



SAFE GENES

MAY 2-4, 2017 • SAN DIEGO, CALIFORNIA

Start	Finish	Topic	Presenter/Participants	Location and Notes
DAY 1				
8:00	9:00	1:00 Breakfast & Registration	All attendees	Wifi: Username: Safe Genes Password: San Diego Breakfast provided for all attendees Breakfast location: Terrazza Foyer Registration Location: Terrazza Foyer
9:00	9:30	0:30 Safe Genes Kick-off Meeting Overview	Renee Wegrzyn, PM, DARPA	Location: Terrazza Ballroom PAO Introduction, Safe Genes Portfolio Overview, DARPA Expectations, Meeting Goals, Q/A
GENE DRIVE PERFORMER PRESENTATIONS				
9:30	9:50	0:20 Gene Drives Seedling: Making Gene Drives Biodegradable	Zachary Adelman, Texas A&M University	Terrazza Ballroom
9:50	10:10	0:20 Safe Genes Performer Presentation: Controlling and Countering Gene Editing in Mosquitoes	Andrea Crisanti, Imperial College London	
10:10	10:40	0:30 Safe Genes Performer Presentation: Restoring Ecosystems and Biodiversity through Development of Safe and Effective Gene Drives	John Godwin, NCSU	
10:40	10:55	0:15 Break		Terraza Foyer
10:55	11:10	0:15 Ecological Niche YFA Lightning Talks	Michael Smanski, UMN; Andrew Nuss, UNV Reno	
11:10	11:40	0:30 Safe Genes Performer Presentation: Daisy Drive Systems to Precisely Alter Local Populations	Kevin Esvelt, MIT	
11:40	12:10	0:30 Safe Genes Performer Presentation: Safely engineering various classes of gene drives to control a major invasive disease vector, <i>Aedes aegypti</i>	Omar Akbari, UCR	
12:10	12:30	0:20 Modeling Seedling: Economics of Mosquito Control	Mike Bonsall, University of Oxford	
12:30	13:30	1:00 Working Lunch: Group Discussion/Networking		Location: Bayside Terrace
DATA SHARING				
13:30	13:50	0:20 Data Sharing Overview	Moderator: Jenica Patterson, SETA, DARPA Jenica Patterson, SETA, DARPA	Terrazza Ballroom
13:50	14:10	0:20 Lighting Talks - Data Sharing Approaches	Biobright, Joung Lab, Vectorbase	
14:10	14:55	0:45 Open Discussion - Strategy for Data Sharing		Challenges, Community Needs, Best Practices, Opportunities
14:55	15:10	0:15 Break		Terrazza Foyer
LEEDR - GENE DRIVES				
15:10	15:20	0:10 Legal, Ethical, Environmental, Dual-Use, and Responsible Innovation (LEEDR) Overview	Moderator: Sarah Carter, SETA, DARPA Sarah Carter, SETA, DARPA	Terrazza Ballroom
15:20	15:30	0:10 Community Engagement Best Practices	Jim Lavery, Emory University	
15:30	15:40	0:10 Gene Drive Sponsors and Supporters Forum	Claudia Emerson, McMaster University	
15:40	16:10	0:30 Lightning Talks - LEEDR Approaches (3 min each)	Bonsall, Bloss, Joung Lab, Esvelt Lab, Godwin	
16:10	16:30	0:20 Open Discussion - Strategy for LEEDR		Challenges, Community Needs, Best Practices, Opportunities
16:30	17:30	1:00 Novel platforms for strategic LEEDR engagement (20 min presentation + open discussion)	sparks & honey	
17:30	18:45	1:15 Teaming & Networking Session		Location: Garden by the Bay Reception provided for all attendees - cash bar
DISTRIBUTION STATEMENT F: Further dissemination only as directed by the DARPA Director's Office or higher DoD authority.				
DAY 2				
8:00	9:00	1:00 Breakfast		Wifi: Username: San Diego Password: Safe Genes Breakfast provided for all attendees Breakfast location: Acqua California Bistro
THERAPEUTICS PERFORMER PRESENTATIONS				
9:00	9:20	0:20 Safe Genes Performer Presentation: Controlling and Countering Gene Editing in Mosquitoes	Keith Joung, Massachusetts General Hospital	Terrazza Ballroom
9:20	9:50	0:30 Safe Genes Performer Presentation: Chemical control of CRISPR-Cas9 in cells and organisms	Amit Choudary, Broad Institute	
9:50	10:20	0:30 Safe Genes Performer Presentation: Molecular Control of Genome Editing	George Church, Harvard Medical School	
10:20	10:35	0:15 Break		Terrazza Foyer
10:35	11:05	0:30 Safe Genes Performer Presentation: Next-Generation CRISPR and anti-CRISPR Tools and Delivery Systems for Safely Engineering the Genome and Epigenome	Jennifer Doudna, UCB Cong Trinh, UTK;	
11:05	11:20	0:15 Countermeasures YFA Lightning Talks	Anushree Chatterjee, UCBoulder	

11:20	11:40	0:20	Safe Genes Seedling Presentation: Development of Base Editing as a Controllable and Reversible Genome Editing Platform	David Liu, Broad Institute	
11:40	12:00	0:20	Seedling: Programmable Therapeutic Cell Circuit Platforms	Tim Lu, Senti Biosciences, Inc.	
12:00	13:00	1:00	Working Lunch: Group Discussion/Networking		Bayside Terrace
			LEEDR - THERAPEUTICS	Moderator: Renee Wegrzyn, PM, DARPA	Terrazza Ballroom
13:00	13:05	0:05	Therapeutics LEEDR Overview	Renee Wegrzyn, PM, DARPA	
13:05	13:25	0:20	National Academies Human Gene Editing Report Overview	Alta Charo, University of Wisconsin, Madison	
13:25	13:45	0:20	Open Discussion - Strategy for Therapeutics LEEDR		
13:45	14:00	0:15	Break		Terrazza Foyer
			DELIVERY	Moderator: Amy Jenkins, SETA, DARPA	Terrazza Ballroom
14:00	14:10	0:10	Delivery Challenges Overview	Amy Jenkins, SETA, DARPA	
14:10	14:30	0:20	SBIR: Highly Scalable Multiplexed CRISPR Applications using Advanced Part Toolboxes and Circuits	Howard Salis, De Novo DNA	
14:30	14:50	0:20	SBIR: s50 Nanocapsule Delivery of Multiplex Base Editing for Safe and Efficient Targeting of the Hepatitis B Virus	Leah Hogdal, BMoGen	
14:50	15:10	0:20	YFA: Next generation mRNA delivery systems with precise spatial and temporal activity	Katie Whitehead, Carnegie Mellon University	
15:10	15:25	0:15	Break		Terrazza Foyer
15:25	15:45	0:20	Young Faculty Award, Class of 2016: Engineering Safer and Controllable CRISPR	Samira Kiani, Arizona State University	
15:45	16:05	0:20	DARPA Performer: RNA Delivery	Phil Santangelo, Georgia Tech	
16:10	16:25	0:15	Open Discussion - Strategy for Delivery		Challenges, Community Needs, Best P Opportunities
16:25	16:45	0:20	Final Thoughts/Meeting Adjourn		Performers without assigned evening excused
16:45	17:00	0:15	Break		DARPA team break to regroup for side
			SIDEBARS		Marbella Room
17:00	17:45	0:45	SIDEBAR #1: NCSU		Please stay close by in case we are run schedule!
17:45	18:30	0:45	SIDEBAR #2: UCB		
18:30	19:15	0:45	SIDEBAR #3: MGH		
19:15	20:00	0:45	SIDEBAR #4: MIT		
DAY 3					
8:00	9:00	1:00	Breakfast		Breakfast provided for all attendees Breakfast location : Acqua California Bi
9:00	9:45	0:45	SIDEBAR #5: Harvard		Marbella Room
9:45	10:30	0:45	SIDEBAR #6: Broad- Choudary		Marbella Room
10:30	11:15	0:45	SIDEBAR #7: UCR		Marbella Room