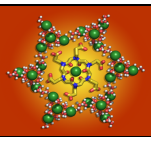
11th Peptoid Summit Agenda



August 10-12, 2022

Live Oral Program

Day One: Wednesday 8/10/22

Time (PST)	Name	Affiliation	Title	Session
8:00 - 8:10 am	Dr. Ronald Zuckermann	Lawrence Berkeley National Laboratory	Welcome!	**WELCOME**
8:10 - 8:50	**KEYNOTE ADDRESS:** Prof. Alanna Shepartz	University of California, Berkeley	Novel materials from a repurposed translation machine	**KEYNOTE 1**
8:50 - 9:20	**LIGHTNING ROUND**	*(details below)*	⚡⚡⚡	**LIGHTNING 1**
9:20 - 9:50	**BREAK**			
9:50 - 10:10	Dr. Aaron Lau	University of Strathclyde	Chain-End Modification of Antimicrobial Peptoids	**BIO 1** *Chair: Prof. Annelise Barron*
10:10 - 10:30	Prof. Kent Kirshenbaum	New York University	The Emerging Promise of Peptoid Therapeutics: New Profiles of In Vivo Efficacy	
10:30 - 10:50	Prof. Gomika Udugamasooriya	University of Houston	Peptoid "molecular masks" for ACE2 to effectively and safely block SARS-CoV-2 virus entry	
10:50 - 11:10	Prof. Gill Diamond	University of Louisville	In vitro and in vivo activity of antimicrobial peptoids against Herpes Simplex Virus	
11:10 - 11:30	Prof. Kevin Bicker	Middle Tennessee State University	High-throughput discovery and development of antifungal peptoids	
11:30 - 11:50	Mr. Brian Bacacao	Stanford university	Thiourea potentiates the antibacterial activity of peptoids against multidrug resistant ESKAPE pathogens	
12:00 - 1:00 pm	**INTERMISSION**			
1:00 - 1:20	Dr. Mark Kline	X-Therma Inc.	Advancing the Field of Organ Transplantation with Peptoid-based Cryoprotectants to Eliminate Organ Waiting Lists Globally	**BIO 2**
1:20 - 1:40	Dr. Colin McKinlay	Nutcracker Therapeutics	Delivery in a Nutshell(TM): Activity-informed design of cationic peptoids with enhanced efficacy for the uptake and expression of mRNA therapeutics	
1:40 - 2:00	Dr. Jay Grate	Pacific Northwest National Laboratory	Cationic Triazine-based Polymers with Antimicrobial Activity	
2:00 - 2:20	Prof. Jiyong Lee	The University of Texas at Tyler	Peptoid-conjugated gold nanorods for targeted hyperthermia of cancer stem cells	
2:20 - 2:40	Prof. Jiwon Seo	Gwangju Institute of Science and Technology	Multi-target engagement of antimicrobial peptoids: Synthesis, biological activity evaluation, and mechanism study	
2:40 - 3:00	**BREAK**			
3:00 - 3:20	Mr. Linhai Jiang	New York University	The Role of Carboxyl Side Chains in the Organization and Conformational Switching of Peptoids	**CHEM 1** *Chair: Prof. Kent Kirshenbaum*
3:20 - 3:40	Ms. Erin Day	University of North Carolina, Chapel Hill	High-Throughput Characterization of Sequence-Dependent Conformation	
4:00 - 4:20	Dr. Jumpei Morimoto	University of Tokyo	Synthesis and conformational studies of β-peptoids with substituents on backbone carbons	
3:40 - 4:00	Prof. Li Guo	Jiangsu University	Synthesis and antifreeze properties of glycopolypeptoids	
4:20 - 4:40	Prof. Sunting Xuan	Soochow University	Synthesis of N-methyl polypeptides by controlled ring opening polymerization	
4:40 - 5:00	**BREAK**			
5:00 - 5:40	**LIGHTNING ROUND**	*(details below)*	⚡⚡⚡	

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Day Two: Thursday 8/11/22				
8:00 - 9:45	**POSTER SESSION 1-4**	*Four parallel session (details below)*		**POSTER 1-4**
9:45 - 10:00	**BREAK**			
10:00 - 10:20	Martyn Merrilees	University of Strathclyde	Convenient ambient preparation of block co-polypeptoids incorporating specific sequences	**CHEM 2**
10:20 - 10:40	Dr. Sophie Faure	Université Clermont Auvergne	Arylopeptoid macrocycles: towards shape-persistent architectures	*Chair: Prof. Kent Kirshenbaum*
10:40 - 11:00	Prof. Gaetano Angelici	Università di Pisa	Polyproline I helix obtained from (S)-Indoline-2-carboxylic acid oligomer	
11:00 - 11:10	**BREAK**			
11:10 - 11:30	Dr. Chun-Long Chen	Pacific Northwest National Laboratory	Development of peptoid-based crystalline nanomaterials as biomimetic catalysts for lignin depolymerization	**NANO 1**
11:30 - 11:50	Prof. Ellen Robertson	Union College	Using peptoid nanosheets as platforms for controlling nanoparticle assembly into solution-stable 2D arrays	*Chair: Dr. Ronald Zuckermann*
11:50 - 12:10	Renyu Zheng	Pacific Northwest National Laboratory	Self-assembly of short sequence diblock peptoids into nanohelices with tunable supramolecular chirality	
12:10 - 1:00 pm	**INTERMISSION**			
1:00 - 1:20	Prof. Francois Baneyx	University of Washington	Hierarchical Hybrid Materials from High-Information-Content Building Blocks	**NANO 2**
1:20 - 1:40	Dr. Mingfei Zhao	University of Chicago	Mechanical properties of peptoid sheets lead to structure and size distribution of peptoid nanotubes	
1:40 - 2:00	Dr. Shih-Ting Wang	Columbia University	Nanomaterial stabilization through engineered sequence-defined peptoids	
2:00 - 2:20	Meng Zhang	Louisiana State University	Understanding the Role of charge pattern on the Micellar Structure of Polypeptoid Multi-Block Copolymers	
2:20 - 2:40	**BREAK**			
2:40 - 3:00	Dr. Xi Jiang	Lawrence Berkeley National Laboratory	Hierarchical structures of peptoid polymers revealed by cryogenic electron microscopy	**NANO 3**
3:00 - 3:20	Dr. Tianyi Yu	Lawrence Berkeley National Laboratory	Controlling the Nano-scale Morphology and Crystallinity of Peptoid Nanostructures by Modulating Lattice Interactions with Small Molecules	
3:20 - 4:00	**KEYNOTE ADDRESS:** Prof. Michael Yu	University of Utah	Collagen hybridizing peptides and peptoids: from protein folding to disease targeting	**KEYNOTE 2**
4:00 - 4:20	**BREAK**			
4:20 - 4:40	Dr. Ronald Zuckermann	Lawrence Berkeley National Laboratory	Intra- and Inter-chain Interactions in Peptoid Supramolecular Assemblies	**NANO 4**
4:40 -5:00	Prof. Jing Sun	Jilin University	Functional bioinspired peptoid polymers and the self-assemblies	
5:00 - 5:20	**COMMUNITY FEEDBACK OPEN DISCUSSION** (please input your suggestions on the conference homepage)			
5:20 - 7:00	**POSTER SESSION 5-7**	*Three parallel session (details below)*		**POSTER 5-7**

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Day Three: Friday 8/12/22				
9:00 - 9:20	Mr. Hamish Swanson	University of Strathclyde	Martinoid: A Peptoid Martini Force Field	**COMP 1**
9:20 - 9:40	Prof. Vincent Voelz	Temple University	Improving molecular simulations of peptoids with Bayesian inference	*Chair: Prof. Vincent Voelz*
9:40 - 10:00	Mr. Rakshit Jain	North Carolina State University	Development of an atomistic forcefield for peptoids	
10:00 - 10:20	Dr. Xubo Luo	Lawrence Berkeley National Laboratory	Molecular dynamics study of the self-assembly of polypeptoid nanocrystals	
10:20 - 10:40	**BREAK**			
10:40 - 11:00	Mr. James Baggs Eastwood	New York University	Experimental and Theoretical Scaffolds for Peptoid Design	**COMP 2**
11:00 - 11:20	Dr. Jeevapani Hettige	Pacific Northwest National Laboratory	Molecular dynamics study of peptoid-membrane interactions and potential pore-formation in lipid membranes	
11:20 - 12:20	**AWARDS & CLOSING**			

3:00 - 7:00	**BBQ and Frisbee Fest!** 	*In-person gathering in Berkeley, CA (details online)*

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Pre-recorded Oral Presentations

Available in the "On Demand" section!

Bio Bundle			
15 min	Dr. Justine Habault	New York University	MPC309, a novel multivalent peptoid conjugate, specifically inhibits prostate cancer cell proliferation by modulating the androgen receptor transcriptional activity
15 min	Dr. Claudia Zielke	Stanford University	DNA-binding peptoid TM1 as an alternative to LL-37 in immunostimulatory LL-37-nucleic acid complexes
15 min	Dr. Josefine Nielsen	Stanford University	The use of antimicrobial "Peptoid 1" as a prophylactic treatment against Alzheimer's disease
15 min	Mr. Haowen Zhang	University of Houston	Optimization and biological validation of a vimentin binding peptoid in non-small cell lung cancer stem cells
15 min	Ms. Mary Tran	Middle Tennessee State University	Improving antifungal peptoid potency and cytotoxicity through an iterative structure-activity relationship study
15 min	Dr. Sujit Suwal	SUNY-Buffalo State	Hybrid Peptoid-Peptide Towards Inhibition of Cardiac Fibrosis
Chem Bundle			
15 min	Dr. Srijani Sarkar	National Cancer Institute	Binding of Gamma Peptide Nucleic Acid Oligomers to Structured Nucleic Acid Targets Derived from Viral and Human Genome
15 min	Dr. William Brittain	Durham University	Accessing Chiral Metal Binding Building Blocks for Peptoid Synthesis
15 min	Mr. Shawn Mengel	University of California, Santa Barbara	Controlling End-to-End Distance with Monomer Sequence in Short Polypeptoids
15 min	Prof. Michele Laus	Università del Piemonte Orientale	Polypeptoid Brush Layers: Bioinspired Dopant Containing Polymers at the Top
Nano Bundle			
15 min	Mr. Min Chen	Lawrence Berkeley National Laboratory	Study of the Liquid Crystal Phase Transition in Polypeptoids with 4D-STEM
15 min	Dr. Li Shao	Pacific Northwest National Laboratory	Multidimensional hierarchical self-assembly of rational-designed peptoids sequences
15 min	Dr. Changning Li	Pacific Northwest National Laboratory	Peptoid-engineered Synthesis of Gold Nanocrystals and Its Application as Highly Efficient Environmentally-friendly Heterogeneous Photocatalysts
15 min	Dr. Yanxu Zong	Pacific Northwest National Laboratory	Tackling the Atomic Structure of Self-Assembled Peptoid Nanosheet with Cryogenic Electron Crystallography
15 min	Ms. Audra DeStefano	University of California, Santa Barbara	Water dynamics throughout the corona of polymeric micelles relate to polymer volume fraction

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Pre-recorded Interviews		***Available in the "On Demand" section!***	Date recorded
Insights from Industry Leaders			
17 min	Joshua McClure	Maxwell Biosciences	An interview discussing Maxwell's work toward peptoid-based anti-infectives.	7/28/22
21 min	Robert Hagopian	PolyPeptide Group	An interview duiscussing the production of peptoids on a commercial scale.	8/2/22
13 min	Dr. Reddy Moola, Bill Shelander	AnVen Biosciences	An interview about the systematic discovery of bioactive peptoids.	8/2/22
15 min	Dr. Xiaoxi Wei	X-Therma	An interview on the remarkable ability of peptoids to aid in the preservation of organs during transplants.	8/9/22
User Facilities			
15 min	Prof. Javier Read de Alaniz, Dr. Morgan Bates	BioPACIFIC MIP	An interview about the capabilites offered by a new User Program from UC Santa Barbara and UC Los Angeles.	7/29/22
15 min	Shanon Ciston, Michael Connolly	Molecular Foundry, Lawrence Berkel;ey National Laboratory	An interivew about the Foundry's User Program and how it can benefit the peptoid community.	8/2/22

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Lightning Rounds (Live)

3-minute open mic session

Lightning 1	Wednesday 8:50 - 9:20 AM		*Chair: Dr. Ronald Zuckermann*
1	Dr. Olivier Roy	Université Clermont Auvergne	N-alkylamino peptoid homooligomers
2	Dr. Giovanni Pierri	University of Salerno	Channel adaptability in a permanently porous peptoid material
3	Dr. Rosaria Schettini	University of Salerno	Azamacrocycles designed from cyclic peptoids as novel magnetic resonance imaging contrast agents
4	Ms. Jennifer Franco	New York University	Peptoid-Peptide Macrocycles Inhibit the Interaction Between β-Catenin and TCF
5	Mr. Ethan Weisberg	University of Pennsylvania	Enabling Structural Insights with the New Peptoid Data Bank
6	Thi Kim Hoang Trinh	Pacific Northwest National Laboratory	Self-Assembled Metal-Containing Peptoid Nanosheets for Promoting Degradation of Chemical Warfare Agent Stimulants
7	Mary Nguyen	University of Washington, Seattle	Morphological Transitions of Photoresponsive Amphiphilic Peptoid Nanostructures
8	Abigail Clapperton	University of Toronto	Solution-phase synthesis of sequence-controlled polypeptoids
9	Carolynn Davern	North Carolina State University	Restriction of peptoid amide bonds using N-imino and N-alkylamino glycines

Lightning 2	Wednesday 5:00 - 5:40 PM		*Chair: Dr. Ronald Zuckermann*
1	Mr. Colton Quick	Gyros Protein Technologies	Automated Peptoid Synthesis on PurePep® Chorus and Symphony® X
2	Mr. Minsang Kim	Gwangju Institute of Science and Technology	Real-time monitoring multi-target mechanism of antimicrobial peptoids using label-free imaging with optical diffraction
3	Mrs. Manjulatha Sara	University of New South Wales	Antimicrobial activity of peptoids against clinical pathogens
4	Mrs. Dasom Song	Gwangju Institute of Science and Technology	Antimicrobial peptoids containing a metal-chelating moiety that generates reactive oxygen species
5	Mr. Jinyoung Oh	Gwangju Institute of Science and Technology	Pyrene-containing helical peptoids: structure driven chiral inversion of excimer
6	Prof. Jianhua Ren	University of the Pacific	Mass spectrometry studies of metalated peptoids-enhanced ionization and fragmentation efficiency
7	Ms. Michelle Nguyen	Santa Clara University	Sequence-structure-function relationships of water-soluble peptoid helices
8	Ms. Abigail Barnum	Kalamazoo College	Peptoid flexibility using DFT: Towards predicting NMR chemical
9	Ms. Zhang Min	Jiangsu University	Design, Synthesis and Antifreeze Properties of Biomimetic Peptoid Oligomers
10	Ms. Min Lin	Jilin University	Photo-Triggered Antimicrobial polypeptoids with Biocompatibility and Synchronizing Antifouling and Antimicrobial Hydrogels
11	Mr. Qiu Zhifeng	Jiangsu University	Synthesis and characterization of micelles from thermal-responsive amphiphilic triblock copolypeptoids as drug carrier

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Poster Presentations (Live) Parallel sessions

Poster 1	**Thursday AM**		*Chair: Dr. Aaron Lau*	
8:00 - 8:15	Mr. Patrick Tate	New York University	Investigation of membrane-active antiviral peptoids	
8:15 - 8:30	Dr. Leiping Zeng	Stanford University	Broad-spectrum CRISPR-mediated inhibition of SARS-CoV-2 variants	
8:30 - 8:45	Ms. Jennifer Franco	New York University	Peptoid-Peptide Macrocycles Inhibit the Interaction Between β-Catenin and TCF	⚡
8:45 - 9:00	Dr. Bryan Knuckley	University of North Florida	A novel peptoid-based inhibitor of Protein Arginine Methyltransferase 1 (PRMT1) causes apoptosis and autophagy in cancer cells	
9:00 - 9:15	Ms. Wenhan Zhao	Steven Institute of Technology	Peptoid-Loaded Microgel-Modified Ti Wires Inhibit Intra-Operative OR Contamination	
9:15 - 9:30	Mr. Haowen Zhang	University of Houston	Optimization and biological validation of a vimentin binding peptoid in non-small cell lung cancer stem cells	
9:30 - 9:45	Open discussion			
Poster 2	**Thursday AM**		*Chair: Dr. Sophie Faure*	
8:00 - 8:15	Dr. Olivier Roy	Université Clermont Auvergne	N-alkylamino peptoid homooligomers	⚡
8:15 - 8:30	Dr. Giovanni Pierri	University of Salerno	Channel adaptability in a permanently porous peptoid material	⚡
8:30 - 8:45	Dr. Rosaria Schettini	University of Salerno	Azamacrocycles designed from cyclic peptoids as novel magnetic resonance imaging contrast agents	⚡
8:45 - 9:00	Ms. Diana Kolos	Durham University	The application of perfluoroaromatics in the formation of macrocyclic peptoids	
9:00 - 9:15	Mr. Lewis Picken	Durham University	Exploring the Effects of Fluoroalkyl Sidechains on Peptoid Secondary Structure	
9:15 - 9:45	Open discussion			
Poster 3	**Thursday AM**		*Chair: Prof. Steven Cobb*	
8:00 - 8:15	Mr. Ethan Weisberg	University of Pennsylvania	Enabling Structural Insights with the New Peptoid Data Bank	⚡
8:15 - 8:30	Mr. Akash Banerjee	Rutgers University	A coarse-grained model to study the organization of helical peptoids in biomolecular assemblies	
8:30 - 8:45	Mr. Ayman Akhdar	Université Clermont Auvergne	Arylopeptoid Functionalization using Carbene Copper Catalyst	
8:45 - 9:00	Dr. Arnaud Gautier	Université Clermont Auvergne	Activated Arylopeptoids for CuAAC	
9:00 - 9:15	Mrs. Elena Mancera-Andrade	Middle Tennessee State University	Synthesis and biological characterization of derivatives of the antifungal peptoid RMG8-8	
9:15 - 9:30	Ms. Carolynn Davern	North Carolina State University	Restriction of peptoid amide bonds using N-imino and N-alkylamino glycines	⚡
9:30 - 9:45	Open discussion			
Poster 4	**Thursday AM**		*Chair: Dr. Tianyi Yu*	
8:00 - 8:15	Dr. Thi Kim Hoang Trinh	Pacific Northwest National Laboratory	Self-Assembled Metal-Containing Peptoid Nanosheets for Promoting Degradation of Chemical Warfare Agent Stimulants	⚡
8:15 - 8:30	Ms. Mary Nguyen	University of Washington, Seattle	Morphological Transitions of Photoresponsive Amphiphilic Peptoid Nanostructures	
8:30 - 8:45	Ms. Abigail Clapperton	University of Toronto	Solution-phase synthesis of sequence-controlled polypeptoids	⚡
8:45 - 9:00	Dr. Beihang Yu	Lawrence Berkeley National Laboratory	Sequence-defined peptoid brushes for surface nanopatterning to direct bimolecular assemblies	
9:00 - 9:15	Dr. Sabari Ghosh	Lawrence Berkeley National Laboratory	Peptoid nanosheets as a rapid discovery platform for critical materials separation	
9:15 - 9:45	Open discussion			

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Poster 5	**Thursday PM**		*Chair: Prof. Kent Kirshenabum*	
5:20 - 5:35	Mr. Minsang Kim	Gwangju Institute of Science and Technology	Real-time monitoring multi-target mechanism of antimicrobial peptoids using label-free imaging with optical diffraction	⚡
5:35 - 5:50	Mrs. Manjulatha Sara	University of New South Wales	Antimicrobial activity of peptoids against clinical pathogens	⚡
5:50 - 6:05	Mrs. Dasom Song	Gwangju Institute of Science and Technology	Antimicrobial peptoids containing a metal-chelating moiety that generates reactive oxygen species	⚡
6:05 - 6:20	Ms. Xiran Shen	Jiangsu University	Biocompatible surface from cationic polypeptoids with antibacterial specificity	
6:20 - 6:35	Mrs. Ghayah Bahatheg	University of New South Wales	Design and Synthesis of Novel Antimicrobial Peptoids	
6:35 - 6:50	Ms. Mary Tran	Middle Tennessee State University	Rapid discovery of antimicrobial peptoids against Staphylococcus aureus using the high-throughput Peptoid Library Agar Diffusion (PLAD) assay	
6:50 - 7:00	Open discussion			
Poster 6	**Thursday PM**		*Chair: Prof. Caroline Proulx*	
5:20 - 5:35	Mr. Elliott Anderson	Santa Clara University	Interfacial studies of water-soluble peptoids adsorbed to phospholipids	
5:35 - 5:50	Mr. Jinyoung Oh	Gwangju Institute of Science and Technology	Pyrene-containing helical peptoids: structure driven chiral inversion of excimer	⚡
5:50 - 6:05	Mr. Yen Jea Lee	Gwangju Institute of Science and Technology	Post-synthetic methods to incorporate azoles on side chains of peptoids	
6:05 - 6:20	Prof. Jianhua Ren	University of the Pacific	Mass spectrometry studies of metalated peptoids-enhanced ionization and fragmentation efficiency	⚡
6:20 - 6:35	Ms. Michelle Nguyen	Santa Clara University	Sequence-structure-function relationships of water-soluble peptoid helices	⚡
6:35 - 6:50	Ms. Abigail Barnum	Kalamazoo College	Peptoid flexibility using DFT: Towards predicting NMR chemical shifts	⚡
6:50 - 7:00	Open discussion			
Poster 7	**Thursday PM**		*Chair: Dr. Beihang Yu*	
5:20 - 5:35	Ms. Zhang Min	Jiangsu University	Design, Synthesis and Antifreeze Properties of Biomimetic Peptoid Oligomers	⚡
5:35 - 5:50	Ms. Min Lin	Jilin University	Photo-Triggered Antimicrobial polypeptoids with Biocompatibility and Synchronizing Antifouling and Antimicrobial Hydrogels	⚡
5:50 - 6:05	Mr. Qiu Zhifeng	Jiangsu University	Synthesis and characterization of micelles from thermal-responsive amphiphilic triblock copolypeptoids as drug carrier	⚡
6:05 - 6:20	Mr. Frank Truong	University of California, Santa Barbara	Investigating Sequence Electrostatic Effects on Polymer Conformation Using Polypeptoids: A Single-Molecule Force Study	
6:20 - 6:35	Ms. Daniela Rivera Mirabal	University of California, Santa Barbara	Sequence Modulates Polypeptoid Hydration Water Structure and Dynamics	
6:35 - 7:00	Open discussion			