

REPORT DOCUMENTATION PAGE			Form Approved OMB NO. 0704-0188		
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1. REPORT DATE (DD-MM-YYYY) 11-09-2018		2. REPORT TYPE Final Report		3. DATES COVERED (From - To) 1-Jan-2018 - 30-Aug-2018	
4. TITLE AND SUBTITLE Final Report: Bioinspired Multifunctional Dynamic Materials			5a. CONTRACT NUMBER W911NF-18-1-0053		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER 611102		
6. AUTHORS			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAMES AND ADDRESSES Gordon Research Conferences, Inc. 512 Liberty Lane West Kingston, RI 02892 -1502			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS (ES) U.S. Army Research Office P.O. Box 12211 Research Triangle Park, NC 27709-2211			10. SPONSOR/MONITOR'S ACRONYM(S) ARO		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S) 72891-MS-CF.1		
12. DISTRIBUTION AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other documentation.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:		17. LIMITATION OF ABSTRACT		15. NUMBER OF PAGES	
a. REPORT UU	b. ABSTRACT UU	c. THIS PAGE UU	UU	19a. NAME OF RESPONSIBLE PERSON Zhibin Guan	
				19b. TELEPHONE NUMBER 949-824-5172	

RPPR Final Report
as of 05-May-2020

Agency Code:

Proposal Number: 72891MSCF

Agreement Number: W911NF-18-1-0053

INVESTIGATOR(S):

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Phone Number: 9498245172

Principal: Y

Organization: **Gordon Research Conferences, Inc.**

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EIN: 050300482

Report Date: 30-Nov-2018

Date Received: 11-Sep-2018

Final Report for Period Beginning 01-Jan-2018 and Ending 30-Aug-2018

Title: Bioinspired Multifunctional Dynamic Materials

Begin Performance Period: 01-Jan-2018

End Performance Period: 30-Aug-2018

Report Term: 0-Other

Submitted By: Ph.D. Nancy Gray

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Distribution Statement: 1-Approved for public release; distribution is unlimited.

STEM Degrees: 0

STEM Participants: 0

Major Goals: The emerging, interdisciplinary field of Bioinspired Materials focuses on developing a fundamental understanding of the synthesis, directed self-assembly and hierarchical organization of natural occurring materials, and uses this understanding to design new synthetic materials whose structure, properties and function mimic those of natural materials or living matter. Bioinspired design concepts are becoming increasingly integrated into a wide range of materials and devices intended for the consumer, industrial, medical, military and energy sectors, because such approaches offer sustainable solutions to human challenges by emulating nature's time-tested strategies.

The 2018 conference sought to capture the excitement of this growing field by presenting a cutting-edge scientific program that focused on fundamental research in Bioinspired Materials science, chemistry and biology, and the myriad applications that stem from this fundamental research, with a special focus on bioinspired multifunctional dynamic materials. To achieve this goal, we assembled a roster of distinguished invited speakers and discussion leaders who addressed the key issues in the field. Planned sessions included Inspiration from Nature, Active and Adaptive Materials, Systems and Living Materials, Bioinspired Materials for Medicine, Bioinspired Devices, Bioinspired Assemblies, Peptide and Protein Materials, Bioinspired Synthetic Polymers, and Hybrid/Photonic Materials. Invited speakers and discussion leaders represented a variety of scientific disciplines, including biology, biochemistry, chemistry, physics, materials science, mechanical engineering and bioengineering. The conference was intended to promote cross-disciplinary fertilization of new ideas in this emerging field and will create a cohesive community by promoting interactions between junior scientists with prominent senior investigators.

Accomplishments: Report Uploaded

Training Opportunities: Speakers, discussion leaders, poster presenters and attendees simultaneously contributed to and benefited from the collective skills and experience shared throughout the conference.

Results Dissemination: The final program has been posted on the GRC website.

Honors and Awards: Nothing to Report

Protocol Activity Status:

Technology Transfer: Nothing to Report

RPPR Final Report
as of 05-May-2020



GORDON RESEARCH CONFERENCES

FINAL PROGRESS REPORT Army Research Office Bioinspired Materials GRC/GRS

Grant Number W911NF-18-1-0053
June 23-29, 2018

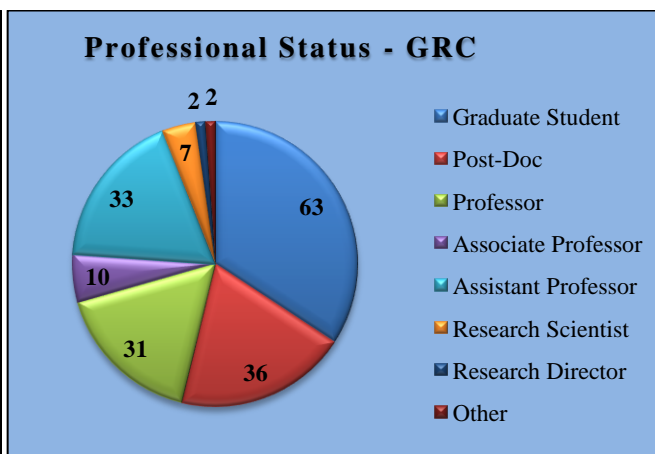
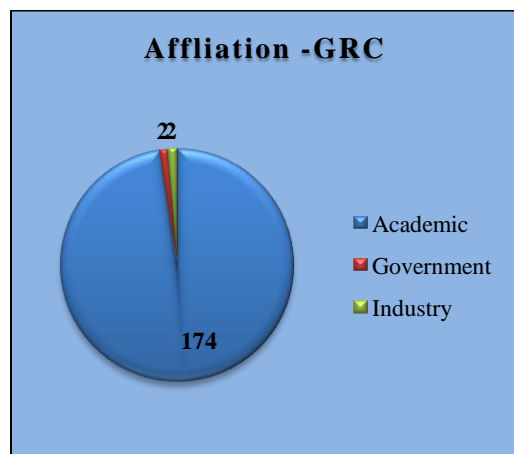
Operational Summary

The Gordon Research Conference (GRC) and Gordon Research Seminar (GRS) on Bioinspired Materials were held at the Les Diablerets Conference Center in Les Diablerets, Switzerland from June 23-29, 2018. The meeting covered a variety of scientific topics and the content presented was highly rated by participants.



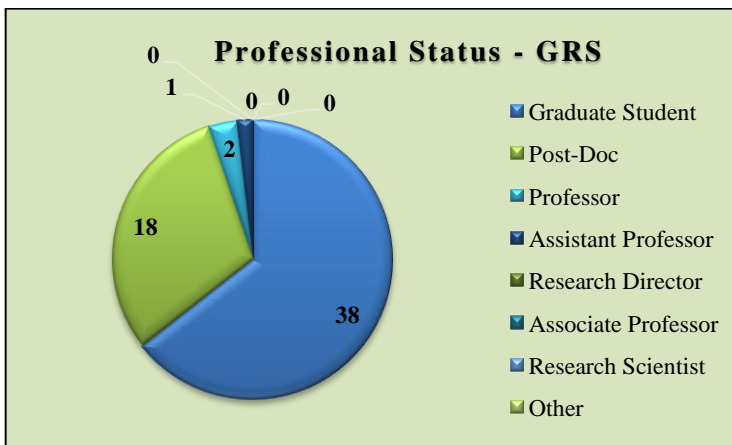
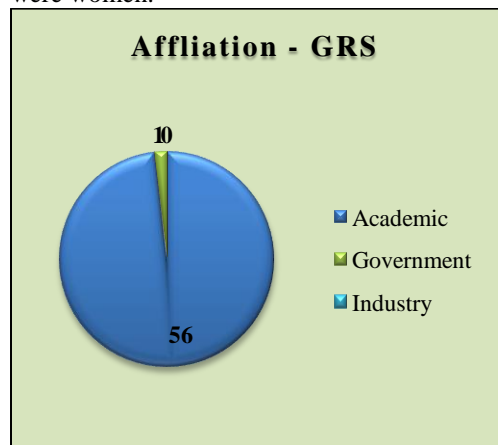
Conference Participants

The Conference was well-attended with 184 participants. Scientists from academia represented 94% of the participants while attendees from government accounted for 1% and those from industry totaled 1%. The meeting also attracted a strong mix of young investigators and senior scientists. Students and post-docs accounted for 53% of all attendees. Approximately 38% of the participants at the 2018 meeting were women.



Seminar Participants

The Conference was well-attended with 59 participants. Scientists from academia represented 94% of the participants while attendees from government accounted for 1% and those from industry totaled 0%. Students and post docs combined accounted for 94% of all attendees. Approximately 38% of the participants at the 2018 seminar were women.



Conference Program

The emerging, interdisciplinary field of Bioinspired Materials focuses on developing a fundamental understanding of the synthesis, directed self-assembly and hierarchical organization of natural occurring materials, and uses this understanding to design new synthetic materials whose structure, properties and function mimic those of natural materials or living matter. Bioinspired design concepts are becoming increasingly integrated into a wide range of materials and devices intended for the consumer, industrial, medical, military and energy sectors, because such approaches offer sustainable solutions to human challenges by emulating nature's time-tested strategies.

The 2018 conference sought to capture the excitement of this growing field by presenting a cutting-edge scientific program that focused on fundamental research in Bioinspired Materials science, chemistry and biology, and the myriad applications that stem from this fundamental research, with a special focus on *bioinspired multifunctional dynamic materials*. To achieve this goal, we assembled a roster of distinguished invited speakers and discussion leaders who addressed the key issues in the field. Planned sessions included Inspiration from Nature, Active and Adaptive Materials, Systems and Living Materials, Bioinspired Materials for Medicine, Bioinspired Devices, Bioinspired Assemblies, Peptide and Protein Materials, Bioinspired Synthetic Polymers, and Hybrid/Photonic Materials. Invited speakers and discussion leaders represented a variety of scientific disciplines, including biology, biochemistry, chemistry, physics, materials science, mechanical engineering and bioengineering. The conference was intended to promote cross-disciplinary fertilization of new ideas in this emerging field and will create a cohesive community by promoting interactions between junior scientists with prominent senior investigators.

Conference Budget

Funding provided by the Army Research Office supported partial registration for 7 postdocs, 12 graduate students, 3 associate professors, 15 assistant professors and 19 professors, and 1 assistant professor at the GRC and partial registration for 23 graduate students and 11 postdocs at the GRS.

Conference Feedback

Participants had an opportunity to provide feedback at the end of the Conference. The feedback collected from the meeting was extremely positive. Evaluations included numerous positive remarks regarding poster sessions and discussion topics. Evaluations from the GRS included positive comments regarding the poster sessions and opportunities for peer interaction.

GRC would like to thank the Army Research Office for its continued support of the meetings. The contributions received have been critical to the success of the conferences and are having a measurable impact in advancing the frontiers of science worldwide.

Dr. Zhibin Guan, GRC Chair
University of California

Dr. Daniel Hammer, GRC Co-Chair
University of Pennsylvania

Nathan Carter, GRS Chair
University of Minnesota

Joel Finbloom, GRS Co-Chair
University of California

Dr. Nancy Ryan Gray
President and Chief Executive Officer
Gordon Research Conferences

Bioinspired Materials
Gordon Research Conference
Bioinspired Multifunctional Dynamic Materials

June 24 - 29, 2018

Chair Zhibin N. Guan
Vice Chair Daniel A. Hammer

Conference Program

Sunday

4:00 pm - 8:00 pm Arrival and Check-in

6:00 pm - 7:00 pm Dinner

7:30 pm - 7:40 pm Introductory Comments by GRC Site Staff / Welcome from the GRC Chair

7:40 pm - 9:30 pm Keynote Session: Inspiration from Nature
Discussion Leader: **Ali Miserez** (Nanyang Technological University, Singapore)

7:40 pm - 8:20 pm **Herbert Waite** (University of California, Santa Barbara, USA)
"How Mussels Tune Redox Chemistry in Wet Adhesion"

8:20 pm - 8:35 pm Discussion

8:35 pm - 9:15 pm **David Baker** (University of Washington, USA)
"Computational Design of Self Assembling Nano-Materials"

9:15 pm - 9:30 pm Discussion

Monday

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm Active and Adaptive Materials
Discussion Leader: **Phillip Messersmith** (University of California, Berkeley, USA)

9:00 am - 9:40 am **Jan van Esch** (Technical University of Delft, The Netherlands)
"Fuel Driven Active Materials"

9:40 am - 10:00 am Discussion

10:00 am - 10:30 am Coffee Break

10:30 am - 11:10 am **Rein Ulijn** (Advanced Science Research Center, Graduate Center, CUNY, USA)
"Active and Reactive Peptide Ensembles"

11:10 am - 11:30 am Discussion

11:30 am - 12:10 pm **Joanna Aizenberg** (Harvard University, USA)
"Bioinspired Materials that Combat Biofouling"

12:10 pm - 12:30 pm Discussion

12:30 pm - 1:30 pm Group Photo / Lunch

1:30 pm - 4:30 pm Free Time

4:30 pm - 6:00 pm Poster Session

6:00 pm - 8:00 pm Systems and Living Materials
Discussion Leader: **Ximin He** (University of California, Los Angeles, USA)

6:00 pm - 6:40 pm **Neel Joshi** (Harvard John A. Paulson School of Engineering and Applied Sciences, USA)
"Biologically Fabricated Materials from Engineered Microbes"

6:40 pm - 7:00 pm Discussion

7:00 pm - 7:40 pm	Eric Dufresne (ETH Zurich, Switzerland) "Bioinspired Self-Assembly of Soft Composites by Liquid-Liquid Phase Separation"
7:40 pm - 8:00 pm	Discussion
8:00 pm - 9:00 pm	Dinner
Tuesday	
7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	Bioinspired Materials for Medicine Discussion Leader: Ellen Sletten (University of California, Los Angeles, USA)
9:00 am - 9:40 am	Kristi Anseth (University of Colorado Boulder, USA) "Photoresponsive and Adaptable Hydrogels as Mimics of the Extracellular Matrix and Their Application in Regenerative Biology"
9:40 am - 10:00 am	Discussion
10:00 am - 10:30 am	Coffee Break
10:30 am - 11:10 am	Molly Stevens (Imperial College London, United Kingdom) "Bio-Inspired Materials for Regenerative Medicine and Ultrasensitive Biosensing"
11:10 am - 11:30 am	Discussion
11:30 am - 12:10 pm	Evan Scott (Northwestern University, USA) "Enhancing Controlled Immunomodulation via Bioinspired Self-Assembled Nanostructures"
12:10 pm - 12:30 pm	Discussion
12:30 pm - 1:30 pm	Lunch
1:30 pm - 4:30 pm	Free Time
4:30 pm - 6:00 pm	Poster Session
6:00 pm - 8:00 pm	Bioinspired Devices and Composites Discussion Leaders: Esther Amstad (École Polytechnique Fédérale de Lausanne, Switzerland) and Shulamit Levenberg (Technion - Israel Institute of Technology, Israel)
6:00 pm - 6:40 pm	Roisin Owens (University of Cambridge, United Kingdom) "The World Is Not Flat: 3D Cell Models Monitored Using 3D Conducting Polymer Devices"
6:40 pm - 7:00 pm	Discussion
7:00 pm - 7:40 pm	Rebecca Schulman (Johns Hopkins University, USA) "Inspired by Signal Transduction: Controlling Materials with DNA Circuits"
7:40 pm - 8:00 pm	Discussion
8:00 pm - 9:00 pm	Dinner
Wednesday	
7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	Bioinspired Assemblies and Supramolecular Materials Discussion Leader: Allon Hochbaum (University of California, Irvine, USA)
9:00 am - 9:40 am	Takuzo Aida (RIKEN Center for Emergent Matter Science (CEMS) / The University of Tokyo, Japan) "Design of Semi-Artificial Biomolecular Robotics"
9:40 am - 10:00 am	Discussion
10:00 am - 10:30 am	Coffee Break

10:30 am - 11:10 am	Xi Zhang (Tsinghua University, China) "Supramolecular Chemotherapy"
11:10 am - 11:30 am	Discussion
11:30 am - 12:10 pm	Faik Tezcan (University of California, San Diego, USA) "Responsive Protein Assemblies by Chemical Design"
12:10 pm - 12:30 pm	Discussion
12:30 pm - 1:30 pm	Lunch
1:30 pm - 4:30 pm	Free Time
4:30 pm - 6:00 pm	Poster Session
6:00 pm - 8:00 pm	Peptide and Protein Materials Discussion Leader: Hongbin Li (University of British Columbia, Canada)
6:00 pm - 6:40 pm	David Weitz (Harvard University, USA) "Intermixed Biopolymer Networks of Reconstituted Proteins"
6:40 pm - 7:00 pm	Discussion
7:00 pm - 7:40 pm	Derek Woolfson (University of Bristol, United Kingdom) "De Novo Peptide-Based Materials: From Computational Design to Applications in Cells"
7:40 pm - 8:00 pm	Discussion
8:00 pm - 9:00 pm	Dinner
Thursday	
7:30 am - 8:30 am	Breakfast
8:30 am - 9:00 am	Business Meeting <i>Nominations for the Next Vice Chair; Fill in Conference Evaluation Forms; Discuss Future Site and Scheduling Preferences; Election of the Next Vice Chair</i>
9:00 am - 12:30 pm	Bioinspired Synthetic Polymers Discussion Leader: Nico Bruns (Adolphe Merkle Institute, University of Fribourg, Switzerland)
9:00 am - 9:40 am	Rainer Haag (Freie Universitaet Berlin, Germany) "Bioinspired Multivalent Nanosystems Directed Against Pathogens"
9:40 am - 10:00 am	Discussion
10:00 am - 10:30 am	Coffee Break
10:30 am - 11:10 am	Alon Gorodetsky (University of California, Irvine, USA) "Dynamic Materials Inspired by Cephalopods"
11:10 am - 11:30 am	Discussion
11:30 am - 11:40 am	Eric Appel (Stanford University, USA) "Dynamic Hydrogels for Prevention of Post-Surgical Adhesions"
11:40 am - 11:45 am	Discussion
11:45 am - 11:55 am	Maartje Bastings (École Polytechnique Fédérale de Lausanne , Switzerland) "Programmable Biomaterials: Tools to Quantify Cellular Mechanisms with Nano-Precision"
11:55 am - 12:00 pm	Discussion
12:00 pm - 12:10 pm	Shelley Claridge (Purdue University, USA) "Standing, Lying and Sitting: Teaching an Old Phospholipid New Tricks for Precision"

	Interface Design"
12:10 pm - 12:15 pm	Discussion
12:15 pm - 12:25 pm	Chao Zhong (ShanghaiTech University, China) "Engineering Living Functional Materials with Synthetic Biology"
12:25 pm - 12:30 pm	Discussion
12:30 pm - 1:30 pm	Lunch
1:30 pm - 4:30 pm	Free Time
4:30 pm - 6:00 pm	Poster Session
6:00 pm - 8:00 pm	Bioinspired Hybrid/Photonic Materials Discussion Leader: Lauren Zarzar (Pennsylvania State University, USA)
6:00 pm - 6:40 pm	Andre Studart (ETH Zurich, Switzerland) "3D Printing of Self-Assembly Inks into Bioinspired Materials"
6:40 pm - 7:00 pm	Discussion
7:00 pm - 7:40 pm	Mathias Kolle (Massachusetts Institute of Technology, USA) "Biologically Inspired Soft and Fluid Optical Materials"
7:40 pm - 8:00 pm	Discussion
8:00 pm - 9:00 pm	Dinner
Friday	
7:30 am - 8:30 am	Breakfast
9:00 am	Departure

Contributors



**Gordon Research
Conferences**
Frontiers of Science



Carl Storm
Underrepresented
Minority Fellowship
Program



Molecular Systems
Design & Engineering

**BIO-INSPIRED
MATERIALS**
NATIONAL CENTER OF COMPETENCE
IN RESEARCH



WYSS INSTITUTE
for Biologically Inspired Engineering

BioMACROMOLECULES

**BC Bioconjugate
Chemistry**

Macromolecules

ACS **Macro Letters**

ACS Biomaterials
SCIENCE & ENGINEERING



Bioinspired Materials GRC Registration List

Name	Organization	Participation
Abbina, Srinivas	University of British Columbia	Poster Presenter
Abdelwahab, Adel	University of the West of Scotland	Poster Presenter
Adams, Dave J	University of Glasgow	Attendee
Aida, Takuzo	RIKEN Center for Emergent Matter Science/The University of Tokyo	Speaker
Aizenberg, Michael	Wyss Institute at Harvard University	Poster Presenter
Aizenberg, Joanna	Harvard University	Speaker
Alsharif, Nourin	Boston University	Poster Presenter
Amini, Shahrouz	Max Planck Institute of Colloids and Interfaces	Poster Presenter
Amstad, Esther	École Polytechnique Fédérale de Lausanne	Discussion Leader
An, Bolin	ShanghaiTech	Attendee
Anseth, Kristi	University of Colorado Boulder	Speaker
Appel, Eric A	Stanford University	Speaker
Arnon, Zohar A.	Tel Aviv University	Poster Presenter
Arzola, Xavier	University of Wisconsin-Madison / USDA-Forest Products Laboratory	Poster Presenter
Axpe, Eneko	Stanford University	Poster Presenter
Baker, David	University of Washington	Speaker
Balkenende, Diederik W	University of California Berkeley	Poster Presenter
Barros, Daniela	i3S - Instituto de Investigação e Inovação em Saúde	Poster Presenter
Bastings, Maartje	École Polytechnique Fédérale de Lausanne	Speaker
Ben-Harush, Kfir	SCE - Shamoon College of Engineering	Poster Presenter
Bertazzo, Sergio	University College London	Poster Presenter
Bertula, Kia	Aalto University	Poster Presenter
Bhaskaran, Ayana	The Australian National University	Poster Presenter
Bondos, Sarah	Texas A&M Health Science Center	Poster Presenter
Bruns, Nico	Adolphe Merkle Institute, University of Fribourg	Discussion Leader
Carter, Nathan A	University of Minnesota	Poster Presenter
Cazzell, Seth A	Massachusetts Institute of Technology	Poster Presenter
Chen, Guosong	Fudan University	Poster Presenter
Chin, Stacey M	Northwestern University	Poster Presenter
Chisca, Stefan	King Abdullah University of Science and Technology (KAUST)	Poster Presenter
Claridge, Shelley A.	Purdue University	Speaker
Cui, Jiayi	INM - Leibniz Institute for new Materials	Poster Presenter
Daniel, Dan	Institute for Materials Research and Engineering	Poster Presenter
de Alba, Eva	University of California at Merced	Poster Presenter
Degen, George D	University of California, Santa Barbara	Poster Presenter
Delaney, Gary W	CSIRO Data61	Poster Presenter
Deravi, Leila	Northeastern University	Poster Presenter
Didar, Tohid F	McMaster University	Poster Presenter
Draper, Emily R	University of Glasgow	Poster Presenter
Du, Eric Y	UNSW	Poster Presenter
Dufresne, Eric R	ETH Zurich	Speaker
Duraj-Thatte, Anna	Harvard University	Poster Presenter

Edwardson, Thomas GW	ETH Zurich	Poster Presenter
Ellenbroek, Wouter G	Eindhoven University of Technology	Poster Presenter
Esser-Kahn, Aaron P	University of Chicago	Poster Presenter
Feng, Jun	INM-Leibniz Institute for New Materials	Poster Presenter
Finbloom, Joel A	University of California, Berkeley	Poster Presenter
Gao, Jingjing	UMass Amherst	Poster Presenter
Goodling, Amy	The Pennsylvania State University	Poster Presenter
Görl, Daniel	École Polytechnique Fédérale de Lausanne (EPFL)	Poster Presenter
Gorodetsky, Alon	University of California, Irvine	Speaker
Grant, Anise	Georgia Institute of Technology	Poster Presenter
Grebikova, Lucie	University of Twente	Poster Presenter
Grossman, Madeleine R	ETH Zurich, Complex Materials	Poster Presenter
Guan, Zhibin N	University of California, Irvine	Chair
Guenther, Jan-Philipp	Max Planck Institute for Intelligent Systems	Poster Presenter
Guterman, Tom	Tel Aviv University	Poster Presenter
Haag, Rainer	Freie Universitaet Berlin	Speaker
Hammer, Daniel A	University of Pennsylvania	Vice Chair
Han, Lu	INM	Poster Presenter
Hansell, Claire	Nature	Attendee
Hao, Qi	Tsinghua University	Poster Presenter
Hatton, Ben	University of Toronto	Poster Presenter
He, Ximin	University of California, Los Angeles	Discussion Leader
Herpoldt, Karla-Luise	University of Washington	Poster Presenter
Hincapie, Robert	Georgia Institute of Technology	Poster Presenter
Hochbaum, Allon	University of California, Irvine	Discussion Leader
Hu, Jinguang	Aalto University	Poster Presenter
Huang, Hubiao	The University of Tokyo	Poster Presenter
Huerta-López, Carla	Spanish National Centre for Cardiovascular Research (CNIC)	Poster Presenter
Hughes, Alex	University of Pennsylvania	Poster Presenter
Ibsen, Carolyn S	Imperial College London	Poster Presenter
Iscen, Aysenur	Northwestern University	Poster Presenter
Joshi, Neel S	Harvard John A. Paulson School of Engineering & Applied Sciences	Speaker
Kamat, Neha	Northwestern University	Poster Presenter
Kan, Anton I	Wyss Institute, Harvard University	Poster Presenter
Kang, Sung H	Johns Hopkins University	Poster Presenter
Kensbock, Philip	DWI – Leibniz-Institut für Interaktive Materialien e.V.	Poster Presenter
Khmelinskaia, Alena	Max Planck Institute of Biochemistry	Poster Presenter
Kim, Sungjin	Massachusetts Institute of Technology	Poster Presenter
Kizilel, Seda	Koc University	Poster Presenter
Knight, Abigail	University of North Carolina, Chapel Hill	Poster Presenter
Kolle, Mathias	Massachusetts Institute of Technology	Speaker
Kuroda, Kenichi	University of Michigan	Poster Presenter
Lapenta, Fabio	National Institute of Chemistry	Poster Presenter
Lau, King Hang Aaron	University of Strathclyde	Poster Presenter
Lay, Chee Leng	Nanyang Technological University	Poster Presenter
Le Visage, Catherine	Regenerative Medicine and Skeleton (RMeS) - Inserm U1229	Attendee
Leung, Erica	University of California, Irvine	Attendee

Levenberg, Shulamit	Technion - Israel Institute of Technology	Discussion Leader
Lewis, Lev	University of British Columbia	Poster Presenter
Li, Hongbin	University of British Columbia	Discussion Leader
Li, Yingfeng	ShanghaiTech	Poster Presenter
Libanori, Rafael	ETH Zurich	Poster Presenter
Lim, Sierin	Nanyang Technological University	Poster Presenter
Lomora, Mihai	CÚRAM, NUI Galway	Poster Presenter
Lu, Mingxia	University of New South Wales	Poster Presenter
Ma, Chao	University of Groningen	Poster Presenter
Magnabosco, Giulia	Alma Mater Studiorum-Università di Bologna	Poster Presenter
Manea, Francesca	Berkeley Lab	Poster Presenter
Manjula Basavanna, A	Wyss Institute for Biologically Inspired Engineering Harvard Medical School	Poster Presenter
Marelli, Benedetto	Massachusetts Institute of Technology	Poster Presenter
Martikainen, Lahja	Aalto University School of Science	Poster Presenter
Martin, Adam D	University of New South Wales	Poster Presenter
Massi, Lucia	Imperial College London	Poster Presenter
Meder, Fabian	Italian Institute of Technology, Center for Micro-BioRobotics	Poster Presenter
Medina, Scott H	The Pennsylvania State University	Poster Presenter
Meeks, Amos	Harvard University	Poster Presenter
Messersmith, Phillip B	University of California, Berkeley	Discussion Leader
Miller, Stephen E	National Cancer Institute, NIH	Poster Presenter
Miserez, Ali	Nanyang Technological University	Discussion Leader
Monnier, Christophe A.	UCSB	Poster Presenter
Montalvan-Sorrosa, Danai	Harvard John A. Paulson School of Engineering and Applied Sciences Department of Physics	Poster Presenter
Mozhdehi, Davoud	Duke University	Poster Presenter
Muradyan, Hurik	University of California, Irvine	Poster Presenter
Nattermann, Una	University of Washington	Poster Presenter
Nele, Valeria	Imperial College London	Poster Presenter
Norris, Sam C	University of California, Los Angeles	Poster Presenter
Ogden, William A	University of California Irvine	Poster Presenter
Ott, Wolfgang	Ludwig Maximilian University of Munich	Poster Presenter
Owens, Roisin M	University of Cambridge	Speaker
Ozer, Imran	Duke University- Biomedical Engineering	Poster Presenter
Paez, Julieta I.	INM -- Leibniz Institute for New Materials	Poster Presenter
Palin, Damian	Cornell University	Poster Presenter
Pancaldi-Giubbini, Lucio	EPFL	Poster Presenter
Patwardhan, Dinesh V	US Food & Drug Administration	Poster Presenter
Praveschotinunt, Pichet	Harvard University	Poster Presenter
Rizwan, Muhammad	University of Waterloo	Poster Presenter
Rosa, Marta	Università di Padova, Dipartimento di Scienze Chimiche	Poster Presenter
Rowland, Andrew T	Penn State University	Poster Presenter
Rubin, Yves	UCLA	Attendee
Ruiz, JaneteLorena L	Max Planck Institute of Colloids and Interfaces	Poster Presenter
Santiago-Martoral, Liz N	University of Puerto Rico, Rio Piedras Campus	Poster Presenter
Sanz de Leon, Alberto	Max Planck Institute of Colloids and Interfaces	Poster Presenter

Schmidt, Sara	University of Edinburgh	Poster Presenter
Schnaider, Lee	Tel Aviv University	Poster Presenter
Schrettl, Stephen	Adolphe Merkle Institute	Poster Presenter
Schulman, Rebecca B	Johns Hopkins University	Speaker
Scott, Evan A	Northwestern University	Speaker
Scott, David A	University of Bristol	Poster Presenter
Shafaat, Oliver S	Spiber Inc.	Attendee
Shin, Heungsoo	Hanyang University	Poster Presenter
Shin, Sang-Mo S	National Hanbat University	Poster Presenter
Sicher, Alba	ETH/Empa	Attendee
Sletten, Ellen M	University of California, Los Angeles	Discussion Leader
Stevens, Molly	Imperial College London	Speaker
Strmšek, Ziga	National Institute of Chemistry	Poster Presenter
Studart, Andre R	ETH Zurich	Speaker
Su, Timothy A	UC Berkeley	Poster Presenter
Sunoqrot, Suhair	Al-Zaytoonah University of Jordan	Poster Presenter
Tang, Xin	The University of Hong Kong	Poster Presenter
ten Brummelhuis, Niels	Humboldt-Universität zu Berlin	Poster Presenter
Testa, Andrea	ETH Zürich	Attendee
Tetter, Stephan	ETH Zurich	Poster Presenter
Tezcan, Akif	University of California, San Diego	Speaker
Ulijn, Rein V.	CUNY	Speaker
Valois, Eric	University of California, Santa Barbara	Poster Presenter
van Esch, Jan H	Technical University of Delft	Speaker
van Hees, Ilse A.	Wageningen University	Poster Presenter
Waite, Herbert	University of California, Santa Barbara	Speaker
Wang, Xinyu	ShanghaiTech University	Poster Presenter
Wang, Xiaoling	University of Science and Technology Beijing	Poster Presenter
Wang, Ye	Imperial College London	Poster Presenter
Wang, Yue (Jessica)	University of California, Merced	Poster Presenter
Weder, Christoph	University of Fribourg	Attendee
Weitz, David A	Harvard University	Speaker
Welch, John T	University at Albany	Poster Presenter
Wilker, Jonathan J	Purdue University	Poster Presenter
Winkler, Sally M	University of California, Berkeley	Poster Presenter
Wonderly, William R	UCSB	Poster Presenter
Woolfson, Derek N	University of Bristol	Speaker
Yang, Yuchong	Tsinghua University	Poster Presenter
Yang, Lixu	University College London	Attendee
Yousefi, Hanie	McMaster University	Poster Presenter
Yu, Jing	Nanyang Technological University, Singapore	Poster Presenter
Yu, Leixiao	Institut für Chemie und Biochemie, Freie Universität Berlin	Poster Presenter
Zarzar, Lauren D	Pennsylvania State University	Discussion Leader
Zauscher, Stefan	Duke University	Poster Presenter
Zha, Runye H	Rensselaer Polytechnic Institute	Poster Presenter
Zhang, Xi	Tsinghua University	Speaker
Zhao, Ziyang	University of Cambridge	Poster Presenter

Zhong, Chao
Zou, Zhaoyong
Zwi-Dantsis, Limor
184 Attendees

ShanghaiTech University
Max Planck Institute of Colloids and Interfaces
Imperial College London

Speaker
Poster Presenter
Poster Presenter

Bioinspired Materials (GRS)

Gordon Research Seminar

Leveraging Bio-Molecular Complexity in Multi-Functional Synthetic Materials

June 23 - 24, 2018

Chairs Nathan A. Carter and Joel A. Finbloom

Conference Program

Saturday

1:30 pm - 4:30 pm	Arrival and Check-in
3:00 pm - 3:15 pm	Introductory Comments by GRC Site Staff / Welcome from the GRS Chair
3:15 pm - 4:00 pm	Keynote Session: Synthetically Modified Viral Capsids for Targeted Drug Delivery Discussion Leader: Valeria Nele (Imperial College London, United Kingdom)
3:15 pm - 3:50 pm	Matthew Francis (University of California, Berkeley, USA) "Synthetically Modified Viral Capsids for Targeted Drug Delivery"
3:50 pm - 4:00 pm	Discussion
4:00 pm - 5:30 pm	Poster Session
5:30 pm - 7:30 pm	Harnessing Nature: Leveraging Bio-Molecular Complexity in Functional Materials Discussion Leader: Jan-Philipp Guenther (Max Planck Institute for Intelligent Systems, Germany)
5:30 pm - 5:50 pm	Avinash Manjula Basavanna (Wyss Institute for Biologically Inspired Engineering, Harvard Medical School, USA) "Microbial Factories for Programmed Production of Functional Biomaterials"
5:50 pm - 6:00 pm	Discussion
6:00 pm - 6:20 pm	Stephen Miller (National Cancer Institute, NIH, USA) "Controlling the Release of Therapeutic Proteins Using Peptide Hydrogels"
6:20 pm - 6:30 pm	Discussion
6:30 pm - 6:50 pm	Lee Schnaider (Tel Aviv University, Israel) "Design and Development of Self-Assembling Antibacterial Peptide Nano-Structures and Functional Materials"
6:50 pm - 7:00 pm	Discussion
7:00 pm - 7:20 pm	Alena Khmelinskaia (Max Planck Institute of Biochemistry, Germany) "Design of a Switchable DNA Origami Structure for Shaping Lipid Vesicles"
7:20 pm - 7:30 pm	Discussion
8:00 pm - 9:00 pm	Dinner
Sunday	
7:30 am - 8:30 am	Breakfast

9:00 am - 11:00 am	Inspired by Nature: Mimicking Biological Functionality with Synthetic Materials Discussion Leader: Sally Winkler (University of California, Berkeley, USA)
9:00 am - 9:20 am	Amos Meeks (Harvard University, USA) "Autonomous Homeostatic and Oscillatory Temperature Maintenance Through a Hydrogel-Based Adaptive Material System"
9:20 am - 9:30 am	Discussion
9:30 am - 9:50 am	Damian Palin (Cornell University, USA) "A Bio-Inspired Bio-Enabled Calcium Carbonate-Polymer Composite Material Technology"
9:50 am - 10:00 am	Discussion
10:00 am - 10:20 am	Daniela Barros (i3S - Instituto de Investigação e Inovação em Saúde, Portugal) "Engineered Substrates with Site-Specific Immobilized Laminin for Neural Stem Cells"
10:20 am - 10:30 am	Discussion
10:30 am - 10:50 am	Karla-Luise Herpoldt (University of Washington, USA) "Programming Mucosal Immunity Through Structure-Based Vaccine Design"
10:50 am - 11:00 am	Discussion
11:00 am - 12:30 pm	Poster Session <i>Coffee will be served in the poster area from 11:00 am - 11:30 am</i>
12:30 pm - 1:30 pm	Lunch
1:30 pm - 2:30 pm	Mentorship Component: Panel Discussion with Faculty Mentors Discussion Leaders: Nathan Carter (University of Minnesota, USA) and Joel Finbloom (University of California, Berkeley, USA)
1:30 pm - 2:30 pm	Panel Discussion <i>The Ins and Outs of Running a Research Lab: Funding, Mentorship and the Science</i> <ul style="list-style-type: none"> • Matthew Francis (University of California, Berkeley, USA) • Zhibin Guan (University of California, Irvine, USA) • Ellen Sletten (University of California, Los Angeles, USA)
2:30 pm - 3:00 pm	Evaluation Period <i>Fill in GRS Evaluation Forms</i>
3:00 pm	Seminar Concludes

Contributors



Bioinspired Materials (GRS) (2018)

Name	Organization	Participation
An, Bolin	Shanghaitech	Poster Presenter
Arnon, Zohar A.	Tel Aviv University	Poster Presenter
Balkenende, Diederik W	University of California Berkeley	Poster Presenter
Barros, Daniela	i3S - Instituto de Investigação e Inovação em Saúde	Speaker
Bertula, Kia	Aalto University	Poster Presenter
Bhaskaran, Ayana	The Australian National University	Poster Presenter
Carter, Nathan A	University of Minnesota	Chair
Cazzell, Seth A	Massachusetts Institute of Technology	Poster Presenter
Chin, Stacey M	Northwestern University	Poster Presenter
Daniel, Dan	Institute for Materials Research and Engineering	Poster Presenter
Degen, George D	University of California, Santa Barbara	Poster Presenter
Du, Eric Y	UNSW	Poster Presenter
Duraj-Thatte, Anna	Harvard University	Poster Presenter
Feng, Jun	INM-Leibniz Institute for New Materials	Poster Presenter
Finbloom, Joel A	University of California, Berkeley	Chair
Francis, Matthew	University of California, Berkeley	Speaker
Goodling, Amy	The Pennsylvania State University	Poster Presenter
Görl, Daniel	École Polytechnique Fédérale de Lausanne (EPFL)	Poster Presenter
Grant, Anise	Georgia Institute of Technology	Poster Presenter
Guan, Zhibin N	University of California, Irvine	Speaker
Guenther, Jan-Philipp	Max Planck Institute for Intelligent Systems	Discussion Leader
Guterman, Tom	Tel Aviv University	Poster Presenter
Herpoldt, Karla-Luise	University of Washington	Speaker
Hu, Jinguang	Aalto University	Poster Presenter
Huang, Hubiao	The University of Tokyo	Poster Presenter
Huerta-López, Carla	Spanish National Centre for Cardiovascular Research (CNIC)	Poster Presenter
Kan, Anton I	Wyss Institute, Harvard University	Attendee
Karabin, Nicholas B	Northwestern University	Poster Presenter
Khmelinskaia, Alena	Max Planck Institute of Biochemistry	Speaker
Kim, Sungjin	Massachusetts Institute of Technology	Poster Presenter
Lewis, Lev	University of British Columbia	Poster Presenter
Li, Yingfeng	ShanghaiTech	Poster Presenter
Manea, Francesca	Berkeley Lab	Poster Presenter
Manjula Basavanna, A	Wyss Institute for Biologically Inspired Engineering Harvard Medical School	Speaker
Martikainen, Lahja	Aalto University School of Science	Poster Presenter
Martin, Adam D	University of New South Wales	Poster Presenter
Massi, Lucia	Imperial College London	Poster Presenter
Meeks, Amos	Harvard University	Speaker
Miller, Stephen E	National Cancer Institute, NIH	Speaker
Mozhdehi, Davoud	Duke University	Poster Presenter

Muradyan, Hurik	University of California, Irvine	Poster Presenter
Nattermann, Una	University of Washington	Poster Presenter
Nele, Valeria	Imperial College London	Discussion Leader
Ogden, William A	University of California Irvine	Poster Presenter
Ott, Wolfgang	Ludwig Maximilian University of Munich	Poster Presenter
Ozer, Imran	Duke University- Biomedical Engineering	Poster Presenter
Palin, Damian	Cornell University	Speaker
Praveschotinunt, Pichet	Harvard University	Poster Presenter
Rowland, Andrew T	Penn State University	Poster Presenter
Sanz de Leon, Alberto	Max Planck Institute of Colloids and Interfaces	Poster Presenter
Schmidt, Sara	University of Edinburgh	Poster Presenter
Schnaider, Lee	Tel Aviv University	Speaker
Scott, David A	University of Bristol	Poster Presenter
Sletten, Ellen M	University of California, Los Angeles	Speaker
Su, Timothy A	UC Berkeley	Poster Presenter
van Hees, Ilse A.	Wageningen University	Poster Presenter
Wang, Xinyu	School of Physical Science and Technology ShanghaiTech University	Poster Presenter
Winkler, Sally M	University of California, Berkeley	Discussion Leader
Zhao, Ziyang	University of Cambridge	Poster Presenter

59 Attendees