

## Babak Sanii

---

W.M. Keck Science Center, Chemistry  
Claremont McKenna College, Pitzer College and Scripps College  
925 N. Mills Ave, Room 202  
Claremont, CA 91711 USA  
bsanii@kecksci.claremont.edu  
<http://faculty.kecksci.claremont.edu/bsanii/>

PROFESSIONAL APPOINTMENTS  
W.M. Keck Science Center, Chemistry  
Claremont McKenna College, Pitzer College and Scripps College  
**Assistant Professor of Chemistry** (Physical Chemistry, Analytical Chemistry, Materials)  
January, 2013 – Present  
Claremont, California  
Research Interests: Self-assembling nano-materials, lipid dynamics, 3D printed instrumentation

Lawrence Berkeley National Laboratory, The Molecular Foundry  
**Post-docs: Biological Nanostructures / Imaging Nanomaterials**  
August, 2008 – August, 2012  
Berkeley, California  
The world's gentlest atomic force microscope / Self-assembly of biomimetic peptoid nanosheets  
Mentors: *Paul D. Ashby / Ronald N. Zuckermann*

Pixar Animation Studios  
**Lead Research Engineer, Color Science and Output**  
2001 – 2004  
Emeryville, California  
Led the team that developed the color pipeline, image mastering software and optical systems used to produce the feature films, *Finding Nemo* and *The Incredibles*. Consultant while at UC Davis.

NASA / Jet Propulsion Lab  
**Engineer, Optical Communications Group**  
1997, 1998, 2000 – 2001  
Pasadena, California  
Developed and field-tested ground and space-based laser communication systems.

EDUCATION  
University of California, Davis  
October 2004 – June 2008  
**Ph.D. Engineering Applied Science**, 2008  
Davis, California  
**M.S. Engineering Applied Science**, 2007  
'Manipulating Molecular Films: Directing Lipid Assembly With Topography and Surface-Energy.'  
3.9 GPA. Mentor: *Atul N. Parikh*

Cornell University  
August 1995 – December 1999  
**M.Eng. Applied Physics**, December, 1999  
Ithaca, New York  
**B.S. Engineering Physics**, May, 1999

TEACHING AND PUBLIC LECTURES  
W.M. Keck Science Center, Claremont McKenna, Pitzer and Scripps Colleges  
CHEM 126L: **Advanced Laboratory in Chemistry** 2013 – 2017  
CHEM 15L: **Basic Principles of Chemistry II (lectures and lab)** 2013 – 2017  
CORE I: **Community** (co-taught with 17 professors, + FirstGen) 2016 – (2018)  
CHEM 29L: **Accelerated General Chemistry** 2015

Lawrence Berkeley Labs  
**Science at the Theatre:** Nature's Nanotechnology (public seminar, 450+ audience) 2011  
**Nano-High Lectures:** Photonic crystals in nature 2010 – 2011  
**NISE Net seminar:** Nanotechnology in butterflies and lotus leaves 2011  
**LBL Open House:** Kitchen-sink nanoscience (surface tension) 2011  
**Nanofest:** Science short film festival (co-organizer and contributor) 2008 – 2011

San Quentin Prison / Patten College / Prison University Program  
**Introduction to Physics:** Substitute instructor and tutor 2011  
**Precalc. Mathematics:** Section Instructor 2003

- ACADEMIC SERVICE CMC Admissions and Financial Aid Committee 2017–2018  
 Keck Science Executive Committee 2013–15, 2017–2018  
 Keck Science Building Planning Committee 2017–2018  
 UC Merced Qualifying Examination Committee External Member, 2017.  
 CMC Academic Standards Committee, and investigation subcommittee, 2014–2017  
 Organizing Keck visiting speakers, 2014–15  
 Reviewer for 2013 – 2017 DOE/Molecular Foundry user proposals  
 Journal referee for BBA Biomembranes, JACS, J. Phys. Chem, MRS, Langmuir, Nanotech., Appl. Mat. and Interf., and Colloids and Surfaces.
- PEER-REVIEWED PUBLICATIONS
- R. Kiessling, S. Rubin, J. Zehner, C. Barraugh, K. Snell, C. Fukushima, M. Mulligan, M. Keckley, A. Bosshardt, W. Cook and B. Sanii.* Gravity-Drawn Silicone Filaments: Production, Characterization, and Wormlike Chain Dynamics. ACS Applied Materials and Interfaces 2017.
- V. Nguyen, J. Rizzo and B. Sanii.* An Assemblable, Multi-Angle Fluorescence and Ellipsometric Microscope. PLOS ONE (included in Open Source Toolkit Collection) 2016.
- K.N. Liu, C.S. Hung, M.A. Swift, K.A. Muñoz, J.L. Cortez and B. Sanii.* Configurable lipid membrane gradients quantify diffusion, phase separations and binding densities. Soft Matter 2015.
- B. Sanii**, T. Haxton, G.K. Olivier, *A. Cho*, B. Barton, C. Proulx, S. Whitelam, and R.N. Zuckermann. Structure-determining intermediates in the assembly path of supramolecular peptoid nanosheets. ACS Nano 2014.
- B. Sanii**, O. Martinez-Avila, C. Simpliciano, R.N. Zuckermann, S. Habelitz. Amelogenin Nanoribbons Are Comprised of Beta-Sheets and Match X-ray Diffraction Pattern of Enamel Matrix. Journal of Dental Research (cover) 2014.
- D.J. Gargas, E.M. Chan, A.D. Ostrowski, S. Aloni, V. Altoe, E.S. Barnard, **B. Sanii**, J.J. Urban, D.M. Milliron, B.E. Cohen, P.J. Schuck. Engineering bright sub-10-nm upconverting nanocrystals for single-molecule imaging. Nature Nanotechnology, 2014.
- G.K. Olivier, *A. Cho*, **B. Sanii**, M.D. Connolly, *H. Tran*, and R.N. Zuckermann. Antibody-Mimetic Peptoid Nanosheets for Molecular Recognition. ACS Nano 2013.
- D. Silva, A. Natalello, **B. Sanii**, R.N. Zuckermann, S.M. Doglia, G. Saracino, and F. Gelain. Synthesis and Characterization of Designed BMHP1-Derived Self-Assembling Peptides for tissue engineering applications. Nanoscale 2012.
- S.H. Shin, S. Chung, **B. Sanii**, C.R. Bertozzi and J.J. De Yoreo. Conversion between two phases of S-layer proteins on mica. Proc. Nat. Acad. Sci. 2012.
- B. Sanii**, R. Kudirka, *A. Cho*, N. Venkateswaran, G.K. Olivier, *A.M. Olson, H. Tran, R.M. Harada, L. Tan*, and R.N. Zuckermann. Shaken, not stirred: Collapsing a peptoid monolayer to produce free-floating, stable nanosheets. J. Am. Chem. Soc. (cover) 2011.
- R. Kudirka, *H. Tran*, **B. Sanii**, K.T. Nam, P.H. Choi, N. Venkateswaren, R. Chen, and R.N. Zuckermann. Folding of a single-chain, information-rich polypeptoid sequence into crystalline nanosheets. Peptide Science 2011.
- C.B. Babayco, S. Turgut, A.M. Smith, **B. Sanii**, D. Land and A.N. Parikh. A comparison of lateral diffusion in supported lipid monolayers and bilayers. Soft Matter 2010.
- J. Townsend, A. Do, A. Lehman, S. Dixon, **B. Sanii** and K.S. Lam. 3-Nitro-Tyrosine as an internal quencher of autofluorescence enhances the compatibility of fluorescence based screening of OBOC combinatorial libraries. Combinatorial Chemistry and High Throughput Screening 2010.
- B. Sanii** and P.D. Ashby. High sensitivity deflection detection of nanowires. Physical Review Letters, 2010.
- B. Sanii**, A.W. Szmodis, D.A. Bricarello, A.E. Oliver and A.N. Parikh. Frustrated phase transformations in supported, interdigitating lipid bilayers. J.Phys.Chem, 2009.
- B. Sanii**, *K. Nguyen*, J.O. Rädler and A.N. Parikh. Evidence of Interleaflet Slip in Self-Spreading

- Membranes. *ChemPhysChem*, 2009.
- A.E. Oliver, V. Ngassam, P. Dang, **B. Sanii**, H. Wu, C.K. Yee, Y. Yeh, and A.N. Parikh. Cell Attachment Behavior on Solid and Fluid Substrates Exhibiting Spatial Patterns of Physical Properties. *Langmuir*, 2009.
- B. Sanii** and A.N. Parikh. Patterning fluid and elastomeric surfaces using short-wavelength UV radiation and photo-generated reactive oxygen species. *Ann. Rev. of Phys. Chem*, 2008.
- A.E. Oliver, E.L. Kendall, M.C. Howland, **B. Sanii**, A.P. Shreve and A.N. Parikh. Protecting, Patterning, and Scaffolding Supported Lipid Membranes Using Carbohydrate Glasses. *Lab on a Chip* 2008.
- B. Sanii**, A.M. Smith, R. Butti, A.M. Brozell and A.N. Parikh. Bending Membranes on Demand: Fluid Phospholipid Bilayers on Topographically Deformable Substrates. *Nano Letters* 2008.
- B. Sanii** and A.N. Parikh. Surface-energy dependent spreading of lipid monolayers and bilayers. *Soft Matter Communication* (Cover, Hot article), 2007.
- M.C. Howland, A.W. Szmodis, **B. Sanii**, and A.N. Parikh. Characterization of Physical Properties of Supported Phospholipid Membranes Using Imaging Ellipsometry at Optical Wavelengths. *Biophys. J.* (Cover), 2007.
- A. Brozell, M. Muha, **B. Sanii** and A.N. Parikh. A New Class of Supported Membranes: Formation of Fluid Phospholipid Bilayers on Photonic Band-Gap Colloidal Crystals *J. Am. Chem. Soc. Communication*, 2006.

#### PRESS

- Scripps* and *Claremont McKenna* articles about student participation in research, with regards to our SwingScope project, 2017.
- A wondrous thing about the wings of the blue morpho butterfly, *Scripps Magazine*, 2016.
- Printing the Future, by Frances Wang, *Claremont Portside* (interview on 3D printing), 2013.
- Spotlight on Keck Science Professor: Babak Sanii, by Stephanie Haft, *WhyCMC.com* (site now closed), 2013.
- B. Sanii**, R. Kudirka, A. Cho, N. Venkateswaran, G.K. Olivier, A.M. Olson, H. Tran, R.M. Harada, L. Tan, and R.N. Zuckermann. Surprise Route to Peptoid Nanosheets. *Chemical and Engineering News* p.55, October 17th, 2011.
- B. Sanii** and P.D. Ashby. Imaging soft materials in fluids by nanowire detection. *SPIE Newsroom*, 2009.
- A. Biswas, **B. Sanii**, M. Wright and N.A. Page. Multi-Beam Beacon Assembly. *NASA Tech Briefs* NPO 21119, 2001.

#### RESEARCH MENTORSHIP AT CLAREMONT

##### **Current:**

Jenna Froland, *Scripps, Lipid Manufacturing*  
 Christine Hu, *Claremont McKenna, Lipid Multilayers*  
 Roxanna Kiessling, *Claremont McKenna, Multi-string folding*  
 Katie Snell, *Claremont McKenna, Multi-string folding*  
 Khadijah Thibodeaux, *Pomona, Lipid Manufacturing*  
 Beth Reim, *Pitzer, Lipid Manufacturing*

##### **Previous:**

Tiffany Liu[**Thesis**], *Pitzer, Lipid Multilayers*  
 Nicole Laliberte[**Thesis**], *Claremont McKenna, Immobilizing films for single-molecule imaging*  
 Chen-min (Steven) Hung,[**Thesis**] *Claremont McKenna, Three-way lipid gradients*  
 Matthew Mulligan, *Claremont McKenna, Patterning and measuring polymer strings*  
 Kristen Muñoz, *Claremont McKenna, Radial self-healing of membranes*  
 Anthony Bosshardt, *Claremont McKenna, Super-hydrophobic strings*  
 Melissa Keckley, *Scripps, High resolution hydrophobicity patterning of strings*  
 Corinna Fukushima, *Scripps, Measuring hydrophobic patterns with strings*  
 Victoria Nguyen[**Thesis**], *Scripps, Designing and building a swinging optical microscope*  
 Katherine Liu, *Scripps, Non-diffusive mechanisms of mixing of lipids*

Michael Swift, Claremont McKenna, *Binding to lipid gradients*  
John Rizzo[Thesis], Claremont McKenna, *Designing an imaging ellipsometer*  
Yoni Rubin[Thesis], Pitzer, *Directed folding of strings*  
Jacquelyn Zehner[Thesis], Claremont McKenna, *Extruding polymer strings*  
Jose Cortez[Thesis], Pitzer, *Multicomponent collisions and geometries of lipid bilayers*  
Belen Cruz, Scripps, Scripps, *Establishing protocols for Langmuir Troughs*

GRANT, GIFTS, AWARDS AND USER PROPOSALS Educational Atomic Force Microscope, E.B. Scripps Fund, 2014 (*Awarded \$20k*)  
Lipid transport in membranes, HHMI collab. (co:Rachel Levy), 2014 (*Awarded \$13k*)  
Soft Matter Research Assoc., 5C Faculty Dev. Associate Deans 2013-14 (*Awarded \$1.8k*)  
Donation of Langmuir Troughs, Synedgen, 2013 ( $\approx$  \$100k)  
Commercial optical microscope, Ellen Browning Scripps Foundation, 2012 (*Awarded \$20k*, 3PIs)  
Nanostructure Control of Biologically Inspired Polymers, 2011(ALS SAXS Beamtime)  
Anisotropic structure of two dimensional peptoid sheets, 2011 (ALS Infrared Beamtime)  
Air-water interface mediated self-assembly of peptoid sheets, 2011 (APS GXR Beamtime)  
Peptoid sheets of bio-compatible thicknesses and increased crystallinity, 2010 (ALS XRD Beamtime)  
G.R.E.A.T. Training Grant, University of California, 2006-2008 (*Awarded \$100k*)  
Atmospheric Visibility Monitoring System, NASA, 2000 (*Awarded \$170k*)  
Near Earth Optical Acquisition and Communication Exploration, NASA, 2000 (*Awarded \$20k*)

PATENTS AND APPLICATIONS A nanowire AFM probe for imaging soft materials (*LBL, WO2010091311*)  
Two-dimensional array spectroscopy method and apparatus (*Pixar, U.S.P.# 7,366,349*)  
Anamorphic recording method and apparatus (*Pixar, U.S.P.# 10981307*)  
Flat panel image to film transfer method and apparatus (*Pixar, U.S.P.# 7,463,821*)  
Flat panel digital film recorder and method (*Pixar, U.S.P.# 10698985*)  
Multibeam beacon laser assembly for optical communications (*JPL, U.S.P.# 6922430*)  
Method and apparatus for Measuring Refractive Index (*Corning, WO2001048460*)

MEMBERSHIPS American Chemical Society, Biophysical Society

PUBLISHED ABSTRACTS AND CONFERENCE PROCEEDINGS R. Kiessling, C. Barraugh and B. Sanii. Semi-flexible string conformational analysis towards an experimental hydrophobic-folding model system. *American Chemical Society Meeting, POLY I Oral Presentation*, San Francisco, CA, 2017.  
T. Liu, C. Hu and B. Sanii. Forming supported lipid multilayers by self-spreading. *American Chemical Society Meeting, COLL: Advanced Materials I Poster Presentation*, San Francisco, CA, 2017.  
K.N. Liu, C.S. Hung, M.A. Swift, K.A. Muñoz, J.L. Cortez and B. Sanii. Configurable lipid membrane gradients quantify diffusion, phase separations and binding densities. *American Chemical Society Meeting, COLL: Biomembrane Mechanics and Dynamics I Oral Presentation*, San Diego, CA, 2016.  
V. Nguyen, J. Rizzo, J. Zehner, W. Cook and B. Sanii. Open Plans Of A Multi-Functional, Low Cost Fluorescence Microscope For Teaching And Research. *American Chemical Society Meeting, ANYL: Chemical Imaging — Oral Presentation*, San Diego, CA, 2016.  
M. Keckley, A. Bosshardt, Y. Rubin, J. Zehner, C. Fukushima, M. Mulligan, and B. Sanii. Flexible strings with patterns of hydrophobicity. *American Chemical Society Meeting, PMSE: New concepts in polymeric materials — Poster*, San Diego, CA, 2016.  
K.N. Liu, C.S. Hung, M.A. Swift, K.A. Muñoz, J.L. Cortez and B. Sanii. Configurable lipid membrane gradients quantify diffusion, phase separations and binding densities. *Biophysical Society Meeting, Membrane Physical Chemistry I Platform talk*, Los Angeles, CA, 2016.  
K.N. Liu, C.S. Hung, M.A. Swift, K.A. Muñoz, J.L. Cortez and B. Sanii. Lipid membrane gradients for compositional studies. *Biophysical Society Meeting, Membrane Dynamics poster*, Los Angeles, CA, 2016.

- V. Nguyen, J. Rizzo, J. Zehner, W. Cook, **B. Sanii**. Open Plans Of A Multi-Functional, Low Cost Fluorescence Microscope For Teaching And Research. *Biophysical Society Meeting Education Poster*, Los Angeles, CA, 2016.
- S. Rubin, M. Mulligan, C. Fukushima, J. Zehners, **B. Sanii**. Folding meso-strings with patterns of hydrophobicity. *Biophysical Society Meeting*, Baltimore, MD, 2015.
- S. Rubin, M. Mulligan, C. Fukushima, J. Zehners, **B. Sanii**. Kinetic analysis of folding strings by linear patterns of hydrophobicity. *SACNAS*, Los Angeles, CA, 2014.
- K.N. Liu, J. Cortez, **B. Sanii**. Molecular Gradients By Colliding Spreading Phospholipid Bilayers. *Biophysical Society Meeting*, San Francisco, CA, 2014.
- V. Nguyen, J. Zehner, W. Cook, **B. Sanii**. Open Plans Of A Multi-Functional, Low Cost Fluorescence Microscope For Teaching And Research. *Biophysical Society Meeting*, San Francisco, CA, 2014.
- B. Sanii**, R. Kudirka, A. Cho, N. Venkateswaran, G.K. Olivier, A.M. Olson, H. Tran, R.M. Harada, L. Tan, and R.N. Zuckermann. Shaken, not stirred: Collapsing a peptoid monolayer to produce free-floating, stable nanosheets. *Biophysical Society Meeting*, San Diego, CA, 2012.
- B. Sanii** and R.N. Zuckermann. Mesoscale Peptoid Assembly in Two Dimensions. *8th Peptoid Summit*, Berkeley, CA, 2012 [**Speaker**].
- B. Sanii**, R. Kudirka, A. Cho, N. Venkateswaran, G.K. Olivier, A.M. Olson, H. Tran, R.M. Harada, L. Tan, and R.N. Zuckermann. Shaken, not stirred: Collapsing a peptoid monolayer to produce free-floating, stable nanosheets. *Biophysical Society Meeting*, San Diego, CA, 2012.
- B. Sanii** and R.N. Zuckermann. Shaken, Not Stirred: Collapsing a Peptoid Monolayer to Produce Free-floating, Stable Nanosheets. *MRS Directed Self-Assembly of Materials Workshop*, Nashville, TN, 2011 [**Speaker**].
- S.H. Shin, S. Chung, S. Whitelam, **B. Sanii**, C.R. Bertozzi and J.J. De Yoreo. S-layer Crystallization on Biomimetic and Inorganic Surfaces: The Importance of Multi-stage Pathways to the Crystalline State Driven by Conformational Changes. Singapore, 2011.
- M. Hofner, I.W. Rangelow, **B. Sanii**, and P.D. Ashby. Single Crystal Silicon Nanowires for Femtonewton Detection. International Conference on Micro and Nano Engineering, Berlin, Germany, 2011.
- B. Sanii** (substituting for A.N. Parikh). Buckling events in lipid bilayers and peptoid monolayers. *ACS*, Anaheim, CA, 2011 [**Speaker**].
- B. Sanii**, R. Kudirka, A. Cho, H. Tran, L. Tan and R.N. Zuckermann. Creating Peptoid nanosheets by buckling a Gibbs monolayer. *Biophysical Society Meeting*, Baltimore, MD, 2011.
- B. Sanii** and P.D. Ashby. A fiber force probe for soft materials in fluids. *AFM BioMed Conference*, Red Island, Croatia, 2010 [**Speaker**].
- B. Sanii** and P.D. Ashby. Nanowires as AFM Cantilevers: A Detection Scheme to Gently Image and Interact with Soft Materials in Fluids. *Materials Research Society Spring Meeting*, San Francisco, CA, 2010 [**Speaker**].
- B. Sanii** and P.D. Ashby. Nanowires as AFM cantilever: A detection scheme to gently image soft biological materials in fluids. *Biophysical Society Meeting*, San Francisco, CA, 2010.
- B. Sanii**, A.W. Szmodis, D.A. Bricarello, A.E. Oliver and A.N. Parikh. Frustrated phase transformations in supported, interdigitating lipid bilayers. *Biophysical Society Meeting*, San Francisco, CA, 2010.
- J. Townsend, **B. Sanii**, A. Lehman, A. Do, S. Dixon, A. Parikh, and K. Lam. 3-nitro-tyrosine as an internal quencher of autofluorescence enhances the compatibility of fluorescence based screening of OBOC combinatorial libraries. *American Peptide Symposium*, Bloomington, IN, 2009.
- B. Sanii** and P.A. Ashby. Nanowires as AFM Cantilevers: A detection scheme to improve imaging soft matter in fluids. *Linz Winter Workshop*, Linz, Austria, 2009.
- T. Laue, K. Nguyen, **B. Sanii**, M. Xu, C. Franx, H. Fuchs, A.N. Parikh, S. Lenhert. pH dependent formation of spread supported lipid bilayer arrays formed by multiplexed lipid dip-pen nanolithography. *Linz Winter Workshop*, Linz, Austria, 2009.

- B. Sanii** and A.N. Parikh. Mechanisms of Lipid Spreading at Hydrophobic and Hydrophilic Surfaces. *Biomembrane Frontiers*, Davis, CA, 2008.
- A.E. Oliver, E.L. Kendall, M.C. Howland, **B. Sanii**, A.M. Brozell and A.N. Parikh. Sugar Glasses Aid Deposition of Supported Membranes as Micro-arrays or Over Technologically Attractive Lipophobic Substrates. *Biomembrane Frontiers*, Davis, CA, 2008.
- A.M. Brozell, M. Muha, A. Abed-Amoli, D. Bricarello, **B. Sanii**, S. Inaba, E.L. Kendall, A.O. Oliver and A.N. Parikh. Functionalized Silica Colloidal Crystal Substrates for Lipid Biomembranes. *Biomembrane Frontiers*, Davis, CA, 2008.
- B. Sanii**, A.M. Smith, R. Butti, A.M. Brozell and A.N. Parikh. Bending Membranes on Demand: Fluid Phospholipid Bilayers on Topographically Deformable Substrates. *Biophysical Society Meeting*, Long Beach, CA, 2008.
- B. Sanii**, S. Hsia and A.N. Parikh. A FRAP Diffusion Analysis Program for Patterned and Anisotropic Samples. *Biophysical Society Meeting*, Long Beach, CA, 2008.
- B. Sanii**, A.M. Smith, A.M. Brozell and A.N. Parikh. Curvature-Dynamics Interplay in Fluid Lipid Membranes. *DOE Molecular Contractor's Meeting*, Warrenton, CA, 2007.
- B. Sanii** and A.N. Parikh. Mechanisms of Monolayer and Bilayer Spreading on Hydrophobic and Hydrophilic Surfaces. *Novel Model Systems for Bimolecular Lipid Membranes*, Schloss Ringberg, Germany, 2007.
- K.Nguyen, **B. Sanii**, and A.N. Parikh. Optical Evidence for Self-Healing in Fluid Membranes. *Undergraduate Research Conference*, UC Davis 2007.
- B. Sanii** and A.N. Parikh. Mechanisms of Monolayer and Bilayer Spreading on Hydrophobic and Hydrophilic Surfaces. *Biophysical Society Meeting*, Baltimore, MD, 2007.
- B. Sanii**, and A.N. Parikh. Mechanisms of Monolayer and Bilayer Spreading on Hydrophobic and Hydrophilic Substrates. *ACS National Meeting*, San Francisco, California, September, 2006. [Speaker]
- B. Sanii** and A.N. Parikh. Spontaneous Spreading of Phospholipids on Low Energy Hydrophobic Solids. *ACS Colloid and Surface Science Symposium* Boulder, Colorado, June, 2006. [Speaker]
- H. Hemmati, M. Wright, **B. Sanii** et al. Multigigabit Data-rate Optical Communication Depicting LEO-to-GEO and GEO-to-ground Links. *Proceedings of SPIE, Free-Space Laser Communication Technologies XIV*, G. Stephen Mecherle; Ed. 2002.
- B. Sanii**. Calibrating Surface Weather Observations to Atmospheric Attenuation Measurements. *Proceedings of SPIE, Free-Space Laser Communication Technologies XIII*, G.Stephen Mecherle; Ed. July 2001. [Speaker]
- A. Biswas, **B. Sanii** and M. Wright. 45km Horizontal-path Optical Link Experiment. *Proceedings of SPIE, Free-Space Laser Communication Technologies XIII*, G. Stephen Mecherle; Ed. 2001.

#### INVITED TALKS

- Controlled gradients in model biomembranes *TethMem International Workshop*, Nanyang Technological University, Singapore 2015.
- Directing Self-Assembly, *NASA Ames*, Mountain View, CA 2014.
- Creating Peptoid nanosheets by buckling a Gibbs monolayer. *Center for NanoScience, LMU*, Munich Germany, 2011.
- A Simplified FRAP Algorithm for Measuring Diffusion on Patterned, Anisotropic or Sloppy Samples. *MAG Bio-systems / Photometrics*, Pleasanton, CA, 2008.
- Membrane Dynamics at the Solid-Liquid Interface: Spreading, Interdigitation and Domain Gellation. *Forschungszentrum Karlsruhe*, Eggenstein-Leopoldshafen, Germany, 2007.