol Design to Laboratory Robotics	Nurgul	Kaplan
101	Validation and Feedback Control of a Reference-Comparator System within *Escherichia coli*	Barbara	Shannon
102	High-Throughput Genome Engineering for Industrial Strain Optimization	Michael	Martyn
103	Engineering Prototrophy in Mammalian Cells	Julie	Trolle
104	Mapping Ribozyme Fitness Landscapes to Investigate Evolutionary Optimization and Divergence	Evan	Janzen
105	Sugar Synthesis from CO_2 in *Escherichia coli*	Shmuel	Gleizer

Poster #	Abstract Title	First Name	Last Name
106	Engineered History-Dependent Behavior in a Multicellular System	Ana	Zuñiga*
107	Tunning Cross Membrane Signal Transmission for Synthetic Receptor Engineering	HungJu	Chang
108	Human Milk Oligosaccharides - Enabling Novel Health Benefit Applications through the Glycoactives Platform	Joeri	Beauprez
109	Engineering Asymmetrical Cell Division into *Escherichia coli*	Sara	Molinari
110	Plug-and-Play Metabolic Transducers Expand the Chemical Detection Space of Cell-Free Biosensors	Peter	Voyvodic*
111	Mammalian Expression Vector Sets for Improved Signal-to-Noise Ratios in Protein-Protein-Interaction Analyses	Raluca	Fleischer
112	High Throughput Strain Engineering at Ginkgo Bioworks	Alicja	Gomes
113	A Proteome Allocation Model to Improve Photosynthetic Productivity and Efficiency in a Light-Limited Chemostat	Marjan	Faizi*
114	Molecular Sequestration Strategies for Quorum Sensing Systems	Nicholas	DeLateur
115	Exploring Genetic Variation Using Retron Library Recombineering (RLR)	Max G.	Schubert*
116	Identification and Experimental Manipulation of Surface Colonization Pathways in a Model Marine Diatom	Weiqi	Fu
117	Personalized Off-Target Analysis of CRISPR-Cas9 gRNA Designs Using *in-Silico* and Experimental Approaches	Yidan	Pan
118	Increasing Functionality of GFP in Human Cells	Cansu	Kuey
119	Multiplexing Cell-Cell Communication	John T.	Sexton
120	Cell-Free Styrene Biosynthesis at High Titers	Blake J.	Rasor

Poster Group B	Posters numbered 121-255 will be presented in Poster Session B on Tuesday, June 25 (6:30PM - 7:30PM). Authors bearing a * after their name will additionally present their work during the Rapid Fire Poster Presentation session on Tuesday, June 25 (6:00PM - 6:30PM).		
Poster #	Abstract Title	First Name	Last Name
121	Engineered Probiotic for the Inhibition of *Salmonella* Via Tetrathionate-Induced Production of Microcin H47	Benedikt	Mortzfeld
122	"Big DNA" Construction and Characterization of Alpha-Globin Locus Variants	Brendan R.	Camellato*
123	Engineering *Cupriavidus Necator* for Autotrophic 1,3-Butanediol Production	Joshua	Gascoyne
124	Molecular Crowders Regulate Gene Expression in an *E. coli*-Based Cell-Free System	Grace	Vezeau
125	Massively-Parallel Dissection of Human Transcription Factor Binding Site Architecture	Jessica	Davis
126	Software-Enable Design and Automated Construction of CRISPR Gene Circuits in *S. Cerevisiae*	Justin	Vrana
127	An Engineered Light-Switchable Two-Component System for Dynamic Interrogation of Cell-Fate Decision Networks in *Bacillus Subtilis*	Sebastian M.	Castillo-Hair
128	Optimal Experimental Design for a Bistable Gene Regulatory Network	Nathan	Braniff

129	Interfacing a Transcriptional Biosensing with Toehold-Mediated Strand Displacement for Programmable Molecular Diagnostics	Jaeyoung K.	Jung
130	Acoustic Detonation of Cellular Therapies Via Biomolecular Cavitation	Avinoam	Bar-Zion*
131	Programmable Polyketide Synthase (PKS) Platform and an Artificial Biosynthetic Pathway for the Natural Food Pigment Carmine	Rasmus John Norman	Frandsen
132	Single-Cell Characterization of Gene Regulatory Functions in the *S. Cerevisiae* Inorganic Phosphate Starvation Response Network	Evan J.	Olson
133	High-Throughput Microfluidic Platform for Gene Regulatory Network Characterization at the Single Cell Level	Hon Ming	Yip
134	Metabolic Engineering of *Bacillus Subtilis* for Biopolymer Production from Biodiesel Waste Material	Lorenzo	Pasotti
135	Screening for Peptide Inhibitors of *S. typhimurium* PhoPQ in *E. coli*	Kathryn	Brink
136	Beyond Hill Equations: Mechanistic Modeling of Inducible Systems to Expand the Predictability of Synthetic Circuits	Davide	De Marchi
137	How Resource Competition Shapes the Stability Profile of Toggle Switches at the Cellular and at the Population Levels	Andras	Gyorgy
138	Carbon Monoxide Tolerance and Utilisation in *Cupriavidus Necator*	Charlie	Wickham-Smith
139	Prototyping Protein-Protein Interaction-Based Logic Using Cell-Free Protein Synthesis	Andrew	Hunt
140	CRISPR-Cas Based Capture of Horizontal Gene Transfer in Complex Communities	Christian	Munck
141	Combinatorial Design of Protein Switches for Controlling Electron Transfer in Cells	Bingyan	Wu
142	A Synthetic Genomics Approach to Dissecting an Age-Related Macular Degeneration-Associated Haplotype	Jon M	Laurent
143	Engineering Multicellular 3D Shapes	Jesse	Tordoff*
144	Development of a Gene Signal Amplifier Platform Technology for Monitoring the Unfolded Protein Response	Carlos A.	Origel*
145	Engineering a Gas-Producing Biosensor to Monitor Nitrate Bioavailiability in Terrestrial Soils and Marine Sediments	Emily M.	Fulk
146	Independent Control of Mean and Noise By Convolution of Gene Expression Distributions	Karl	Gerhardt
147	Application of Terminator, Protein Degradation, and Protein Solubility Libraries for Strain Improvement	Matthew	Davis
148	A High-Throughput Assay to Investigate the Antibiotic Activity of the Lasso Peptide Klebsidin	Ethan	Hills
149	Synthetic Biologic Tools for Microbial Ecology and Biogeochemistry	David L.	Shis
150	Exploring the Sequence Space of a Riboswitch Expression Platform Yields Tunable Switching Efficacy	Gregory W.	Campbell
151	Mining Pams from Diverse Bacterial Genomes	Florencia	Velez-Cortes
152	Evolutionary Design of Synthetic Oligomers and Protein-Based Materials	Anna J	Simon
153	Using Microbial Memory to Record Horizontal Gene Transfer Events *in Situ*	Prashant	Kalvapalle
154	Developments of Genetic Tools for Methane-Oxidizing Bacteria	Bashir	Rumah
155	Genetic Tools for Methanotrophs	Bashir	Rumah

156	Recombinase Efficiency in Human Cell Lines	George	Chao
157	Metabolic Engineering of *Yarrowia Lipolytica* for *De Novo* Synthesis of 2-Phenylehtanol from Sustainable Low-Cost Feedstocks	Yang	Gu
158	Control of Protein Synthesis By Using Promoter Variants in Cell-Free System	Naoko	Senda
159	Characterization of an Integrase-Based Genetic 'Tape Recorder' Circuit in e coli	Andrey	Shur
160	Engineering Gut Inflammation Biosensors with Bacterial Stress Response	Kathleen Jia Yue	Zhang
161	A Synthetic Approach for Parsing Gene Regulatory Logic in Plant Development	Edith	Pierre-Jerome
162	Synthetic Enzymology and the Fountain of Youth	Yan Ping	Lim*
163	Variational Autoencoder for Generation of Antimicrobial Peptides	Scott N.	Dean
164	Response of Lactobacillus Plantarum WCFS1 to the Pathogen-Associated Quorum Sensing Molecule N-3-Oxododecanoyl Homoserine Lactone	Joseph R.	Spangler
165	Characterization of Membrane-Bound Components in Cell-Free Glycosylation Systems	Katherine F.	Warfel
166	Metabolic Engineering of *Corynebacterium Glutamicum* Strains for the Production of Bio-Based Nylon Monomers	Si Jae	Park
167	Metagenomic Platform for Rapid Natural Product Discovery	Aleksandr	Milshteyn
168	Regulatory Aspects of Synthetic Biology in Germany	Wolfram	Volkwein
169	Development of a Complete CRISPR-Cpf1 Tool for Metabolic Engineering of *Clostridium Beijerinckii* ncimb 8052	Constantinos	Patinios*
170	Synthetic Orfeomes of *Prochlorococcus Marinus* MED4 and NATL1A: A Resource for Systems-Level Interrogation of Low- and High-Light Adaptations in Cyanobacteria	Sarah	Daakour
171	Genetically-Encoded RNA Origami Nanostructures and Nanodevices to Scaffold Proteins	Guido	Grossi
172	Packaging of Diisopropyl Fluorophosphatase (DFPase) in Bacterial Outer Membrane Vesicles Protects Its Activity at Extreme Temperature	Meghna	Thakur
173	Programmable Protein Circuits in Living Cells	Xiaojing	Gao
174	Sensing Intracellular Metabolites with RNA Nanostructures in *E. coli*	Ilenia	Manuguerra
175	Towards *in Situ* Engineering of Electroautotrophic Microbial Communities	Sarah	Glaven
176	Designing Vesicle Membranes to Control Spatial-Temporal Dynamics of Biological Reactions	Justin	Peruzzi
177	Chi.Bio: A Low-Cost Platform for Automated Characterisation and Manipulation of Biological Systems	Harrison	Steel*
178	Hydrogel Delivery of Cell-Free Protein Synthesis	Marilyn F. S.	Lee
179	Bioconversion of Methane to Transportation Fuel Using Environmentally Isolated Methanotrophic Bacteria	Christopher	Stead
180	Expression and Purification of Highly Active Antimicrobial Peptide HBCM2 from *Escherichia coli* Using an Encapsulin Nanocompartment System	Tek-Hyung	Lee
181	Temperature Sensitive Variants of the Protease, Subtilisin Carlsberg, for Automated Processes	Vanessa C.	Thompson
182	Linking Mobile Genes with Their Bacterial Hosts in Natural Gut Communities Using OIL PCR	Peter	Diebold*

183	Web of Registries	Hector	Plahar
184	Making Hot *E. coli* Hybrids: Combining Multiple Genetic Approaches for Directed Evolution	Bailey E	McGuire
185	Miniaturization and Rapid Processing of Txtl Reactions Using Acoustic Liquid Handling	Jared	Bailey
186	Combining Scalable DNA Assembly Using the Next Universal Guided Enzymatic (NUGE) Assembly Method with Automated Workflows	Jared	Bailey
187	Autonomously Controlled and Host-Aware Recombinant Gene Expression through Plasmid Copy Number Modulation	Nicolas	Kylilis
188	Developing a Modular Framework for Orthogonal Control of Gene Expression in Plants	Shaunak	Kar
189	Scaling Semi-Synthetic Artemisinin Production from Plates to Industrial Fermentation	Timothy	Dobbs
190	*In Vitro* Implementation of a Noise Filtering Gene Network.	Pascal A.	Pieters
191	CRISPR-Cas12 Mediated Genome-Editing in Oleaginous Yeast	Zhiliang	Yang
192	Engineering Two Component Redox Sensors for Use in Marine Bacteria	Elizabeth	Onderko
193	Building a Cas12a Toolkit to Facilitate Manipulation of the Transcriptome	James	Bryson
194	Melanin Biomaterials Produced By Engineered Bacteria	Chia-Suei	Hung
195	Paper-Based, Cell-Free Detection of Heavy Metals for in-Field Water Quality Testing	Casey B.	Bernhards
196	Plasmid Vectors for *In Vivo* Selection Free Use with the Probiotic *E. coli Nissle*	Anton	Kan
197	Cell-Free Systems for the Deployment of Biosensors in Resource-Limited Environments	Matthew	Lux
198	Engineering Ionotropic Chemogenetic Receptors in Yeast	Elizabeth	Gardner
199	Mosaic Polymers of the Plague Capsular Antigen (Caf1) Protein: Engineering a Multi-Functional Biomaterial	Daniel T.	Peters*
200	The Impact of Genome Organization on the Regulation of Gene Expression in *E. coli*	Anja	Ehrmann
201	microRNA Mediated Endothelial Progenitor Function in Chronic Liver Injury	Fanyin	Meng
202	Reconstruction of Complex Fitness Landscapes Using High-Throughput Experimental Data	David	McCandlish*
203	Developing a Dynamic, High Affinity Scaffold Toolkit for the Control of Intracellular Spatial Organization of Proteins and Metabolic Flux	Alexander	Mitkas
204	Assembly of Synthetic Bacterial Microcompartments in *Saccharomyces Cerevisiae*	Yong Quan	Tan
205	Characterization of Gene Expression Regulated By Combined Action of a Chemical Inducer and Temperature	Abhilash	Patel
206	Open-Source Paper-Fluidic Device for Bacterial Culture, Communication and Biocomputation	Gonzalo A.	Vidal-Peña
207	Noise-Reducing Optogenetic Circuits in Mammalian Cells	M. Tyler	Guinn
208	Application of Optimal Experimental Design to Omics Experimentation	Navneet	Rai
209	DNA Construct Sequence Validation Using the Miseq Platform	Jonathan	Diab

210	Design and Synthesis of RNA Thermoregulators to Control Metabolic Flux in the Production of Essential Metabolites and Therapeutic Molecules	Jose Ruben	Morones
211	Improving Electron Flux in E. coli By Altering the Periplasmic Electron Carriers	Lin	Su
212	Engineering Transcriptional Interference for NAND and NOR Logic Behaviors	Nolan	O'Connor
213	Novel Cell-Free Protein Synthesis System of Chitinases from *Serratia Marcescens* DB11	Michael	Huang
214	Isolating Live Cells after High-Throughput, Long-Term, Time-Lapse Microscopy	Scott	Luro*
215	Engineering Synthetic Biotic Medicines™ for the Treatment of Cancer	Ning	LI
216	Minimal Genomes: *In-Silico* using Whole-Cell Models, *in-Vivo* using CRISPR-cas9	Joshua	Rees*
217	Synthetic Biology Platform for Modifying Glycosylation of Biopharmaceuticals	Christopher	Stach
218	Analysis of Macromolecular Crowding Effects on Gene Expression in *E. coli* Cell-Free Systems	Ti	Wu
219	Improving Energy Supplies in *E. coli* Cell-Free Systems with Polyphosphate Kinase 2	Ti	Wu
220	Data-Driven Cellular Capacity Optimization through Proteome Reclamation	Robert	Egbert
221	An Automated Droplet-Based Microfluidic System for Optimizing Biosynthetic Pathways	Kosuke	Iwai*
222	Engineering an Orthogonal DNA Replication System for Sexual Recombination and Biosensor Evolution	Alex	Javanpour
223	Design of a Layered Feedback Controller in Biological Systems	Chelsea	Hu
224	Synthetic Genetic Incompatibility; dCas9-Based Programmable Transcription Activation for Invasive Species Biocontrol and Transgene Biocontainment	Samuel	Erickson*
225	Bioswitches and Robots for Systems Metabolic Engineering and Synthetic Biology of Hyper Microbial Production Strains	An-Ping	Zeng
226	Emerging Technologies and Frontiers of Biomolecular Engineering: Combining Rational Design, Machine Learning and Automated Experimental Feedback	Uwe	Jandt
227	Orthogonal Transmembrane Chemical Signalling across Synthetic Cells	Yujia	Qing
228	Identification and Characterization of Arabinoxylanases from a Newly Isolated Thermophilic Bacterium to Improve Fermentation of Corn Fiber	Dhananjay	Beri
229	Genome Mining and Strain Engineering to Identify Novel Drugs from Filamentous Fungi	Nadia	Chacko
230	Pairing Genome Engineering of Synthetic Yeast Strains with High Throughput Screening for Enhanced Flavonoid Production	Jamie	Auxillos
231	Evaluation of Engineered Microbe Persistence and Function of Using a Simplified Polymicrobial Gut Community	Steven	Arcidiacono
232	Microbial Dynamic during Start-up Process of Anaerobic Digestion of Sugarcane Vinasse	Licelly	Canizalez-González
233	Biotechnological Applications for Light-Regulated Cre Recombinase	Lena	Hochrein
234	Engineered Microbes for Therapeutic Applications	Chun Loong	Ho
235	Learning from Evolutionary Biology to Engineer Crop Plants for the Future	Prem	Bhalla
236	Toward a Translationally-Independent Guide RNA Oscillator	James	Kuo

237	Engineered Functional Amyloids As Scaffolds for Cell Adhesion and Proliferation	Ebru	Sahin Kehribar
238	Systems Cell-Free Metabolic Engineering for Phenol Production in Crude *Escherichia coli* Lysates	Benjamin P.	Mohr
239	CRISPR-Tool Development in *Pseudomonas Putida* KT2440 for High-Titer Strain Engineering and Multiplexed Approaches	Jacob	Fenster
240	Synthetic Neuromorphic Computing in Living Cells	Ramez	Daniel
241	Targeted Genome Editing at Repetitive Genetic Elements Using Filtered MAGE and CRISPR	Felix	Radford
242	Characterization of a Consensus Toggle Switch	Bárbara	de Freitas Magalhães
243	Regulation of Population Composition and Size in a Synthetic Two-Member Bacterial Community	Reed	McCardell
244	A Novel Method for Constructing Diverse Variant Libraries with Precise Codon Ratio Control	Kimberly	Arnold
245	Engineering Yeast Mating and Sporulation for High-Throughput Enrichment of Peptide Binders	Riley	Stockard
246	Controlling Cell-Free Gene Expression Level and Dynamics by Tuning Molecular Transport Across Lipid Membranes	Patrick	Caveney
247	In-yeasto CRISPR screen to measure sgRNA efficiency	Neta	Agmon
248	Engineering Enzyme Networks for Biomass Deconstruction in Synthetic Microbial Communities	Joe	Ho
249	Identification of Proteins for Controlled Nucleation of Metal-Organic Crystals for Nanoenergetics	Maneesh	Gupta
250	AcrIIA4 Mediates Gene Editing Efficiency in Mammalian Cells	Matthew	Lau
251	Automated DNA Design through the Use of Artificial Intelligence	Eduardo	Abeliuk
252	Towards Automated Strain Isolation from Gut Microbiomes	Lucas	Cohen
253	Design and analysis of tunable recombinase-based oscillator	Christian	Cuba Samaniego
254	Inscripta Poster	N/A	N/A
255	Synthetic Ribosome Binding site Design for Improved Recombinant Protein Secretion	Agnieszka	Gawin
256	One Substrate, Many Products	Wenjia	Gu
257	A Scalable Network Analysis Pipeline to Identify Target Genes Significantly Regulated By Genetic Engineering of Host Organism	Mohammed	Eslami