

Rafael Verduzco

Professor

Chemical and Biomolecular Engineering and Materials Science and NanoEngineering
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Professional Preparation

Institution	Major/Area	Degree	Date
Rice University	Chemical Engineering	BS	5/2001
California Institute of Technology	Chemical Engineering	MS	5/2003
California Institute of Technology	Chemical Engineering	PhD	5/2007
Oak Ridge National Laboratory	Nanoscience	Postdoc	3/2007-6/2009

Appointments

07/2020-present	Professor, Chemical and Biomolecular Engineering and Materials Science and NanoEngineering, Rice University
07/2016-06/2020	Associate Professor, Chemical and Biomolecular Engineering and Materials Science and NanoEngineering, Rice University
07/2009-06/2016	Louis Owen Assistant Professor, Chemical and Biomolecular Engineering and Materials Science and NanoEngineering, Rice University
03/07-06/09	Postdoctoral Associate, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
05/04-08/04	NSF EAPSI Fellow, Pohang Institute of Technology, Pohang, South Korea
09/01-03/07	Graduate Student, Chemical Engineering, California Institute of Technology

Awards and Honors

April 2021	George R. Brown Superior Teaching Award
May 2020	Rice Research + Teaching University Award
August 2017	Best Fundamental Paper – STS AIChE
October 2015	<i>Europhys Lett.</i> Young Investigator Prize, ILCEC
September 2015	HENAAC Great Minds in STEM award
December 2013	NSF CAREER Award
November 2012	Best Fundamental Paper – STS-AIChE
June 2012	John S. Dunn Foundation Collaborative Research Award (w. JG Jacot)
July 2012	ACS Petroleum Research Fund Doctoral New Investigator Award
July 2009	Louis Owen Assistant Professor Chair in Chemical Engineering
June 2004	National Science Foundation EAPSI Fellow
August 2001	James Irvine Foundation Fellowship
August 2001	National Defense Science and Engineering Graduate Fellowship
May 2001	Graduated <i>summa cum laude</i>
May 2001	Thomas W. Moore award in Chemical Engineering

Teaching

CHBE 470: Process Dynamics and Control (Fall 2021)
CHBE 495: Preparing for Success in Science and Engineering PhD Programs (Spring 2021)
CHBE 594: Properties of Polymers (Fall 2009 – 2011, Spring 2015, 2017, Fall 2020)
CHBE 402: Heat and Mass Transfer (Spring 2018, 2019, 2020)
Surface Science Analysis in Materials Science (Fall 2018, 2019)
CHBE 490: ChemE Car (Spring and Fall 2016, 2017, 2018, 2019, 2020)
CHBE 411: Thermodynamics I (Spring 2011, Fall 2012 – 2017)

CHBE 602: Physico-Chemical Hydrodynamics (Spring 2012, 2014, 2016)
CHBE 495: Chemical Engineering Car Design (Fall 2016 - present)
CHBE 500 and 495: Undergraduate Research (Spring 2010 – present)
Guest lecturer in CHBE 100 (Spring 2010, 2011, 2012) and CHEM 533 (Spring 2013, 2015)
Faculty mentor for ENGI 100 (Spring 2011, 2014, 2015, 2016)

Research Support

(34), PI, DARPA (Title: Real-Time Amperometric Platform Using Molecular Imprinting for Selective Detection of SARS-CoV-2 (RAPID), \$1,000,000)
(33), Co-PI, Subsea Systems Institute (Title: Sensors Based on Organic Electrochemical Transistors (OECTs) for Deep Sea Leakage and Chemical Detection, \$37,500)
(32), Co-PI, National Science Foundation (Title: EFRI DChem: Electrifying CO₂ From Point Sources into Pure Liquid Fuels, \$2,000,000)
(31), Co-PI, Office of Naval Research (Title: Fast, Multiplexed, and Autonomous Bioelectronic Sensors Based on Engineered Exoelectrogens, \$1,125,000)
(30), PI, Jacobs Engineering (Title: Quantification of Silver Complexes in Potable Water, \$50,000)
(29), Co-PI, Department of the Interior (Title: Advancing pervaporation for the treatment of concentrates in inland desalination, \$25,000)
(28), PI, National Science Foundation (Title: Collaborative Research: Solution Processing with Entropy-Controlled Stratification of Architecturally-Complex Polymer Blends, \$267,996)
(27), PI, Rice University Creative Ventures (Title: *Rice Center for Flexible Power*, \$50,000)
(26), PI, ARO URAP/HSAP program (Title: *Optically Actuated Liquid Crystal Elastomer Micropumps*, \$7,500)
(25), Co-PI, SubSea Systems Institute (Title: *Flexible Low-Temperature Lithium Ion Batteries for Subsea Applications*, \$38,000)
(24), Co-PI, National Science Foundation (Title: NRT: A Bioelectronics Incubator for Training Students (BITS) at the Cell/Material Interface, \$2,999,025, 09/01/2018 – 08/31/2023).
(23), Co-PI, National Science Foundation (Title: RoL: EAGER: DESYN-C3: Using synthetic energy-harvesting materials at the cell surface to reduce low potential ferredoxins within the cytosol for metabolic applications, \$300,000, 09/01/2018 – 08/31/2020).
(22), PI, Army Research Office (Title: Modular Click Synthesis of Liquid Crystal Elastomers, \$200,000, 09/01/2018 – 02/28/2020).
(21), PI, Welch Foundation for Chemical Research (Title: Charge Transport in Conjugated Ladderphanes and Network-Stabilized Conjugated Polymers, \$240,000, 06/01/2018 – 05/31/2021)
(20), PI, National Science Foundation (Title: Research Experience for Teachers in Nanoengineering with a Focus on Leadership \$200,000, 08/01/18 – 07/31/21).
(19), PI, Army Research Laboratory (Title: 2-D Kevlar through Novel Materials Synthesis \$500,000, 09/01/2017 –08/31/2020).
(18) Co-PI, National Science Foundation., (Title: Nanotechnology REU with a Focus on Community Colleges, \$327,818, 05/01/18 – 04/28/21).
(17), PI, National Science Foundation (Title: Collaborative Research: Universal Processing Approaches for Functional Brush Surfaces through Bottlebrush Polymers, \$288,789, 07/01/16-6/31/19)
(16), PI, National Science Foundation (Title: MRI: Acquisition of Time-of-Flight Secondary Ion Mass Spectrometer (TOF-SIMS) for high-resolution 3-D materials analysis, \$1,166,249, 07/01/16-6/31/19).
(15), PI, National Science Foundation (Title: Collaborative Research: Next-Generation, Simultaneously Ion- and Electron- Conducting Block Copolymer Binders for Battery Electrodes, \$199,999, 09/01/16-08/31/19).
(14), Co-PI, National Science Foundation. (Title: Nanosystems Engineering Research Center for Nanotechnology Enabled Water Treatment Systems \$18,500,000, 08/01/15 – 07/31/20).

- (13) PI, Welch Foundation for Chemical Research. (Title: Charge Separation in Well-Defined Donor-Acceptor Block Copolymer Interfaces, \$195,000, 06/01/15 – 05/31/18).
- (12) Co-PI, National Science Foundation. (Title: Nanotechnology REU with a Focus on Community Colleges, \$327,818, 05/01/15 – 04/28/18).
- (11) PI, National Science Foundation CAREER Award. (Title: Multi-Functional Organic Electronics Through All-Conjugated Block Copolymers, \$501,731, 07/01/14 – 06/30/19).
- (10) Co-Investigator, American Heart Association. (Title: Use of liquid crystal elastomer substrates to condition human cardiomyocyte precursors and generate 3-D layered tissues, \$154,000, 01/01/14 – 12/31/15).
- (9) PI, National Science Foundation. (Title: Collaborative Research: Hybrid Block Copolymer Electrodes for Electrochemical Energy Storage, \$197,225, 09/01/13 – 08/31/16).
- (8) PI, National Science Foundation. (Title: Collaborative Research: Block Copolymer Compatibilizers for Controlled Morphology and Interfacial Properties in Polymer-Fullerene Blends, \$227,549, 07/01/13 – 06/30/16).
- (7) Co-PI. Advanced Energy Consortia. (Title: Functionalized Nanoparticles for Enhanced Oil Recovery at High Temperature and Salinity, \$960,000, 07/01/13 – 05/31/15).
- (6) PI, Gulf Coast Consortia, Dunn Collaborative Research Award. (Title: Multi-layered cardiac patches from dynamic surfaces, \$100,000, 01/01/13 – 12/31/14).
- (5) PI, ACS Petroleum Research Fund Doctoral New Investigator Award. (Proposal Title: Understanding Side-Chain Flexibility in Bottlebrush Polymers, \$100,000, 09/01/12 – 08/31/15).
- (4) PI, NASA Research Seed Grant (Title: Bottlebrush Polymers for Encapsulation and Delivery, \$20,000, 01/01/12 – 12/31/12).
- (3) PI, Shell Center for Sustainability. (Title: All-Conjugated Block Copolymer Photovoltaics, \$46,000, 01/01/12 – 12/31/12).
- (2) PI, Rice IBB Hamill Innovations Grant. (Title: Biomimetic Reconfigurable Hairy Skins, \$25,000, 08/01/10 – 07/31/11).
- (1) PI, Welch Foundation for Chemical Research. (Title: Synthesis of multi-block and graft conjugated copolymers, \$180,000, 06/01/10 – 05/31/13).

Peer-Reviewed Journal Publications

(*denotes corresponding author, ‡denotes undergraduate co-author)

102. D Zhu, Z Zhang, LB Alemany, Y Li, N Nnorom, M Barnes, S Khalil, MM Rahman, PM Ajayan, and R Verduzco*. "Rapid, Ambient Temperature Synthesis of Imine Covalent Organic Frameworks Catalyzed by Transition-Metal Nitrates," *Chem. Mater.* **2021**, in press. DOI: 10.1021/acs.chemmater.1c00737
101. X Li, Y Li, K Sarang, J Lutkenhaus*, and R Verduzco*. "Side-Chain Engineering for High-Performance Conjugated Polymer Batteries," *Adv. Funct. Mater.*, **2021**, 31, 2009263. DOI: 10.1002/adfm.202009263.
100. D Zhu, X Li, Y Li, M Barnes, CH Tseng, S Khalil, MM Rahman, PM Ajayan, and R Verduzco*. "Transformation of One-Dimensional Linear Polymers into Two-Dimensional Covalent Organic Frameworks Through Sequential Reversible and Irreversible Chemistries" *Chem. Mater.*, **2020**, 33, 1, 413 – 419. DOI: 10.1021/acs.chemmater.0c04237.
99. IJ Campbell, D Kahanda, JT Atkinson, ON Sparks, J Kim, CP Tseng, R Verduzco, GN Bennett, and JJ Silberg*. "Recombination of 2Fe-2S Ferredoxins Reveals Differences in the Inheritance of Thermostability and Midpoint Potential," *ACS Synth. Biol.*, **2020**, 9, 12, 3245 – 3253. DOI: 10.1021/acssynbio.0c00303
98. K Zuo, X Huang, X Liu, EMG Garcia, J Kim, A Jain, L Chen, P Liang, A Zepeda, R Verduzco, J Lou, and Q Li*. "A Hybrid Metal–Organic Framework–Reduced Graphene Oxide

Nanomaterial for Selective Removal of Chromate from Water in an Electrochemical Process,” *Env. Sci. & Tech.* **2020**, 54, 20, 13322 – 13332. DOI: 10.1021/acs.est.0c04703

97. CP Tseng, GN Bennett, JJ Silberg, and R Verduzco. “100th Anniversary of Macromolecular Science Viewpoint: Soft Materials for Microbial Bioelectronics,” *ACS Macro Letters*, **2020**, 9, 11, 1590 - 1603. DOI: 10.1021/acsmacrolett.0c00573
96. K Miyagi, H Mei, TS Laws, T Terlier, GE Stein, and R Verduzco. “Analysis of surface segregation of bottlebrush polymer additives in thin film blends with attractive intermolecular interactions,” *Macromolecules*, **2020**, 53, 15, 6720 – 6730. DOI: 10.1021/acs.macromol.0c00744
95. H Mei, AH Mah, Z Hu, Y Li, T Terlier, GE Stein, and R Verduzco. “Rapid Processing of Bottlebrush Coatings through UV-Induced Cross-Linking,” *ACS Macro Lett.*, **2020**, 9, 1135 – 1142. DOI: 10.1021/acsmacrolett.0c00384.
94. D Zhu and R Verduzco. “Ultralow Surface Tension Solvents Enable Facile COF Activation with Reduced Pore Collapse,” *ACS Appl. Mater. Interfaces*, **2020**, 12, 29, 33121 – 33127. DOI: 10.1021/acsami.0c09173.
93. ER Thomas, A Jain, SC Mann, Y Yang, MD Green, WS Walker, F Perreault, ML Lind, R Verduzco. “Freestanding self-assembled sulfonated pentablock terpolymer membranes for high flux pervaporation desalination,” *J. Mem. Sci.*, **2020**, 613, 118460. DOI: 10.1016/j.memsci.2020.118460.
92. Z Hu, C Sun, A Lin, J Jackson, T Terlier, D Owolabi, H Mei, Y Li, Y Wang, S Sidhik, F Hao, Y Yao, A Mohite, and R Verduzco. “Improved Mechanical Durability of High-Performance OPVs Using Semi-Interpenetrating Networks,” *Adv. Opt. Mater.*, **2020**, 8, 18, 2000516. DOI: 10.1002/adom.202000516.
91. BA Fultz, T Terlier, B Dunoyer de Segonzac, R Verduzco, and JG Kennemur. “Nanostructured Films of Oppositely Charged Domains from Self-Assembled Block Copolymers,” *Macromolecules*, **2020**, 53, 13, 5638 – 5648. DOI: 10.1021/acs.macromol.0c00707
90. E García-Díaz, D Zhang, Y Li, R Verduzco, and PJJ Alvarez. “TiO₂ microspheres with cross-linked cyclodextrin coating exhibit improved stability and sustained photocatalytic degradation of bisphenol A in secondary effluent,” *Water Res*, **2020**, 183, 116095. DOI: 10.1016/j.watres.2020.116095
89. KT Sarang, X Li, A Miranda, T Terlier, E-S Oh, R Verduzco, JL Lutkenhaus. “Tannic Acid as a Small-Molecule Binder for Silicon Anodes,” *ACS Appl. Energy Mater.*, **2020**, 3, 7, 6985 – 6994. DOI: 10.1021/acsaem.0c01051.
88. S Jung, Y Cui, M Barnes, C Satam, S Zhang, RA Chowdhury, A Adumbumkulath, O Sahin, C Miler, SM Sajadi, LM Sassi, Y Ji, MR Bennett, M Yu, J Friguglietti, FA Merchant, R Verduzco, S Roy, R Vajtai, JC Meredith, JP Youngblood, N Koratkar, MM Rahman, PM Ajayan. “Multifunctional Bio-Nanocomposite Coatings for Perishable Fruits,” *Adv. Mater.* **2020**, 32, 26, 1908291. DOI: 10.1002/adma.201908291.
87. D Zhu, LB Alemany, W Guo, and R Verduzco. “Enhancement of crystallinity of imine-linked covalent organic frameworks via aldehyde modulators,” *Polym. Chem.*, **2020**, 11, 4464 – 4468. DOI: 10.1039/D0PY00776E.

86. M Barnes, SM Sajadi, S Parekh, MM Rahman, PM Ajayan, and R Verduzco. "Reactive 3D Printing of Shape-Programmable Liquid Crystal Elastomer Actuators," *ACS Appl. Mater. Interfaces*, **2020**, 12, 25, 28693 – 28699. DOI: 10.1021/acsami.0c07331
85. R Verduzco* and MS Wong. "Fight PFAS with PFAS," *ACS Central Sci.*, **2020**, 6, 4, 453 – 455. Invited First Reaction. DOI: 10.1021/acscentsci.0c00164.
84. A Miranda, K Sarang, B Gendensurn, E-S Oh, JL Lutkenhaus, R Verduzco*. "Molecular design principles for polymeric binders in silicon anodes," *Mol. Syst. Des. Eng.*, **2020**, 5, 709 – 724. *Invited Review*. DOI: DOI: 10.1039/C9ME00162J
83. H Mei, TS Laws, JP Mahalik, J Li, AH Mah, T Terlier, P Bonnesen, D Uhrig, R Kumar*, GE Stein*, and R Verduzco*. "Entropy and Enthalpy Mediated Segregation of bottlebrush copolymer additives to thin film interfaces," *Macromolecules*, **2019**, 52, 8910. DOI: 10.1021/acs.macromol.9b01801
82. A Miranda, X Li, AM Haregewoin, K Sarang, JL Lutkenhaus*, R Kostecki*, R Verduzco*. "A comprehensive study of hydrolyzed polyacrylamide as a binder for silicon anodes," *ACS Appl. Mater. Interfaces*, **2019**, 11, 44090. DOI: 10.1021/acsami.9b13257
81. GE Stein*, TS Laws, R Verduzco*. "Tailoring the Attraction of Polymers Towards Surfaces," *Macromolecules*, **2019**, 52, 4787 – 4802. DOI: 10.1021/acs.macromol.9b00492
80. MM Rahman, AB Putirath, A Adumbumkulath, T Tsafack, H Robatjazi, M Barnes, Z Wang, S Kommandur, S Susarla, SM Sajadi, D Salpekar, F Yuan, G Babu, K Nomoto, SM Islam, R Verduzco, SK Lee, HG Xing, PM Ajayan*. "Fiber Reinforced Layered Dielectric Nanocomposite," *Adv. Funct. Mater.*, **2019**, 1900056. DOI: 10.1002/adfm.201900056
79. X Li, H An, J Strzalka, JL Lutkenhaus*, and R Verduzco*. "Self-doped conjugated polymeric binders improve the capacity and mechanical properties of V₂O₅ cathodes," *Polymers*, **2019**, 11, 589. DOI: 10.3390/polym11040589
78. K Sarang, A Miranda, H An, ES Oh, R Verduzco*, and JL Lutkenhaus*. "Poly(fluorene-*alt*-naphthalene diimide) as n-type polymer electrode for energy storage," *ACS Appl. Polym. Mater.*, **2019**, 1, 1155 – 1164. DOI: 10.1021/acsapm.9b00164
77. A Jain, C Weathers[‡], J Kim, MD Myer, SW Walker, Q Li, and R Verduzco*. "Self-assembled, sulfonated pentablock copolymer as cationic exchange coatings for membrane capacitive deionization," *Mol. Syst. Des. Eng.*, **2019**, 4, 348 – 356. DOI: 10.1039/C8ME00115D
76. J Kim, A Jain, K Zuo, R Verduzco, S Walker, M Elimelech, Z Zhang, X Zhang, and Q Li*. "Removal of calcium ions from water by selective electrosorption using target-ion specific nanocomposite electrode," *Water Res.*, **2019**, 160, 445 – 453. DOI: 10.1016/j.watres.2019.05.016
75. A Mah, TS Laws, W Li, H Mei, CC Brown, A Levlev, R Kumar*, R Verduzco*, and GE Stein. "Entropic and enthalpic effects in thin film blends of homopolymers and bottlebrush polymers," *Macromolecules*, **2019**, 52, 1526 – 1534. DOI: 10.1021/acs.macromol.8b02242
74. Barnes and Verduzco*. "Direct shape programming of liquid crystal elastomers," *Soft Matter*, **2019**, 15, 870 – 879. DOI: 10.1039/C8SM02174K

73. M Alaboalirat, L Qi, KJ Arrington, S Qian, JK Keum, H Mei, KC Littrell, BG Sumpter, JMY Carrillo, R Verduzco*, and JB Matson*. "Amphiphilic Bottlebrush Block Copolymers: Analysis of Aqueous Self-Assembly by Small-Angle Neutron Scattering and Surface Tension Measurements," *Macromolecules*, **2019**, 52, 465 – 476. DOI: 10.1021/acs.macromol.8b02366
72. JW Mok, Z Hu, C Sun, I Barth[‡], R Munoz[‡], J Jackson[‡], KG Yager, and R Verduzco*. "Network-Stabilized Bulk Heterojunction Organic Photovoltaics," *Chem Mater.*, **2018**, 30, 8314. DOI: 10.1021/acs.chemmater.8b03791
71. H An, X Li, KA Smith, Y Zhang, R Verduzco*, and JL Lutkenhaus*. "Regioregularity and Molecular Weight Effects in Redox Active Poly(3-hexylthiophene)-block-poly(ethylene oxide) Electrode Binders" *ACS Appl. Energy Mater.*, **2018**, 1, 5919.
70. K Zuo, J Kim, A Jain, T Wang, R Verduzco, M Long, and Q Li*. "Novel Composite Electrodes for Selective Removal of Sulfate by the Capacitive Deionization Process," *Energy Environ. & Tech.* **2018**, 52, 9486 – 9494.
69. AH Mah, H Mei, P Basu, TS Laws, P Ruchoeft, R Verduzco*, and GE Stein*. "Swelling responses of surface-attached bottlebrush polymer networks," *Soft Matter* **2018**, 14, 6728 – 6736.
68. AH Mah, P Afzali, L Qi, S Pesek, R Verduzco*, and GE Stein*. "Bottlebrush Copolymer Additives for Immiscible Polymer Blends," *Macromolecules* **2018**, 51, 5665 – 5675.
67. W Cheng, C Liu, T Tong, R Epsztein, M Sun, R Verduzco, J Ma, M Elimelech*. "Selective removal of divalent cations by polyelectrolyte multilayer nanofiltration membrane: Role of polyelectrolyte charge, ion size, and ionic strength," *J. Membr. Sci.* **2018**, 559, 98 – 106.
66. L Qi, C Song[‡], T Wang, Q Li, GJ Hirasaki, and R Verduzco*. "Polymer-Coated Nanoparticles for Reversible Emulsification and Recovery of Heavy Oil," *Langmuir* **2018**, 34, 6522 – 6528. DOI: 10.1021/acs.langmuir.8b00655
65. A Jain, J Kim, OM Owoseni, C Weathers[‡], D Caña[‡], K Zuo, WS Walker, Q Li*, R Verduzco*. "Aqueous-Processed, High-Capacity Electrodes for Membrane Capacitive Deionization," *Environ. Sci. Technol.*, **2018**, 52, 5859 – 5867.
64. Z Hu, J Jakowski, C Zheng, CJ Collison, J Strzalka, BG Sumpter, R Verduzco*. "An experimental and computational study of donor-linker-acceptor block copolymers for organic photovoltaics," *J. Polym. Sci. B: Polym. Phys.*, **2018**, 56, 1135 – 1143. DOI:10.1002/polb.24633.
63. H Tsai, R Asadpour, JC Blancon, CC Stoumpos, O Durand, JW Strzalka, B Chen, R Verduzco, PM Ajayan, S Tretiak, J Even, MA Alam, MG Kanatzidis, WNie, and AD Mohite*. "Light-induced lattice expansion leads to high efficiency perovskite solar cells," *Science*, **2018**, 360, 67-70.
62. C Wang, K Sim, Y Li, H Kim, Z Rao, J Chen, W Chen, J Song, R Verduzco, and C Yu*. "Soft Ultra-Thin Electronics Innervated Adaptive Fully Soft Robots," *Advanced Materials*, **2018**, 30, 1706695.
61. R. Verduzco* and TJ White, "Liquid crystal elastomers: emerging trends and applications," *Soft Matter*, **2017**, 30, 4320 – 4320.

60. L Qi, H ShamsiJazeyi, G Ruan, J Mann, YH Lin, C Song[‡], Y Ma[‡], L Wang, JM Tour, GJ Hirasaki*, and R Verduzco*. "Segregation of Amphiphilic Polymer-Coated Nanoparticles to Bicontinuous Oil/Water Microemulsion Phases," *Energy and Fuels*, **2017**, 31, 1339 – 1346.
59. B Zhu, M Barnes, H Kim[‡], M Yu, H Ardebili, and R Verduzco*. "Molecular Engineering of Step-Growth Liquid Crystal Elastomers," *Sensor. Actuat. B: Chem.*, **2017**, 244, 433 – 440.
58. SL Pesek, Q Xiang, B Hammouda, and R Verduzco*. "Small-angle neutron scattering analysis of bottlebrush backbone and side-chain flexibility," *J Polym. Sci. B: Polym. Phys.* **2017**, 55, 104 – 111. DOI: 10.1002/polb.24251
57. A Agrawal, H Chen, B Zhu, H Kim[‡], O Adeitba, A Miranda, AC Chipara, PM Ajayan, JG Jacot*, and R Verduzco*, "Electromechanically Responsive Liquid Crystal Elastomer Nanocomposites for Active Cell Culture," *ACS Macro Lett.*, **2016**, 1386 – 1390.
56. JK Ponniah, H Chen, O Adetiba, R Verduzco, and JG Jacot*. "Mechanoactive materials in cardiac science," *J. Mater. Chem. B.*, **2016**, 4, 7350 – 7362.
55. H An, X Li, C Chalker, M Stracke, R Verduzco*, and JL Lutkenhaus*. "Conducting Block Copolymer Binders for Carbon-Free Hybrid Vanadium Pentoxide Cathodes with Enhanced Performance," *ACS Appl. Mater. Interfaces*, **2016**, 8, 28585 – 28591.
54. JW Mok, D Kipp, LR Hasbun, J Strzalka, V Ganesan*, and R Verduzco*. "Parallel Bulk Heterojunction Photovoltaics Based on All-Conjugated Block Copolymer Additives," *J. Mater. Chem. A*, **2016**, 4, 14804 – 14813.
53. D Kipp, R Verduzco, V Ganesan*. "Block copolymer compatibilizers for ternary blend polymer bulk heterojunction solar cells -- An opportunity for computation aided molecular design." *Mol. Syst. Design. & Eng.*, **2016**, 1, 353 – 369.
52. YH Lin, W Nie, H Tsai, X Li, A Mohite, G Gupta, and R Verduzco*. "Supramolecular Block Copolymer Photovoltaics through Ureido-Pyrimidinone Hydrogen Bonding Interactions," *RSC Advances*, **2016**, 6, 51562 – 51568.
51. H Tsai, W Nie, JC Blancon, CC Stoumpos, R Asadpour, B Harutyunyan, R Verduzco, J Crochet, S Tretiak, L Pedesseau, J Evan, MA Alam, G Gupta, J Lou, PM Ajayan, MJ Bedzyk, MG Kanatzidis, AD Mohite*. "High-efficiency two-dimensional Ruddlesden–Popper perovskite solar cells," *Nature*, **2016**, 536, 312 – 316.
50. D Kipp, R Verduzco, and V Ganesan*. "Design of bicontinuous donor/acceptor morphologies for use as organic solar cell active layers," *J. Polym. Sci. B., Polym. Phys.*, **2016**, 54, 884–895.
49. SL Pesek, YH Lin, W Kasper, B Chen, BJ Rhode, ML Robertson, GE Stein*, and R Verduzco*. "Synthesis of bottlebrush copolymers based on poly(dimethylsiloxane) for surface active additives," *Polymer*, **2016**, 98, 495 – 504.
48. H Kim[‡], B Zhu, A Oluwatomiya, H Chen, P Ajayan, JG Jacot, R Verduzco*. Preparation of Monodomain Liquid Crystal Elastomers and Liquid Crystal Elastomer Nanocomposites. *J. Vis. Exp.* **2016**, 108, e53688, DOI:10.3791/53688.

47. KA Smith, YH Lin, K Yager, J Strzalka, W Nie, A Mohite, R Verduzco*. Molecular origin of photovoltaic performance in donor-*block*-acceptor all-conjugated block copolymers, *Macromolecules*, **2015**, *46*, 2636.
46. H An, J Mike, KA Smith, L Swank, YH Lin, SL Pesek, R Verduzco*, and JL Lutkenhaus*. "Highly Flexible Self-Assembled V2O5 Cathodes Enabled by Conducting Diblock Copolymers," *Scientific Reports*, **2015**, *5*, 14166.
45. D Kipp, J Mok, J Strzalka, SB Darling, V Ganesan, and R Verduzco*. Rational Design of Thermally Stable, Cocontinuous Donor/Acceptor Morphologies Based on the Conjugated Polymer/All-Conjugated Block Copolymer/PCBM Blend. *ACS Macro Lett.* **2015**, *4*, 867 – 871. DOI: 10.1021/acsmacrolett.5b00413.
44. JW Mok, YH Lin, KG Yager, AD Mohite, W Nie, SB Darling, Y Lee, ED Gomez, D Gosztola, RD Schaller, R Verduzco*. Linking group influences charge separation and recombination in all-conjugated block copolymer photovoltaics, *Adv. Funct. Mater.* **2015**, *25*, 5578 – 5585. DOI: 10.1002/adfm.201502623.
43. R Verduzco*. Shape-Shifting Liquid Crystals. Invited Perspective, *Science* **2015**, *347*, 949 – 950.
42. R Verduzco*, X Li, SL Pesek, and GE Stein. Structure, function, self-assembly, and applications of bottlebrush copolymers. *Chem. Soc. Rev.* **2015**, *44*, 2405 – 2420. DOI: 10.1039/C4CS00329B.
41. A Agrawal, T Adetiba, X Li, AC Chipara, PM Ajayan, JA Jacot, and R Verduzco*. Stimuli-Responsive Liquid Crystal Elastomers for Dynamic Cell Culture, *J. Mater. Res.*, **2015**, *30*, 453 – 462.
40. I Mitra, X Li, SL Pesek, BS Lokitz, D Uhrig, JS Ankner, R Verduzco*, GE Stein*. Thin film phase behavior of bottlebrush/linear polymer blends, *Macromolecules*, **2014**, *47*, 5269 – 5276.
39. KA Smith, B Stewart[‡], KG Yager, J Strzalka, R Verduzco*. Control of all-conjugated block copolymer crystallization via thermal and solvent annealing, *J. Polym. Sci. B: Polym. Phys.* **2014**, *52*, 900 – 906.
38. GK Mor, D Jones, TP Le, Z Shang, PJ Weathers, M Woltermann, K Vakhshouri, SA Tohran, T Saito, R Verduzco, A Salleo, MA Hickner, ED Gomez. Contact Doping with Sub-Monolayers of Strong Polyelectrolytes for Organic Photovoltaics, *Adv. Energy Mater.*, **2014**, *4*, 1400439.
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36. Y-H Lin, R Verduzco*. Synthesis and Process-Dependent Film Structure of All-Conjugated Copolymers for Organic Photovoltaics, in *Polymer Composites for Energy Harvesting, Conversion, and Storage*. ACS Symposium Series **2014**, vol. 1161, ch. 3, 49 – 70.
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Invited Presentations

76. “Designing surface-active bottlebrush polymer additives,” 2021 ACS Spring National Meeting, April 2021.
75. “Controlling Surface Chemistry using Bottlebrush Polymer Additives,” Penn State University, March 2021.
74. “Next Generation Technologies based on Conjugated Polymers,” CIQA, Saltillo, MX, March 2020.
73. “Efficient and Mechanically Robust Organic Photovoltaics through Self-Assembly,” University of Southern California, November 2020.
72. “Making brushy surfaces with bottlebrush additives,” ACS Colloids Meeting, June 2020.
71. “Modifying films, surfaces, and interfaces using bottlebrush copolymer additives,” University of Akron, February 2020.
70. “Modifying films, surfaces, and interfaces using bottlebrush copolymer additives,” Ohio State University, January 2020.
69. “Visualization of Surface-Active Bottlebrush Additives through Time-of-Flight Secondary Ion Mass Spectroscopy,” University of Massachusetts Amherst, December 2019.
68. “Challenges and Opportunities of Organic Photovoltaics,” Toshiba Technical Society, Houston, TX, November, 2019.
67. “Direct Shape Programming of Liquid Crystal Elastomers,” International Liquid Crystal Elastomers Conference, Eindhoven, Netherlands, September 2019.

66. "Next Generation Electronics: Soft, Smart, and Integrated," LASER Houston, September 2019.
65. "Additive Manufacturing of Shape Responsive Liquid Crystal Polymer Networks," Rice Additive Manufacturing, Performance, and Tribology Center Meeting, August 2019.
64. "Three-dimensional morphological analysis of polymer blends through combined ToF-SIMS/AFM," 15th International Conference on Polymers for Advanced Technologies, College Station, August 2019.
63. "Current and Future Trends in Photovoltaic Technologies," Offshore Technology Conference, Houston, Texas, May 6, 2019.
62. "Engineering Mechanical Flexibility in Organic Photovoltaic Blends and Tailoring Surface Properties using Bottlebrush Polymer Additives," Carnegie Mellon University, April 23, 2019
61. "Visualization of Surface-Active Bottlebrush Additives through Time-of-Flight Secondary Ion Mass Spectroscopy," University of Houston, April 19, 2019
60. "Bioelectronics for Energy, Health, and Sensing," National Science Foundation, Washington, DC, February 20, 2019
59. "Molecular Engineering for Flexible Organic Photovoltaics and Surface Active Bottlebrush Additives," Tulane University, January 25, 2019
58. "Time-of-Flight Secondary Ion Mass Spectroscopy Applications from Organic Electronics to Forensic Science," Sekisui Research, November 20, 2018
57. "Achieving Flexibility and Programmable Shape Changes in Polymeric Networks and Devices University of Southern Mississippi, September 11, 2018.
56. "Achieving Flexibility and Programmable Shape Changes in Polymeric Networks and Devices," University of Houston, April 5, 2018.
55. "Ion-Selective and High Capacity Electrodes for Membrane Capacitive Deionization," ACS Spring Meeting, New Orleans, LA, March 7, 2018.
54. "Block Copolymers for Morphology Control and Mechanical Stability in Bulk Heterojunction Organic Photovoltaics," ACS Macromex Meeting, Los Cabos, MX, December 5, 2017.
53. "Intelligent Flexible Materials: From Self-Assembled Photovoltaics to Programmable Elastomers," UT Dallas, March 24, 2017
52. "Simultaneously ion- and electron-conductive binders for energy storage," APS March Meeting, New Orleans, LA, March 15, 2017.
51. "Liquid Crystal Elastomers with a Fast, Dynamic, and Tunable Response," Kent State University, March 1, 2017
50. "Bottlebrush Additives for Functional Thin Film Coatings," University of Houston, Society of Plastics Engineers, February 15, 2017.

49. "Polymers for Energy and Medicine," Society of Plastic Engineering, University of Houston, January 23, 2017.
45. "Conjugated Polymer and Block Copolymer Additives in Bulk Heterojunction OPVs," American Institute of Chemical Engineering Annual Meeting, San Francisco, CA, November 16, 2016.
44. "Conjugated polymer and block copolymer additives in bulk heterojunction OPVs," American Chemical Society Southwest Regional Meeting, Galveston, TX, November 11, 2016.
43. "Entropy-mediated segregation of bottlebrush polymer additives," American Chemical Society Southwest Regional Meeting, Galveston, TX, November 10, 2016.
42. "Entropy-mediated segregation of bottlebrush polymer additives," Texas Soft Matter Meeting, Dallas, TX, August 12, 2016.
41. "Structure and Conformation of Bottlebrush Polymers and Assemblies Determined by Small-Angle Neutron Scattering," American Conference on Neutron Scattering, Long Beach, CA, July 12 2016.
40. "Synthesis, Alignment and Spontaneous Shape-Change in Epoxy-Based Liquid Crystal Elastomers," Phoenix, CA, MRS Spring Meeting, March 29, 2016.
39. "All-conjugated block copolymer additives and compatibilizers for organic photovoltaics," San Diego, CA, ACS Spring Meeting, March 15, 2016.
38. "Tailoring Interfaces in Soft Materials through Block Copolymer and Bottlebrush Additives," PRISM/PCCM Fall 2015 Seminar Series, December 9, 2015, Princeton, NJ.
36. "Energy Storage and Photovoltaics through Block Copolymer Self-Assembly," MRS Fall meeting, December 2015, Boston, MA.
36. "Dynamic Cell Culture through Liquid Crystal Elastomer Composites," MRS Fall Meeting, December 2015, Boston, MA
35. "Electromechanically Responsive Liquid Crystal Elastomer Nanocomposites for Active Cell Culture" International Liquid Crystal Elastomers Conference, October 4, Erice, Italy.
34. "Conjugated Block Copolymer Photovoltaics," *IX International Congress on Chemical Sciences, Technology and Innovation*, Quimicuba, October 2015, Havana, Cuba
33. "Block Copolymer Compatibilizers for Organic Photovoltaic Blends," 250th ACS FALL Meeting, August 18, 2015, Boston, MA.
32. "Conjugated Block Copolymers for Energy Storage and Self-Assembled Photovoltaics," Workshop on Frontiers of Block Copolymer Self Assembly, NSLS-II/CFN Joint Users Meeting, May 18 2015.
31. "Block Copolymer Self-Assembly for Photovoltaics, Energy Storage, and Responsive Coatings," 4th International Grubb's Symposium, April 10 2015, Ningbo, China
30. "Morphology of All-Conjugated Block Copolymer Thin Films: Self-Assembly, Crystallization, and Phase Separation," APS Spring Meeting, March 2, 2015, San Antonio, TX.

29. "Functional Polymeric Materials: Block Copolymer Photovoltaics and Shape Responsive Liquid Crystal Elastomers," University of Houston, February 20, 2015, Department of Electrical Engineering, Houston, TX.
28. "Charge Separation and Photovoltaic Performance of All- Conjugated Block Copolymers" Gulf Coast Consortia Workshop: Light-Driven Processes in Bio-Inspired Materials. December 15, 2014, Rice University, Houston, TX
27. "Morphology and Charge Separation in All-Conjugated Block Copolymer Photovoltaics," ACS Macromex Meeting, December 4, 2014, Puerto Vallarta, Mexico.
26. "All-Conjugated Block Copolymer Photovoltaics," AIChE Annual Meeting, Emerging Areas in Polymer Science and Engineering Plenary Session, November 17, 2014, Atlanta, GA
25. "All-Conjugated Block Copolymer Photovoltaics," 2014 NorTex Nano Summit, Rice University, October 14, 2014, Houston, TX.
24. "Bottlebrush Polymers as Additives for Tailoring Thin Film Properties," Department of Chemical & Biomedical Engineering, University of Southern Florida, October 3, 2014.
23. "Structure and Photovoltaic Performance of All-Conjugated Block Copolymers" National Graduate Research Polymers Conference, Baton Rouge, LA, June 2, 2014.
22. "Charge and Energy Transfer in All-Conjugated Block Copolymers," 30th International Conference of the Polymer Processing Society, June 10, 2014
21. "Block Copolymer Cathodes for Electrochemical Energy Storage," Los Alamos National Laboratory, May 28, 2014.
20. "Morphology and Charge Separation in All-Conjugated Block Copolymers," CNM/APS/EMC user conference, May 12, 2014.
19. "Synthesis, morphology, and optoelectronic properties of donor-acceptor all-conjugated block copolymers," 247th ACS Spring Meeting, March 18, 2014.
18. "Polymer Nanocomposites using Bottlebrush Polymers," Materials Science and Engineering Department, SUNY Stonybrook, July 2, 2013
17. "Structure and Photovoltaic Performance of All-Conjugated Block Copolymers," Center for Integrated Nanoscale Technologies, Los Alamos National Lab, July 10, 2013.
16. "Solution Conformation of Multicomponent Bottlebrush Polymers," National Institute for Standards and Technology, April 18, 2013.
15. "Synthesis and Film Properties of Multicomponent Bottlebrush Polymers," ExxonMobil Baytown Research Center, February 8, 2013.
14. "Sustainable Energy from Light-Harvesting Plastics," Rice Undergraduate Research Symposium, January 26, 2013
13. "Sustainable Energy from Light-Harvesting Plastics," Rice Engineering Alumni Annual Banquet, December 4, 2012

12. "Design of High Performance Block Copolymer Photovoltaics," Texas A&M University, Materials Engineering Seminar, November 30, 2012
11. "Characterization of All-Conjugated Block Copolymers and Bottlebrush Polymers," University of Houston, Advanced Polymer Characterization Workshop, November 9, 2012
10. "Synthesis and Crystallinity of All-Conjugated Block Copolymers," Annual Meeting of the American Institute of Chemical Engineers, Pittsburgh, PA, October 30, 2012
9. "Dynamic Stiffening in Liquid Crystal Elastomers," Chemical Engineering Department, Lamar University, April 11, 2012
8. "All-Conjugated Block Copolymers for Self-Assembled Photovoltaics," Center for Nanoscale Materials, Argonne National Laboratory, December 14, 2011
7. "All-Conjugated Block Copolymers for Self-Assembled Photovoltaics," Center for Nanoscale Materials Sciences, Oak Ridge National Laboratory, September 2011
6. "Synthesis and Self-Assembly of Rod-Rod Polythiophene-*block*-Polyfluorene Conjugated Copolymers," ACS National Meeting, Denver, Colorado, August 2011
5. "Block Copolymers for Nanostuctured Photovoltaics," Chemical Engineering Department, Tianjin University, January 20, 2011
4. "Neutron and X-Ray Scattering Studies of Structured Fluids: Bent-Core Liquid Crystals and PAMAM Dendrimers," Case Western Reserve University, April 2009
3. "Investigation of PAMAM in solution by Neutron Scattering" Tennessee Technological University, Department of Chemical Engineering, 2008
1. "Self-Assembled Liquid Crystal Gels," Kent State University, Liquid Crystal Institute, 2007
1. "Self-Assembled Liquid Crystal Gels," invited talk, University of Leeds, Polymers and Complex Fluids, 2007

Service

Conference Organization:

1. Chair (2021) and Co-Chair (2020) for the **AIChE Polymers 8a session**.
2. Chair for the Inaugural **2020 Rice University SIMS Workshop**, May 2021
3. Chair for the inaugural **Gordon Research Conference on Bioelectronics**. June 2019.
4. Chair for the 2018 **DeLange Major Conference XI: Bioelectronics, Our Bioelectronic Future: Smarter, Smaller, Connected**. December 2018
5. Organizing committee member for the **2018, 2019, and 2020 Center for Nanophase Materials Sciences (CNMS) user meeting** at Oak Ridge National Laboratory (ORNL).

6. Co-Organizer for Spring **2019 American Chemical Society meeting on Synthesis & Properties of Densely Grafted Polymers** and Fall 2017 American Chemical Society meeting Session on Shape-Shifting Polymers
7. Co-Organizer for **Soft Matter** session of the **2018 American Conference on Neutron Scattering**. June 2018.
8. Co-Organizer for the **Shape-Shifting Polymeric Systems** session of the fall 2017 ACS Meeting.
9. Co-Organizer for the **Nanostructured Membranes for Water Purification** session of the 2016 APS March Meeting.
10. Organizer of the Chemical Engineering session for the **Gulf Coast Undergraduate Research Symposium (GCURS)** (2015 – 2020). <http://gcurs.rice.edu/>
11. Chair for the **2017 International Liquid Crystal Elastomers Conference**.
12. Organizer for the **Texas Soft Matter Meeting**, August 21, 2015, Rice University. <http://txsoftmatter.chee.uh.edu/>
13. Organizing committee member for the **28th International Symposium on Polymer Analysis and Characterization (ISPAC)**, <http://www.ispac-conferences.org/ispac-2015.aspx>).
14. Organizing committee member for the **2015 Center for Nanophase Materials Sciences (CNMS) user meeting** at Oak Ridge National Laboratory (ORNL).
15. Session Organizer for “Structure and Properties of Polymers I,” “Polymer Processing and Rheology II,” “Polymeric Materials for Energy Conversion,” Nanoscale Structure in Polymers” at the annual meeting of the American Institute of Chemical Engineers (2009, 2010, 2011, 2013, 2014, 2015, 2016, respectively). Poster judge for both graduate and undergraduate student poster presentations.
16. Judge for graduate student poster competition at the AIChE annual meeting (2013 and 2014), APS March Meeting (San Antonio, 2015), NorTex Nano Meeting (Rice University, 2014).

Journal Editorial Advisory Board Positions:

1. ACS Applied Energy Materials Editorial Advisory Board (2019 – present)
2. ACS Macro Letters Editorial Advisory Board (2017 – present)

User Facility Management and External Review:

1. Chair for the User Executive Committee for the Center for Nanophase Materials Sciences at Oak Ridge National Laboratory (2019 – 2020)
2. NIST Center for Neutron Research Users Group (NUG) Executive Committee, 2015 – 2018.
3. User Executive Board Member for the Center for Nanophase Materials Sciences (CNMS), 2012 – present (elected in 2012, renewed in fall 2014, elected vice-chair 2017, chair 2019).

4. External Review Board Member for Puerto Rico-Wisconsin NSF-PREM
5. Invited speaker for Center for High Resolution Neutron Scattering (CHRNS) site visit and panelist for CHRNS workshop: "Neutron Measurements for Materials Design & Characterization"

Department Service

1. **Graduate Recruiting and Admissions (2010 – present):** RV has served as a member of the graduate committee since joining the department and is currently serving as the Chair of the CHBE Graduate Recruiting Committee. Responsibilities include reviewing and admitting applicants to the PhD, MS, and MChE programs, planning the graduate student visitation weekend, and advertising the department through events such as the AIChE national meeting.
2. **Applied Physics Graduate Recruiting Committee (Spring 2013 – 2019):** RV has served on the recruiting committee of applied physics since Spring of 2013. Responsibilities include reviewing applicants to the program and participating in the annual visitation weekend.
3. **Undergraduate Studies (2009 – 2014):** RV served as a member of the undergraduate studies committee for five years. Responsibilities include reviewing and updating the department curriculum, advising students on department courses and requirements, and recognizing the achievements of undergraduate students through endowed awards and fellowship. RV is no longer a formal member of the committee but continues to advise CHBE students in his roles as faculty associate and as an undergraduate student mentor.
4. **Department Seminar Coordinator (2010 – 2015):** Along with Prof. Deepak Nagrath, RV has coordinated department seminars for the past 5 years. This includes scheduling 10 – 12 seminars each semester, coordinating with faculty, and inviting annual lecturers for the Leland, Wilbur, and Chevron lectures.
5. **Faculty Search Committee (Fall 2016 – Spring 2017):** RV served on a departmental faculty search committee in the fall of 2016 and Spring 2017. This search successfully filled 1 open position in the CHBE department.

School of Engineering Service

1. **Faculty Review Committee for Research Awards (2020 – 2022)**
2. **Future Faculty Fellows Reviewer (2020 – 2021)**
3. **Search Committee Member for Dean of the School of Engineering (2020)**
4. **School of Engineering Awards Committee (2020)**
5. **Neuroengineering Initiative Hiring Committee (Fall 2018 – Spring 2019).** This search successfully filled three positions in the School of Engineering.
6. **Engineering Design Minor Faculty Advisory Board (2017 – present)**

7. **Doerr Institute for New Leaders Faculty Advisory Committee (2018 – present):** As a member of the faculty advisory committee for the Doerr Institute, RV meets regularly with the Director of the Institute along with the other Doerr Institute staff to discuss and advise on their strategy for growth and success.
8. **Rice Center for Engineering Leadership Faculty Advisory Committee (2010 – present):** RV has served on the RCEL board since its inception in 2010. Responsibilities include recruiting an RCEL director, advising RCEL staff, and defining a long-term mission for RCEL.
9. **Steering Committee of Rice's NeuroEngineering Initiative (summer 2018 - present)**

University Service

1. **Faculty Committee on Conflicts (Fall 2020 – Spring 2023)**
2. **Faculty Senate Working Group on General Education (Summer 2020 – Spring 2021)**
3. **Engineering Divisional Advisor for Sid Richardson College (2019 – present)**
4. **University Committee for Faculty & Staff Benefits (July 2020 – June 2021)**
5. **Inequalities and Inequities Working Group (Summer 2018 - Spring 2019)**
6. **Faculty Advisory Board for Doerr Institute for New Leaders (Spring 2019 – present)**
7. **Committee on Research (July 2016 – June 2020):** The COR represents the faculty in research-related matters across the university.
8. **Shared Equipment Authority Faculty Board Member (2010 – present):** RV has served on the board of the SEA for the past 5 years. The board meets monthly and serves the university by acquiring and maintaining shared equipment facilities on campus. This includes setting instrument rates, coordinating instrument upgrades and repairs, acquiring new instrumentation, and managing finances related to shared instrument use.
9. **Security Marshal for Rice University Commencement (2016 – present)**
10. **Sid Richardson Faculty Associate (Fall 2009 – present):** RV has served as a faculty associate of Sid Richardson College since the fall of 2009. RV also served as a first-year mentor for a group of freshmen at Sid Richardson College that matriculated in 2013.
11. **Rice Vision Dinner.** Undergraduate recruiting event, February 16 2016.

Community Service

1. **RET Site: Research Experience for Teachers in Nanoengineering with a Focus on Teacher Leadership:** RV is a PI on an NSF RET program focused on teacher leadership (2016 – 2019)
2. **REU Site: Nanotechnology REU with a Focus on Community Colleges:** RV serves as a Co-PI on an NSF REU site that brings Houston-area community college to Rice for summer research experiences (2014 – 2020).

3. **HCC REEMS REU Program:** RV serves as a faculty mentor for the NSF HCC REEMS program. This program provides summer research experiences for Houston Community College students, coursework on nanotechnology, and academic mentoring (2016 – 2020).
4. **NRT: A Bioelectronics Incubator for Training Students (BITS) at the Cell/Material Interface:** RV is a Co-PI on the NSF NRT program focused on Bioelectronics. The program provides interdisciplinary training to PhD students from Engineering and Natural Sciences, including the formulation of collaborative thesis projects, courses on interdisciplinary interactions, communication, and leadership.
5. **Houston Lighthouse Science Explorations Event** (Monday, August 6, 2018).
6. **Energy Explorations Academy lab tour** (Friday June 15, 2018)
7. **Young Owls Leadership program** tour of the NEWDL (Wednesday June 5, 2018)
8. **Lecture to NEWT teachers on CDI** (evening of Feb 13, 2018)
9. **Lecture to NEWT teachers on solar MD** (evening of Feb 15, 2017)
10. **Lecture to REEMS students** (Feb 28, 2018)
11. **Descubra Event at the Houston Children's Museum (December 10, 2016):** In an event co-sponsored by the Children's Museum of Houston and the Smithsonian Latino Center – Descubra – visitors participated in hands-on STEM based activities and informal conversations between with Latino STEM professionals. This event also co-incided with a Star Wars Day at the Children's museum, and activities involved a Star Wars theme. The Verduzco laboratory organized a table demonstrating various properties of polymers: viscoelasticity (Oobleck swamp made from corn starch and water) and a glass-transition (shrinking of polystyrene sheet cut into shapes, 'shrinky-dinks').
12. **Rice Institute of Biosciences and Bioengineering (IBB) STEM Engagement Program:** The IBB STEM Engagement program brings high school students from the Science Academy of South Texas to Rice to participate in field trips, demonstrations, and conduct laboratory research. Two graduate students in the Verduzco laboratory taught the high school visitors about energy storage and shape-responsive polymeric materials.
13. **National Science Foundation Research Experiences for Undergraduates:** RV is the co-PI on an NSF-sponsored REU program focused on community college applicants. Activities include recruiting 8 – 10 community college students for summer research each year, advertising the program on community college campuses, and mentoring two community college students per year. The program begins in the summer of 2015.
14. **NSF Reserch Experiences for Teachers (RET) Mentor:** RV served as a faculty mentor during the summer of 2014 for an NSF RET researcher. RV designed the project and coordinated training and laboratory activities. The summer researcher Ralph Cox was mentored by Verduzco group member Stacy Pesek.
15. **West Houston Center for Science and Engineering Alliance for Minority Participation at Houston Community College:** Since 2010, RV has served as a mentor and research advisor to students from Houston Community College. RV has mentored seven houston community college undergraduate students in summer research projects. Two have been listed as authors or co-authors on publications, and all seven have transferred to four-year universities to complete degrees in science and engineering.
16. **NEWT Nano-Environmental Workshop:** The Verduzco laboratory participated in the NEWT Nano-Environmental workshop in March 2016, one of the first outreach activities as part of the new NSF Engineering Research Center established at Rice University. This

activity focused on K-12 teachers and discussing challenges and technologies related to water purification.

17. **Rice's Community and Mentoring Program for Undergraduate Success:** RV has served as a mentor for underrepresented students at Rice through the Community and Mentoring Program led by Dr. Richard Tapia. RV has participated in outreach activities on campus, including as a one-on-one mentor for students, a plenary speaker during a student-organized science and engineering conference, and a speaker during regular meetings.
18. **Kashmere High School Research/Mentorship Program:** RV served as a faculty mentor for the pilot research experience and mentorship partnership between Rice Institute of Biosciences and Bioengineering and Kashmere High School (KHS). The program provided four rising seniors at KHS the opportunity to experience science, technology, engineering, and mathematics (STEM) research, learn valuable life skills, and develop a mentormentee relationship with scientists and engineers in the academic/professional workplace. Jorge Mok, a student in the Verduzco group, is participating in the program as a mentor
19. **Children's Museum NanoDays:** The Verduzco group has volunteered at the Houston Children's Museum NanoDays event the past two years, in March 2014 and 2015. NanoDays brings scientists together with museums to create unique learning experiences and engages people of all ages by combining simple hands-on activities for young people with events exploring current research for adults.
20. **John Foster Dulles Science and Math Academy:** As a native of the Houston area and former John Foster Dulles High School student, RV has returned to his *alma mater* for presentations and science demonstrations. In August 2014, RV participated in orientation activities for new students entering the Science and Math Academy.
21. **Sally Ride Festival:** RV has participated in the Sally Ride Festival the past two years, in leading science demonstrations for small groups and in conjunction with the South Texas Section of the American Institute of Chemical Engineers (STS-AIChE). The Sally Ride Festival provides interactive science demos and experiments for kids.
22. **Rice University Continuing Studies Teacher Training:** RV has twice served as a guest lecturer for Continuing Studies' teacher training programs. RV participated in a teacher training program focused in science teachers from Humble ISD, and the goal of the lectures was to provide teachers with insights into university-level expectations for students in science, mathematics, and engineering.

Proposal Review:

1. **National Science Foundation:** CBET (Interfacial Processes and Thermodynamics, Energy for Sustainability), CMMI (Materials Processing and Manufacturing), and DMR (Polymers, Polymers CAREER panel, and DMREF).
2. **Department of Energy:** Basic Energy Sciences, Center for Nanoscale Materials Sciences at Oak Ridge National Laboratory, Center for Nanoscale Materials at Argonne National Laboratory, Center for Functional Nanomaterials at Brookhaven National Laboratory.
3. **American Chemical Society:** Petroleum Research Fund
4. **European Research Council:** ERC Consolidator Grant 2014, Advanced Grant 2017
5. **National Laboratory Facilities:** Facility Proposal Review for the Center for Nanoscale Materials at Argonne National Laboratory, the Center for Functional Materials at Brookhaven National Laboratory, the Center for Nanophase Materials Sciences, the National Center for Neutron Research at the National Institute of Standards and Technology (NIST), and the Stanford Synchrotron Radiation Light Source (SSRL).

6. **Research Council KULeuven**, InterDisciplinaire Onderzoeksprogramma's - Interdisciplinary research project
7. **Royal Society e-GAP**. Leverhulme-Royal Society Africa Award.
8. **Advanced Research Projects Agency - Energy (ARPA-E)**. SHIELD FOA.
9. **AAAS RDO International Collaboration Grant Program**.
10. **Army Research Office** Polymer Chemistry program

Journal Review: *ACS Macro Letters, ACS Nano, ACS Applied Materials and Interfaces, Advanced Materials, Advanced Energy Materials, Advanced Functional Materials, Angewandte Chemie International Edition, Applied Physics Letters, Chemical Communications, Chemistry of Materials, Colloid and Polymer Science, Colloid and Surfaces A, Colloids and Surfaces B: Biointerfaces, Energy and Environmental Science, Energy and Fuels, Fuel, IEEE Transactions on Nanotechnology, Industrial and Engineering Chemistry Research, International Journal of Molecular Sciences, Journal of Applied Polymer Science, Journal of the American Chemical Society, Journal of Chemical Physics, Journal of Physical Chemistry C, Journal of Materials Chemistry A, Journal of Materials Chemistry C, Journal of Physical Chemistry, Journal of Polymer Science Part A: Polymer Chemistry, Journal of Polymer Physics Part B: Polymer Physics, Polymers, Langmuir, Macromolecular Symposia, Macromolecules (top 150 reviewer), Materials Today, Nano Letters, Nanoscale, Nature, Nature Chemistry, Nature Communications, Nature Materials, Nature Nanotechnology, New Journal of Chemistry, Physical Chemistry Chemical Physics, Physical Review Applied, Physical Review E, Physical Review Letters, Polymer, Polymer Chemistry, RSC Advances, Science, Science Advances, Sensors and Actuators B: Chemical, Small, Soft Matter.*

Students Mentored

PhD students:

<u>Name</u>	<u>Degree Program</u>	<u>Start Date and Status</u>
Xianyu Li	Chemical & Biomolecular Engineering	Fall 2009 – May 2014
Aditya Agrawal	Chemical & Biomolecular Engineering	Fall 2009 – Jul 2014
Kendall Smith	Chemical & Biomolecular Engineering	Fall 2009 – Nov 2014
Hadi ShamsiJazeyi [†]	Chemical & Biomolecular Engineering	Fall 2010 – Dec 2014
Yen-Hao Lin	Chemical & Biomolecular Engineering	Fall 2009 – Apr 2015
Stacy Pesek	Chemical & Biomolecular Engineering	Fall 2010 – Aug 2015
Aarthi Muthuswami [†]	Chemical & Biomolecular Engineering	Fall 2010 – Oct 2015
Luqing Qi	Chemical & Biomolecular Engineering	Fall 2012 – Nov 2017
Jorge Mok	Chemical & Biomolecular Engineering	Fall 2012 – July 2018
Andrea Miranda	Chemistry	Summer 2016 – Nov 2018
Zhiqi Hu	Chemical & Biomolecular Engineering	Fall 2014 – Nov 2019
Xiaoyi (Tracy) Li	Chemical & Biomolecular Engineering	Fall 2014 – May 2020
Amit Jain	Chemical & Biomolecular Engineering	Fall 2015 – May 2020
Hao Mei	Chemical & Biomolecular Engineering	Spring 2015 – Dec 2020
Morgan Barnes	Materials Science and NanoEngineering	Summer 2016 – present
Tanya Rogers [‡]	Chemical & Biomolecular Engineering	Spring 2018 – present
Dongyang Zhu	Chemical & Biomolecular Engineering	Spring 2018 – present
Chia-Ping Tseng	Chemical & Biomolecular Engineering	Summer 2018 – present
Syndi Nnorom	Chemical & Biomolecular Engineering	Spring 2019 – present
Kazuma Miyagi	University of Tokyo (visiting student)	Summer 2019
Safiya Khalil	Chemical & Biomolecular Engineering	Spring 2020 – present
Dongjoo Lee	Chemical & Biomolecular Engineering	Spring 2020 – present
Alec Ajnsztajn [§]	Materials Science and NanoEngineering	Summer 2020 – present
Zhenyang Jia	Chemical & Biomolecular Engineering	Spring 2021 – present
Abdullah Alazmi	Chemical & Biomolecular Engineering	Spring 2021 – present

[†]Co-advised with Professor George Hirasaki

[‡]Co-advised with Professor Mike Wong

[§]Co-advised with Professor Ajayan

M.S. and MCHE students:

<u>Name</u>	<u>Degree Program</u>	<u>Start Date and Status</u>
Luis Hasbun	Chemical & Biomolecular Engineering	Fall 2015 – Spring 2016
Bohan Zhu	Chemical & Biomolecular Engineering	Fall 2013 – Spring 2016
Saurabh Sharma	Chemical & Biomolecular Engineering	Spring 2017 – Spring 2018
Jiabei Li	Chemical & Biomolecular Engineering	Spring 2018 – present
Yu Wang	Chemical & Biomolecular Engineering	Spring 2019 – present
Casper Huang	Chemical & Biomolecular Engineering	Fall 2020 – present
Fangxin Liu	Chemical & Biomolecular Engineering	Fall 2020 – present

M.S and Ph.D.Thesis Committees:

<u>Year</u>	<u>Name</u>	<u>Degree Program</u>	<u>Chairperson</u>
2020	Nimrat Ohbi	PhD, Chemistry	Dwight Seferos
2020	Xiaoyi Li	PhD, Chemical Engineering	Rafael Verduzco
2020	Danning Zhang	PhD, Civil and Environmental Eng.	Pedro Alvarez
2020	Amit Jain	PhD, Chemical Engineering	Rafael Verduzco
2020	Ian Campbell	PhD, Biosciences	Joff Silberg
2020	Botao Farren Song	PhD, Chemical Engineering	Lisa Biswal
2020	Amir Arabzade	PhD, Chemical Engineering	Stephen Mack
2019	Yuchong Zhang	PhD, Chemical Engineering	Walter Chapman

2019	Josh Atkinson	PhD, Biosciences	Joff Silberg
2018	Bernard Kellogg	MS, Civil and Environmental Engineering	Qilin Li
2018	Jorge Mok	PhD, Chemical Engineering	Rafael Verduzco
2018	Saurabh Sharma	MS, Chemical Engineering	Rafael Verduzco
2018	Lauren Popp	PhD, Chemical Engineering	Laura Segatori
2017	Bengio Elie	PhD, Chemical Engineering	Matteo Pasquali
2017	Ethan Li	PhD, Chemistry	James Tour
2017	Fei Wang	PhD, Chemical Engineering	Francisco Vargas
2017	Xu Wang	PhD, Biochemistry	Yousif Shamoo
2016	Mohammed Adnan	PhD, Chemical Engineering	Matteo Pasquali
2016	Abdulrahman Alharbi	MS, Chemical Engineering	Lisa Biswal
2016	Yuchong Zhang	PhD, Chemical Engineering	Walter Chapman
2016	Chad Byers	PhD, Chemistry	Christy Landes
2016	Víctor García López	PhD, Chemistry	James Tour
2016	Pingfei Lu	PhD, Chemistry	James Tour
2015	Brittany Olivy	PhD, Chemistry	Andrew Barron
2015	Chad Byers	PhD, Applied Physics	Christy Landes
2015	Ariana Melendez	M.S., Chemical & Biomolecular Eng.	Francisco Vargas
2015	Stacy Pesek	PhD, Chemical & Biomolecular Eng.	Rafael Verduzco
2015	Aarthi Muthuswamy	PhD, Chemical & Biomolecular Eng.	George Hirasaki
2015	Jinjian Wu	PhD, Civil and Environmental Eng.	Qilin Li
2015	Dmitri Tsenttalovich	PhD, Chemical & Biomolecular Eng.	Matteo Pasquali
2015	Yen-Tien Lu	PhD, Chemical & Biomolecular Eng.	Andrew Barron
2015	Yen-Hao Lin	PhD, Chemical & Biomolecular Eng.	Rafael Verduzco
2014	Hadi ShamsiJazeyi	PhD, Chemical & Biomolecular Eng.	George Hirasaki
2014	Ramya Sambasivan	PhD, Chemistry	Zachary Ball
2014	Kendall Smith	PhD, Chemical & Biomolecular Eng.	Rafael Verduzco
2014	Kung-Po Chao	PhD, Chemical & Biomolecular Eng.	Lisa Biswal
2014	Aditya Agrawal	PhD, Chemical & Biomolecular Eng.	Rafael Verduzco
2014	Bennet Marshall	PhD, Chemical & Biomolecular Eng.	Walter Chapman
2014	Xianyu Li	PhD, Chemical & Biomolecular Eng.	Rafael Verduzco
2013	Pinn-Tsong Chiang	PhD, Chemistry	James Tour
2011	Nikolaos Soultanidis	PhD, Chemical & Biomolecular Eng.	Michael Wong
2011	Yu-Lun Fang	PhD, Chemical & Biomolecular Eng.	Michael Wong
2011	Jinjian Wu	MS, Civil and Environmental Eng.	Qilin Li
2011	Jonathan Lo	MS, Chemical & Biomolecular Eng.	Marc Robert
2010	Allison Contreras	PhD, Civil and Environmental Eng.	Qilin Li

Post-Doctoral Research Associates:

<u>Name</u>	<u>Degree Institution</u>	<u>Start Date</u>	<u>End Date</u>
Yilin Li	Washington State University	Sept 2018	
Taniya Kekunawela	UT Dallas	Sept 2018	
Pine Yang	Syracuse University	March 2015	June 2015
Qinjia Cai	National University of Singapore	November 2010	November 2011

Undergraduate Researchers from Rice:

<u>Name</u>	<u>Degree Program</u>	<u>Dates</u>
Danica Pietrzak	Chemical & Biomolecular Engineering	Fall 2020 – present
Ruth Young	Chemical & Biomolecular Engineering	Summer 2020
Elizabeth Groenwold	Chemical & Biomolecular Engineering	Fall 2019 – present
Leslie Arrazolo	Chemical & Biomolecular Engineering	Summer 2019 – present
Sueda Cetinkaya	Chemical & Biomolecular Engineering	Summer 2019 – present
Allen Lin	Chemical & Biomolecular Engineering	Spring 2019

Changxu Sun	Chemical & Biomolecular Engineering	Fall 2017 – present
Michael Xiao	Chemical & Biomolecular Engineering	Fall 2017
Ruby Lu	Chemical & Biomolecular Engineering	Fall 2016
Isaiah Barth	Chemical & Biomolecular Engineering	Fall 2016 – Spring 2018
Tensae Assefa	Bioengineering	Summer 2016
Grant Chan	Chemical & Biomolecular Engineering	Spring 2016 – Fall 2016
Abdi Sarbessa	Chemical & Biomolecular Engineering	Spring 2016 – Fall 2016
Justin Tenor	Chemical & Biomolecular Engineering	Spring 2016 – Fall 2016
Yichen Zhang	Chemical & Biomolecular Engineering	Spring 2016
Ray Wang	Chemical & Biomolecular Engineering	Summer 2015
Qianhong Zhu	Chemical & Biomolecular Engineering	Fall 2014 – Spring 2016
Ryan Roberts	Chemical & Biomolecular Engineering	Spring 2015
Hojin Jeon	Chemical & Biomolecular Engineering	Fall 2014
Chen Song	Chemical & Biomolecular Engineering	Summer 2014
Javier Perez	Chemical & Biomolecular Engineering	Summer 2014
Yichuan Ma	Chemical & Biomolecular Engineering	Summer 2014
Snehav Gupta	Chemical & Biomolecular Engineering	Summer 2014
Will Kasper	Chemical & Biomolecular Engineering	Spring 2014
Hojin Kim	Chemical & Biomolecular Engineering	Fall 2013
Leslie Nguyen	Chemical & Biomolecular Engineering	Fall 2013
Connie Shen	Chemical & Biomolecular Engineering	Fall 2013
Cathy Zhang	Chemical & Biomolecular Engineering	Spring 2013
E-Fei Lu	Chemical & Biomolecular Engineering	Spring 2013
Lisa Swank	Chemical & Biomolecular Engineering	Spring 2013
Qiqi Xiang	Chemical & Biomolecular Engineering	Fall 2012 – Fall 2014
Teju Keishore	Chemical & Biomolecular Engineering	Fall 2012 – Fall 2013
Jim Howe	Chemical & Biomolecular Engineering	Fall 2011– Spring 2013
Chloe Kempf	Chemical & Biomolecular Engineering	Fall 2011– Fall 2012
Dana Dement	Chemical & Biomolecular Engineering	Spring 2012
Sarah Southmayd	Chemical & Biomolecular Engineering	Fall 2012 – Fall 2013
David Tae-Hyun Yun	Chemical & Biomolecular Engineering	Fall 2012
Li Xiong	Materials Science	Summer 2011
Yichen Li	Chemical & Biomolecular Engineering	Summer 2009

Undergraduate Researchers from Other Schools:

<u>Name</u>	<u>Degree Program</u>	<u>Start Date and Status</u>
Damilola Owolabi	HCC Engineering	Summer 2019
Sohee Park	HCC Engineering	Summer 2019
Mary Pinedo	HCC Engineering	Summer 2018
Chiamaka Agu	HCC Engineering	Summer 2018
Daniel Caña	Lone Star College	Summer 2017
Rodrigo Munoz	HCC Engineering	Summer 2017
Joshua Jackson	HCC Engineering	Summer 2017
Jinzhao Zhang	Peking University, Physics	Fall 2016 – Spring 2017
Niloufar Jafari	HCC Engineering	Summer 2016
Shams Albayati	HCC Engineering	Summer 2016
Abigail Gonzales	HCC Engineering	Summer 2016
Daniel Gonzales	HCC Engineering Honors Student	Summer 2013
Bridget Stewart	HCC Engineering Honors student	Summer 2012 and 2013
Charlie Chirino	HCC Engineering Honors student	Summer 2011
Ümmügülsüm Özel	Fatih University, Turkey	Summer 2011
Amanda Schlafer	HCC Engineering Honors student	Summer 2010

High School Teacher Researchers:

<u>Name</u>	<u>School</u>	<u>Start Date and Status</u>
Ralph Cox	Furr High School	Summer 2014
Shawn Richard	Cinco Ranch High School	Summer 2015
Chi Enemchukwu	YES Prep High School	Summer 2017
Selene Reyes	Pasadena High School	Summer 2018
Kaitlin Bartuska	Mayde Creek Junior High	Summer 2019

High School Student Researchers:

<u>Name</u>	<u>Degree Program</u>	<u>Start Date and Status</u>
Shaan Parekh	Dulles High School	Summer 2019
Cierra Weathers	Lamar High School	Summer 2017, 2018
Howard Yong	Clements University	Fall 2016
Melinda Ding	Clements University	Summer 2016
Edward Cen	Bellaire Senior High School	Summer 2016
Annum Sadana	Carnegie Vanguard HS	Summer 2015
Brenda Gonzales	Furr High School	Summer 2015
Michelle Chao	Debakey High School	Summer 2013
Dominic Litong	TAMS	Summer 2013
Brenda Gonzales	Furr High School	Summer 2015
Annum Sadana	Carnegie Vanguard	Summer 2015

Student Awards

1. Yilin Li, Best Oral Presentation Award, 2019 Smalley-Curl Institute Summer Symposium
2. Sueda Cetinkaya, Best Poster Presentation, 2019 Smalley-Curl Institute Summer Symposium
3. Sohee Park, Best Poster Presentation, 2019 Smalley-Curl Institute Summer Symposium
4. Xiaoyi Li, 2nd Place, Poster Competition, Electrochemical Society Meeting, March 2019
5. Hao Mei, IBB Travel Grant, Spring 2019
6. Amit Jain, Ed Archuleta Desal Award, September 2018
7. Morgan Barnes, Best Presentation Award, Smalley-Curl Institute Transdisciplinary Symposium, February 2018
8. Amit Jain, IBB travel grant, February 2018
9. Amit Jain, Excellence in Graduate Student Research, POLY Division, ACS 2018 Spring Meeting
10. Andrea Miranda, Awarded DOE SCGS Fellowship, Feb 2018 – August 2018
11. Jorge Mok, Neal Autrey fellowship, Fall 2017 – Spring 2018
12. Andrea Miranda, 2nd Place Poster Prize, ACS Macromex Conference, Los Cabos, México, May 2017

13. Andrea Miranda, Poster Prize, 2017 Rice Chevron Lecture
14. Morgan Barnes, Best Presentation Award, Smalley-Curl Institute Transdisciplinary Symposium, February 2017
15. Niloufar Jafari, Emerging National Researchers 2017
16. Luqing Qi, IBB Travel Award, Feb 2017
17. Morgan Barnes, SCI symposium speaking award, Feb 2017
18. Excellence in Graduate Student Research, Polymers Division, AIChE 2016 Annual Meeting, Jorge Mok
19. Excellent in Graduate Student Research, Electronics and Optics Division, AIChE 2015 Annual Meeting, Jorge Mok
20. 7th International Liquid Crystal Elastomers Conference (ILCEC) Best Poster Award, Shanghai, China, 2013, Aditya Agrawal.
21. 1st place, Outstanding Graduate Research Presentation Award, ACS POLY Symposium on the Bottom-up design of the next generation of biomaterials, May 2013, Stacy Pesek.
22. Kobayashi Fellowship 2012 – 2013, Xianyu Li.
23. Institute for Biosciences and Bioengineering travel grants awarded to Jorge Mok (2015, APS March Meeting), Stacy Pesek (2014 Spring ACS conference), and Aditya Agrawal (2013 Spring ACS conference)
2. Excellence in Graduate Polymer Research at the ACS National Meeting, Spring 2014 (Xianyu Li) and Spring 2013 (Yen-Hao Lin)
3. Excellent Poster Presentation for Chinese American Chemical Society Poster Competition, Xianyu Li, March 2013
4. NSF Graduate Student Research Fellowship Program, Stacy Pesek, 2012 – 2015.
5. ACS Summer School on Green Chemistry and Sustainable Energy, Yen-Hao Lin, 2012.
6. AIChE South Texas Section best fundamental paper award, 2012.

Patents

1. “Compression Induced Stiffening And Alignment Of Liquid Crystal Elastomers” US Non-Provisional Patent Application No. 13/860,392 now issued US Patent No. 9,260,570. Rice Tech ID No. 2012-069-02. Application Filed on 04/10/2013. Patent Issued on 02/16/2016
2. “Responsive Liquid Crystal Elastomers for Enhanced Cell Sheet Alignment” US Non-Provisional Patent Application No. 14/330,691 now issued US Patent No. 9,625,752. Rice Tech ID No. 2012-069-02. Application Filed on 07/14/2014. Patent Issued on 04/18/2017

3. "Network-stabilized bulk heterojunction organic photovoltaics" PCT Patent Application No. PCT/US2018/058489. Rice Tech ID No 2017-082-02. Application Filed on 10/31/2018. Rice Tech ID No 2017-082-02
4. "Electrodes For Selective Removal Of Multivalent Ions Through Capacitive Deionization" US Provisional Patent Application No. 62/715,116. Rice Tech ID No 2018-005-01. Application Filed on 08/06/2018

Contributed Oral Presentations (presenting author underlined)

1. Hao Mei, Tanguy Terlier, Jihua Li, Peter Bonnesen, David Uhrig, Gila Stein, and Rafael Verduzco. "Visualization of Surface-Active Bottlebrush Polymer Additives through ToF-SIMS," SIMS-22, Kyoto, Japan, 2019.
2. Dongyang Zhu, Morgan Barnes, Maksud Raman, Ashok Kumar, Jing Zhang, Qiyi Fang, Pulickel Ajayan, Jun Lou, and Rafael Verduzco. "Synthesis and processing of high-strength and high-toughness 2-D covalent organic frameworks" AIChE Annual Meeting, November 2019.
3. Hao Mei, Travis S. Laws, J P Mahalik, Jiabei Li, Adeline H. Mah, Tanguy Terlier, Peter Bonnesen, David Uhrig, Rajeev Kumar, Gila E. Stein, Rafael Verduzco. "Surface Segregation of Bottlebrush Copolymer Additives," AIChE Annual Meeting, November 2019.
4. Dongyang Zhu, Morgan Barnes, Maksud Raman, Ashok Kumar, Jing Zhang, Qiyi Fang, Pulickel Ajayan, Jun Lou, and Rafael Verduzco. "Synthesis and processing of high-strength and high-toughness 2-D covalent organic frameworks" Fall 2019 ACS Meeting, August 2019
5. Morgan Barnes, Sueda Cetinkaya, Shaan Parekh, and Rafael Verduzco, "Reactive 3D-Printing of Liquid Crystal Elastomers for Non-Linear Actuation," International Liquid Crystals Elastomers Conference, Eindhoven, Netherlands, September 2019.
6. Amit Jain, Jun Kim, Kuichang Zuo, Oluwaseye Owoseni, Ibrahim Abdallah, Shane Walker, Qilin Li, Rafael Verduzco. "Functionalized and Self-Assembled Ion Exchange Coatings for Capacitive Deionization," Spring 2019 ACS Meeting. Thursday, April 4, 2019.
7. Hao Mei, Travis Laws, Jiabei Li, Adeline Mah, Gila Stein, Rafael Verduzco. "Enthalpy and entropy-driven segregation of mixed bottlebrush polymers in linear polymer matrices," Spring 2019 ACS Meeting. Monday, April 1, 2019.
8. Amit Jain, Jun Kim, Qilin Li, Rafael Verduzco. "Selective Removal of Harmful Ionic Contaminants From Water". 2019 SCI symposium Rice University. Friday, February 8, 2019.
9. Hao Mei, Travis Laws, Tanguy Terlier, Gila Stein, Rafael Verduzco. "Three-dimensional morphological analysis of polymer blends through TOF-SIMS/AFM," 2019 APS March Meeting. Monday, March 4, 2019.
10. Morgan Barnes and Rafael Verduzco. "Programming Complex and Arbitrary Shape Changes in Liquid Crystal Elastomers," 2019 APS March Meeting, Thursday, March 7, 2019.
11. Jorge Mok, Zhiqi Hu, and Rafael Verduzco. "Mechanically Robust Organic Photovoltaics Using Thiol-Ene Interpenetrating Networks," 2018 AIChE Annual Meeting, Tuesday, October 30, 2018.

12. Tanguy Terlier, Rafael Verduzco, YeonHee Lee. "Correlative Images of Microscopy Spectroscopy: Beyond 3D Characterization in Surface Analysis," AVS 65, Tuesday, October 23, 2018.
13. Morgan Barnes and Rafael Verduzco. "Mechanical Shape Programming of Double Network Liquid Crystal Elastomers". Society of Rheology 90th Annual Meeting. October 16, 2018
14. Hao Mei, Adeline Mah, Gila Stein, Rafael Verduzco. "Rapidly Crosslinked Bottlebrush Film for antifouling through UV-induced Thiol-ene Reaction," 2018 Fall ACS Meeting. Wednesday, August 22, 2018.
15. Amit Jain, Jun Kim, Oluwaseye M. Owoseni, Cierra Weathers, Daniel Cana, Kuichang Zuo, W. Shane Walker, Qilin Li and Rafael Verduzco. "Aqueous Processed, High Capacity Electrodes for Membrane Capacitive Deionization". Fall 2018 ACS meeting, Wednesday, August 22, 2018.
16. Morgan Barnes and Rafael Verduzco. "Mechanically Programming Complex Reversible Shape Changes in Liquid Crystal Elastomers," 2018 Texas Soft Matter Conference. Friday, August 17, 2018.
17. Morgan Barnes and Rafael Verduzco. "Flat Sheets to 3D Images and Back: Programming Shape-Shifting Elastomers into Flowers, Faces, and More," 2018 Smalley-Curl Institute Summer Research Symposium. Friday, August 10, 2018.
18. Mohammed Alaboalirat, Kyle Arrington, Luqing Qi, Jong Geum, Jan-Michael Carrillo, John Matson, and Rafael Verduzco "Aqueous Self-Assembly of Amphiphilic Bottlebrush Block Copolymers," 2018 ACNS Meeting. Monday, June 25, 2018.
19. Tanya Rogers, Michael J. Swickrath, Saurabh Sharma, Rafael Verduzco, John Graf. "Feasibility Assessment of Liquid Amine Carbon Dioxide Removal System for Microgravity and Terrestrial Applications," NASA International Conference on Environmental Systems, New Mexico, June, 2018.
20. Amit Jain, Jun Kim, Kuichang Zuo, Qilin Li, and Rafael Verduzco. "Aqueous-Processed, High-Capacity Electrodes for Membrane Capacitive Deionization". 2018 Spring ACS National Meeting. Wednesday, March 21, 2018.
21. Jorge Mok, Zhiqi Hu, Rodrigo Muñoz, Joshua Jackson, and Rafael Verduzco. "Interpenetrating Thiol-ene Networks for Flexible Bulk Heterojunction Organic Photovoltaics." 2018 APS March Meeting, Monday, March 5, 2018.
22. Chengjun Wang, Kyoseung Sim, Jin Chen, Hojin Kim, Zhouyu Rao, Yuhang Li, Weiqui Chen, Jishou Song, Rafael Verduzco, and Cunjiang Yu. "Dynamics of LCE robots and the relationship to network properties," 2017 ILCEC, Wednesday, October 18, 2017.
23. Amit Jain, Jun Kim, Qilin Li, Rafael Verduzco. "Polymer Coated Electrodes for Membrane Capacitive Deionization (MCDI) for Low Energy Desalination". 2017 Texas soft matter meeting. Friday, August 18, 2017.
24. Luqing Qi, Chen Song, Rafael Verduzco, George Hirasaki. "Polymer Coated Nanoparticle as Additives for Interfacial Modification," 2017 Spring ACS National Meeting, San Francisco, CA, April 4, 2017.

25. Andrea Miranda, Tracy Li, Hyosung, An, Jodie Lutkenhaus, Rafael Verduzco. "Novel conjugated polymer binders and their processing for Si-based Li-ion battery anodes," American Chemical Society National Meeting, San Francisco, CA, April 4th, 2017.
26. Amit Jain, Jun Kim, Qilin Li, Rafael Verduzco. "Ion Exchange Polymer Coatings for Selective Capacitive Deionization (Application: Water Softening)". 2017 APS meeting. Thursday, March 16, 2017.
27. Xiaoyi Li, Hyosung An, Joseph Strzalka, Jodie Lutkenhaus, Rafael Verduzco. "Self-Doped Conjugated Polymer as Binders for Lithium-ion Battery," 2017 APS March Meeting, Monday, March 13, 2017.
28. Amit Jain, Jun Kim, Qilin Li, Rafael Verduzco. "Ion Exchange Polymeric Coatings for Selective Capacitive Deionization," 2017 SCl symposium Rice University. Thursday, February 9, 2017.
29. Morgan Barnes and Rafael Verduzco. "Extrusion-Aligned Liquid Crystal Elastomer Fibers," 2017 Smalley-Curl Institute Transdisciplinary Symposium. Thursday, February 9, 2017.
30. Luging Qi, Chen Song, Rafael Verduzco, George Hirasaki. "Polymer Coated Nanoparticle as Additives for Interfacial Modification," American Institute of Chemical Engineering Annual Meeting, San Francisco, CA, November 17th, 2016.
31. Jorge Mok, Dylan Kipp, Luis Hasbun, Joseph Strzalka, Andrei Dolocan, Venkat Ganesan, Rafael Verduzco. "All-Conjugated Block Copolymer Additives for Organic Solar Cells," American Institute of Chemical Engineering Annual Meeting, San Francisco, CA, November 15th, 2016.
32. Amit Jain, Rafael Verduzco. "Multivalent Ion Selective Polymer Coating for Capacitive De-ionization Application," Texas Soft Matter Meeting, The University of Texas at Dallas, Dallas, TX, August 12, 2016.
33. Andrea Miranda, Tracy Li, Hyosung An, Jodie Lutkenhaus, Rafael Verduzco. "Polymer binders for Li-ion battery electrodes," Texas Soft Matter, Dallas, TX, August 12th, 2016.
34. Hao Mei, Rafael Verduzco. "Bottlebrush Polymers for antifouling," Texas Soft Matter Meeting, Dallas, TX, Aug 12th, 2016.
35. Morgan Barnes and Rafael Verduzco. "Step-growth liquid crystal elastomers with low glass transition temperatures," Texas Soft Matter Meeting, Dallas, TX, August 12, 2016.
36. Luging Qi, Rafael Verduzco, George Hirasaki. "Polymer and Polymer Coated Nanoparticles as Additive for Oil-water emulsion – Example of Application for KRUSS Instruments," KRUSS Seminar on Surface Chemistry and Instrument Demonstration at Rice University, Houston, TX, August 9th, 2016
37. Bohan Zhu, Morgan Barnes, Haleh Ardebili, and Rafael Verduzco. "Polyester based LCEs with tunable thermal properties and network anisotropy" International Liquid Crystal Society, Kent, OH, August 3rd, 2016

38. Luging Qi, Rafael Verduzco, George Hirasaki. "Polymer and Polymer Coated Nanoparticles as Additive for Oil-water emulsion," 20th Annual Meeting of Rice University Consortium for Process in Porous Media, Houston, TX, May 5th, 2016
39. D Kipp, JW Mok, V Ganesan, and R Verduzco. "Rational Design of Thermally Stable, Cocontinuous Donor/Acceptor Morphologies for Use As Organic Solar Cell Active Layers," AIChE Annual Meeting, Nov. 10, 2015, Salt Lake City, UT.
40. Jorge Mok, Yen-Hao Lin, Rafael Verduzco. "Role of Molecular Linker in Charge Separation in All-Conjugated Block Copolymers," American Institute of Chemical Engineering Annual Meeting, Salt Lake City, UT, November 9th, 2015.
41. B Zhu, H Kim, R Verduzco. "Liquid Crystal Elastomers with Reversible Crosslinking and Low T_g ," AIChE Annual Meeting, Nov. 10, 2015, Salt Lake City, UT.
42. JW Mok, R Verduzco. "Role of Molecular Linker in Charge Separation in All-Conjugated Block Copolymers," AIChE Annual Meeting, Nov. 9, 2015, Salt Lake City, UT.
43. Jorge Mok, Dylan Kipp, Venkat Ganesan, Rafael Verduzco. "Design of Thermally Stable Bicontinuous PTB7/PCBM Bulk-heterojunctions." Texas Soft Matter, Houston, TX, August 21th, 2015.
44. Jorge Mok, Yen-Hao Lin, Rafael Verduzco. "Charge Separation in All-conjugated Block Copolymer Organic Solar Cells." 28th International Symposium on Polymer Analysis and Characterization, Houston, TX, June 8th, 2015
45. H Kim, O Adetiba, H Chen, A Agrawal, B Zhu, JG Jacot, and R Verduzco. "Liquid Crystal Elastomers as Active Substrates for Dynamic Cell Culture," Biomaterials Day, June 1, 2015. Rice University, Houston, TX.
46. Luging Qi, Hadi ShamsiJazeyi, Jason Mann, Maura Puerto, James M. Tour, Rafael Verduzco, George Hirasaki. "Nanoparticle Interactions with Surfactant Micro-emulsions," 19th Annual Meeting of Rice University Consortium for Process in Porous Media, Houston, TX, April 22nd, 2015
47. Luging Qi, Hadi ShamsiJazeyi, Jason Mann, Maura Puerto, James M. Tour, Rafael Verduzco, George Hirasaki. "Nanoparticle Interactions with Oil-water-surfactant Micro-emulsions – Example of Application for KRUSS SITE100 and K100," KRUSS Seminar on Surface Chemistry and Instrument Demonstration at Rice University, Houston, TX, June 5th, 2015
48. SL Pesek, I Mitra, X Li, GE Stein, and R Verduzco. "Synthesis and spontaneous segregation of functional bottlebrush polymer additives," 249th ACS National Meeting, March 23, 2015. Denver, CO.
49. JW Mok, YH Lin, Y Lee, ED Gomez, SB Darling, RD Schaller, D Gosztola, and R Verduzco. "Role of linking chemistry on charge separation and photovoltaic performance of all-conjugated block copolymers," 249th ACS National Meeting, March 25, 2015. Denver, CO.
50. A Agrawal, H Kim, O Adetiba, H Chen, JA Jacot, and R Verduzco. "Liquid crystal elastomers with a reversible and multistimulus response," 249th ACS National Meeting, March 22, 2015. Denver, CO.

51. JW Mok, YH Lin, K Yager, Y Lee, ED Gomez, SB Darling, RD Schaller, D Gosztola, and R Verduzco. "Role of linking chemistry on charge separation and photovoltaic performance of all-conjugated block copolymers," APS March Meeting, March 2, 2015. San Antonio, TX.
52. A Agrawal, O Adetiba, JA Jacot, and R Verduzco. "Electromechanically Responsive Liquid Crystal Elastomers for Dynamic Cell Culture," MRS Spring Meeting, April 23, 2014, San Francisco, CA
53. L Qi, H ShamsiJazeyi, X Li, S Pesek, M Puerto, GJ Hirasaki, R Verduzco "Bottlebrush Polymer & Surfactant Blends for Low IFT", 18th Consortium For Processes in Porous Media, Rice University, April 21, 2014. Houston, TX
54. KA Smith, R Verduzco. "Control of all-conjugated block copolymer crystallization via thermal and solvent annealing," 247th ACS National Meeting, March 19, 2014, Dallas, TX.
55. A Agrawal, O Adetiba, JA Jacot, and R Verduzco. "Responsive Liquid Crystal Elastomer for Cell Sheet Growth and Alignment," 247th ACS National Meeting, March 19, 2014, Dallas, TX.
56. KA Smith, R Verduzco, YH Lin, and JW Mok. "Synthesis, Morphology, and Optoelectronic Properties of All-Conjugated Block Copolymers," APS March Meeting, March 5, 2014, Denver, CO.
57. A Agrawal, O Adetiba, J Jacot, and R Verduzco. "Fast Electromechanical Response in Liquid Crystal Elastomer Nanocomposites," APS March Meeting, March 4, 2014, Denver, CO.
58. A Agrawal, O Adetiba, J Jacot, and R Verduzco. "Liquid Crystal Elastomer Substrates for Enhanced Cell Sheet Alignment," MRS Fall Meeting, December 3, 2013, Boston, MA.
59. A Agrawal, P Patra, P Ajayan, WG Chapman, Y Shamoo, and R Verduzco. "Dynamic Stiffening in Liquid Crystal Elastomers," AIChE Annual Meeting, November 7, 2013, San Francisco, CA.
60. X Li, H ShamsiJazeyi, SL Pesek, A Agrawal, B Hammouda, and R Verduzco. "Thermo-responsive Bottlebrush Polymers," AIChE Annual Meeting, November 7, 2013, San Francisco, CA.
61. R Verduzco, A Agrawal, B Carey, A Chipara, P Ajayan, P Patra, Y Shamoo, and WG Chapman, "Alignment and Stiffening of Polydomain LCEs under Dynamic Deformations," The 7th International Liquid Crystal Elastomer Conference, September 11th 2013. Shanghai, China
62. SL Pesek, R Verduzco. "Poly(lactic acid)-block-Poly(ethylene glycol) Bottlebrush Polymers," Texas Soft Matter Meeting, August 12 2013, Texas A&M University, College Station, TX.
63. Xianyu Li, Stacy L Pesek, Boualem Hammouda, Rafael Verduzco. "The role of side-chain conformation on the solution phase behavior of PNIPAAm bottlebrush polymers", Texas Soft Matter Meeting, August 12th, 2013, Texas A&M University, College Station, TX.
64. A Agrawal and R Verduzco. "Liquid Crystal Elastomers for functional materials," Texas Soft Matter Meeting, August 12th 2013, Texas A&M University, College Station, TX

65. KA Smith, DL Pickel, K Yager, and R Verduzco. "All-conjugated block copolymers via functionalized catalysts and click chemistry," 245th ACS National Meeting, April 10, 2013, New Orleans, LA.
66. SL Prukop, X Li, B Hammouda, and R Verduzco. "Synthesis and conformational analysis of bottlebrush polymers by SANS," 245th ACS National Meeting, April 10, 2013, New Orleans, LA.
67. A Agrawal, A Chipara, Y Shamoo, PK Patra, B Carey, P Ajayan, WG Chapman, and R Verduzco. "Dynamic Self-Stiffening behavior in Liquid Crystal Elastomer," 245th ACS National Meeting, April 8, 2013, New Orleans, LA.
68. H ShamsiJazeyi, GJ Hirasaki, and R Verduzco. "Sacrificial Agent for Reducing Adsorption of Anionic Surfactants," International Oilfield Chemistry Symposium, April 9, 2013, Woodlands, TX
69. H ShamsiJazeyi, GJ Hirasaki, and R Verduzco. "Sacrificial Agent for Reducing Adsorption of Anionic Surfactants," SPE Gulf Coast Student Paper Contest, April 6, 2013, University of Texas, Austin, Austin, Texas.
70. C Guo, YH Lin, MD Witman, KA Smith, C Wang, A Hexemer, ED Gomez and R Verduzco. "Conjugated Block Copolymer Photovoltaics with near 3% Efficiency," MRS Spring Meeting, April 2, 2013, San Francisco, CA.
71. YH Lin and R Verduzco. "Synthesis, Crystallinity and Process-dependent Nanostructure of All-Conjugated Poly(3-hexylthiophene) Block Copolymers," MRS Spring Meeting, April 2, 2013, San Francisco, CA.
72. A Agrawal, A Chipara, Y Shamoo, PK Patra, B Carey, P Ajayan, WG Chapman, and R Verduzco. "Alignment and Stiffening of Liquid Crystal Elastomers under Dynamic Compression," 245th APS National Meeting, March 19, 2013, Baltimore, MD.
73. SL Pesek, R Verduzco. "Conformational analysis of bottlebrush polymers by SANS," Texas Soft Matter Meeting, January 11, 2013, University of Houston, Houston, TX.
74. H ShamsiJazeyi, GJ Hirasaki, and R Verduzco. "Sacrificial Agent for Reducing Adsorption of Anionic Surfactants," Texas Soft Matter Meeting, January 11, 2013, University of Houston, Houston, TX.
75. A Agrawal, A Chipara, Y Shamoo, PK Patra, B Carey, P Ajayan, WG Chapman, and R Verduzco. "Self stiffening behavior in Liquid Crystals elastomers under Dynamic load," Texas Soft Matter Meeting, January 11, 2013, University of Houston.
76. X Li, SL Pesek, SL Biswal, and R Verduzco. "Surface Properties of Bottlebrush Polymer Thin Films," Texas Soft Matter Meeting, January 11, 2013, University of Houston.
77. H ShamsiJazeyi, GJ Hirasaki, and R Verduzco. "Sacrificial Agent for Reducing Adsorption of Anionic Surfactants," 17th Consortium for Processes in Porous Media, April 2013, Rice University, Houston, TX.
78. YH Lin and R Verduzco. "Process-Dependent Nanostructure and Crystallinity Competition in All-Conjugated Poly(3-hexylthiophene) Block Copolymers," APS National Meeting, March 21, 2013, Baltimore, MD.

79. R Verduzco, YH Lin, KA Smith. "Synthesis and Crystallinity of All-Conjugated Block Copolymers," AIChE Annual Meeting, October 31, 2012, Pittsburgh, PA.
80. YH Lin, R Verduzco. "Synthesis and Characterization of All-Conjugated Block Copolymers/ Supramolecular Block Copolymers in Thin Films," AIChE Annual Meeting, October 30, 2012, Pittsburgh, PA.
81. H ShamsiJazeyi, GJ Hirasaki, and R Verduzco. "Sacrificial Agent for Reducing Adsorption of Anionic Surfactants," 16th Consortium for Processes in Porous Media, April 2012, Rice University, Houston, TX.
82. A Agrawal, P Luchette, P Palffy-Muhoray, SL Biswal, WG Chapman, and R Verduzco. "Liquid crystal elastomer based wrinkling instability," APS National Meeting, March 2, 2012, Boston, MA.
83. YH Lin and R Verduzco. "Controlled Phase Separation in Conjugated Polymer Blends Using Quadruple Hydrogen Bonding Interaction," APS National Meeting, February 28, 2012, Boston, MA.
84. KA Smith, YH Lin, and R Verduzco. "Understanding Self-Assembly of All-Conjugated Block Copolymers," AIChE Annual Meeting, October 20, 2011
85. SL Prukop, R Verduzco, L Putcha. "Multipurpose bottlebrush Polymers for Health Care" NASA Human Research Program Investigators' Workshop, September 2011, Houston, TX.
86. H ShamsiJazeyi, GJ Hirasaki, and R Verduzco. "Sacrificial Agent for Reducing Adsorption of Anionic Surfactants," 15th Consortium for Processes in Porous Media, April 2011, Rice University, Houston, TX.
87. R Verduzco, SB Darling, I Botiz, D Pickel, K Hong, and SM Kilbey. "Synthesis and Thin Film Morphology of Rod-Rod Polythiophene-*b*-Polyfluorene Conjugated Copolymers," AIChE Annual Meeting, November 10, 2010.
88. R. Verduzco, B.S. Lokitz, P. Luchette, J. Harden, P. Sálamon, P. Palffy-Muhoray, E. DiMasi, J. T. Gleeson, S. Sprunt, A. Jákli. "Bent-Core Liquid Crystal Polymers and Elastomers." APS March Meeting, March 15 2010.
89. J. Harden, M. Chambers, R. Verduzco, P. Luchette, P. Palfy-Muhoray, J.T. Gleeson, S. Sprunt, A Jákli. "First Bent-Core Nematic Liquid Crystal Elastomer: Characterization and Giant Flexoelectric Response." September 26, 2009. International Liquid Crystal Elastomer Conference.
90. R. Verduzco, B.S. Lokitz, P. Luchette, J. Harden, P. Sálamon, P. Palffy-Muhoray, E. DiMasi, J. T. Gleeson, S. Sprunt, A. Jákli. "Bent-Core LC Elastomers and Side-Group LC Polymers Using Reactive Bent-Core Mesogens." September 24, 2009. International Liquid Crystal Elastomer Conference.

Contributed Poster Presentations (presenting author underlined)

1. Tanguy Terlier, Shayan Enayat, Z. Zhang, Xiaokong Yu, Mingjiang Tao, Nancy Burnham, Francisco Vargas, S. Lisa Biswal and R. Verduzco. "Characterization of Asphaltene deposits by ToF-SIMS," SIMS-22, Kyoto, Japan, 2019.
2. Sueda Cetinkaya, Shaan Parekh, Morgan Barnes, and Rafael Verduzco, "Engineering Thermo- & Photo-Responsive Fluidic Pumps Using Liquid Crystal Elastomers," Smalley-Curl Institute Summer Symposium, Rice University, August 2019
3. Shaan Parekh, Morgan Barnes, Mohammad Sajadi, Maksud Rahman, Pulickel Ajayan, and Rafael Verduzco, "3D Printing Liquid Crystal Elastomers to Achieve Direct Shape Programming and Reversible Actuation," Smalley-Curl Institute Summer Symposium, Rice University, August 2019
4. Amit Jain, Syndi Nnorom, Tanya Rogers, and Rafael Verduzco. "Calcium selective capacitive deionization using PEDOT:PSS as an ion exchange laer ," SCI Summer Research Colloquium, Rice University, August 9, 2019.
5. Sohee Park, Yilin Li, and Rafael Verduzco. "Molecular Engineering of NDI-based organic batteries," SCI Summer Research Colloquium, Rice University, August 9, 2019.
6. Xiaoyi Li, Hyosung An, Joseph Strzalka, Jodie Lutkenhaus, Rafael Verduzco. "Ultrafast charging with NDI-based polymer cathode in high mass loading Li-ion batteries," 2019 regional meeting of the Electrochemical Society, University of Houston, Friday, March 29, 2019.
7. Chia-Ping Tseng, Taniya M. S. K. Pathiranage, Dimithree Kahanda, Ian J. Campbell, Othneil N. Sparks, Joshua T. Atkinson, Jonathan Silberg, and Rafael Verduzco. "Homologous Recombination of a Pair of Ferredoxins Yields Chimeras with Altered Midpoint Potential," De Lange Conference XI. Tuesday, December 4, 2018.
8. Tanya Rogers, Amit Jain, Rafael Verduzco. "Capacitive Deionization for Space Wastewater Purification " AICHE Space Travel: Adaptive Research and Technologies from Biological and Chemical Engineering (STAR Tech), Houston, TX, November 14, 2018.
9. Jorge Mok, Zhiqi Hu, Changxu Sun, Isaiah Barth, Dongyang Zhu, Rodrigo Muñoz, Tanguy Terlier, Kevin Yager, and Rafael Verduzco. "Network-stabilized bulk organic phovoltlaics," 2018 Asilomar Bioelectronics Conference, September 12, 2018.
10. Jorge Mok, Zhiqi Hu, Changxu Sun, Isaiah Barth, Dongyang Zhu, Rodrigo Muñoz, Tanguy Terlier, Kevin Yager, and Rafael Verduzco. "Network-stabilized bulk organic phovoltlaics," 2018 CNMS User Meeting, Tuesday, August 14, 2018.
11. Amit Jain and Rafael Verduzco. "Aqueous-Processed, High-Capacity Electrodes for Membrane Capacitive Deionization". Chevron poster session. April 2018.
12. Amit Jain, Jun Kim, Qilin Li, Rafael Verduzco. "Aqueous Processed, High Capacity Electrodes for Membrane Capacitive Deionization". Spring 2018 ACS meeting, Tuesday, March 20, 2018.
13. Morgan Barnes and Rafael Verduzco. "Exploring the Uses of a Two-Stage Thiol-Acrylate Reaction for Liquid Crystal Elastomers," 2017 ACS National Meeting. Tuesday, August 26, 2017.

14. SL Pesek, I Mitra, X Li, GE Stein, and R Verduzco. "Synthesis of bottlebrush copolymers based on poly(dimethylsiloxane) for surface active additives," International Society for Polymer Analysis and Characterization (ISPAC), June 8, 2015, ZaZa Hotel, Houston, TX.
15. JW Mok, KA Smith, YH Lin, and R Verduzco. "Molecular Linker Effect on Charge Separation in Organic Photovoltaics," International Society for Polymer Analysis and Characterization (ISPAC), June 8, 2015, ZaZa Hotel, Houston, TX.
16. L Qi, H ShamsiJazeyi, G Ruan, JA Mann, MS Wong, JT Tour, and R Verduzco. "Interfacial behaviour of polymer coated nanoparticles," International Society for Polymer Analysis and Characterization (ISPAC), June 8, 2015, ZaZa Hotel, Houston, TX
17. SL Pesek, I Mitra, X Li, GE Stein, and R Verduzco. "Bottlebrush polymers: shape, size, and assemblies of amphiphilic nanoparticles," Biomaterials Day, June 1, 2015, Rice University, Houston, TX.
18. YH Lin, W Nie, A Mohite, S Gupta, and R Verduzco. "Hydrogen Bonding-mediated Conjugated Polymers for Bulk-Heterojunction Organic Photovoltaics," APS National Meeting, March 4, 2015. San Antonio, TX.
19. L Qi, J Mann, H ShamsiJazeyi, M Puerto, JM Tour, R Verduzco, and GJ Hirasaki "Nanoparticle Interactions with Surfactant Micro-emulsions", APS San Antonio National Meeting, March 4, 2015. San Antonio, TX
20. L Qi, J Mann, H ShamsiJazeyi, M Puerto, JM Tour, R Verduzco, and GJ Hirasaki. "Nanoparticle Interactions with Surfactant Micro-emulsions," APS National Meeting, March 4, 2015. San Antonio, TX
21. JW Mok, YH Lin, K Yager, SB Darling, Y Lee, ED Gomez, Gosztola, Schaller, and R Verduzco. "Charge Separation in All-Conjugated Block Copolymer Photovoltaics," Macromolecular Materials Gordon Research Conference, January 12, 2015. Ventura, CA.
22. JW Mok, YH Lin, K Yager, Y Lee, ED Gomez, SB Darling, RD Schaller, D Gosztola, and Verduzco. "Role of linking chemistry on charge separation and photovoltaic performance of all-conjugated block copolymers," Gulf Coast Consortia Workshop: Light-Driven Processes in Bio-Inspired Materials. December 15, 2014, Rice University, Houston, TX
23. L Qi, C Shen, X Li, M Puerto, R Verduzco and GJ Hirasaki "Synergic effects of bottlebrush polymer & surfactant mixture on interfacial tension of oil & water phases", 2014 T.W. Leland Lecture, Rice University, September 25, 2014, Houston, TX
24. L Qi, H ShamsiJazeyi, X Li, S Pesek, GJ Hirasaki, R Verduzco "Synergic effects of bottlebrush polymer & surfactant mixture on interfacial tension of oil & water phases" Texas Soft Matter Meeting, University of Texas, Austin, August 22, 2014, Austin, TX
25. KA Smith, L Swank, YH Lin, H An, JF Mike, J O'Neal, JL Lutkenhaus, and R Verduzco. "Hybrid P3HT-*b*-PEO Block Copolymer/V₂O₅ Electrodes for Electrochemical Energy Storage," MRS Spring Meeting, April 24, 2014, San Francisco, CA
26. X Li, H ShamsiJazeyi, SL Pesek, A Agrawal, B Hammouda, and R Verduzco. "Thermo-responsive Bottlebrush Polymers," 247th ACS National Meeting, March 18, 2014, Dallas, TX.

27. SL Pesek, Q Xiang, and R Verduzco. "Bottlebrush polymers: custom shape, size and composition of nanoparticles," 247th ACS National Meeting, March 18 2014, Dallas, TX.
28. JW Mok, R Verduzco. "Synthesis, characterization, and device performance of naphthalene diimide based block copolymers," 247th ACS National Meeting, March 18, 2014, Dallas, TX
29. L Qi, H ShamsiJazeyi, X Li, S Pesek, GJ Hirasaki, R Verduzco "Synergic effects of bottlebrush polymer & surfactant mixture on interfacial tension of oil & water phases", 247th ACS Dallas National Meeting, March 17, 2014, Dallas, TX
30. SL Pesek, X Li, Q Xiang, B Hammouda, L Putcha, and R Verduzco. "Custom Shape, Size, and Composition of Polymer Nanoparticles for Drug Delivery," NASA Human Research Program Investigators' Workshop, February 2014, Galveston, TX.
31. KA Smith, YH Lin, BS Stewart, and R Verduzco. "All-Conjugated Block Copolymers for Self-Assembled Organic Photovoltaics," MRS Fall Meeting, December 3, 2013, Boston, MA.
32. KA Smith, YH Lin, J Strzalka, and R Verduzco. "Understanding the role of side-chain structure on the morphology and performance of all-conjugated block copolymer photovoltaics," AIChE Annual Meeting, November 7, 2013, San Francisco, CA
33. A Agrawal, O Adetiba, E Lu, C Zhang, JA Jacot, WG Chapman and R Verduzco, "Responsive Liquid Crystal Elastomers for Cell Sheet Alignment," The 7th International Liquid Crystal Elastomer Conference, September 10-12th 2013. Shanghai, China.
34. X Li, SL Pesek, SL Biswal and R Verduzco. "Surface Properties of Bottlebrush Polymer Thin Films," 245th ACS National Meeting, April 8, 2013, New Orleans, LA.
35. YH Lin and R Verduzco. "Synthesis and Crystallinity of All-Conjugated Poly(3-hexylthiophene) Block Copolymers," 245th ACS National Meeting, April 8, 2013, New Orleans, LA.
36. R Verduzco, YH Lin, KA Smith, DB Darling, J Strzalka, DL Pickel, CN Kempf, D Dement. "All-Conjugated Block Copolymers for Self-Assembled Photovoltaics," Polymer Physics Gordon Research Conference, July 24, 2012, Mount Holyoke MA.
37. X. Li, SL Prukop, and R. Verduzco. "Surface Properties of Bottlebrush Thin Films," International Congress on Marine Corrosion and Fouling, June 24 2012.
38. YH Lin and R Verduzco. "All-Conjugated Block Copolymers/SupramolecularBlock Copolymers for Organic Photovoltaics," ACS Summer School on Green and Environmental Chemistry, June 2012, Denver, CO.
39. X Li, SL Pesek, SL Biswal and R Verduzco "Surface properties of bottlebrush polymer thin films", Chinese-American Chemical Society, March 2012, Houston, TX
40. KA Smith and R Verduzco. "Synthesis and Characterization of a Systematic Series of All-Conjugated Diblock Copolymers," APS March Meeting, February 27, 2012, Boston, MA.
41. X Li, SL Pesek, SL Biswal, and R Verduzco. "Surface Properties of Bottlebrush Thin Films," APS March Meeting, February 27, 2012, Boston, MA.