



## SBI Faculty Meeting Minutes

March 7, 2013

**Attendees:** Michelle Blum, Mark Bowick, Dave Eilers, Eric Finkelstein, Martin Forstner, Jeremy Gilbert, Ivan Gitsov, Julie Hasenwinkel, Karen Low, Cristina Marchetti, Pat Mather, Mat Maye, Liviu Movileanu, Chris Nomura, Melissa Pepling, Dacheng Ren, Karin Ruhlandt, and Bill Winter

- **iBRID IGERT – Marchetti**
  - *Held 1<sup>st</sup> IGERT retreat on March 2, 2013, the one day retreat featured student presentations by IGERT student and faculty teams, an industrial career panel, poster session, Keynote lecture by Karen Burg, and advisory board members meeting with IGERT fellows and PIs of NSF proposal.*
  - *Student presentations were videotaped*
  - *Moving forward this will prove to be a good mechanism for recruiting students. Potentially send current students to national recruiting events.*
  - *IGERT applicants visited on Friday and Saturday, plan to make 8-9 offers (3 physics, 2 Chem, 2-3 Bioengineering, 1 biology) with April 15 deadline. If needed will receive internal nominations for 2<sup>nd</sup> year students.*
  - *Overall the response from students was very positive and they liked the other elements which included science policy at Maxwell. Perhaps open it up to 1<sup>st</sup> and 2<sup>nd</sup> year students. Science communication will be held this summer.*
  - ***Available by Request:*** IGERT Retreat Advisory Board Report and Interim Report to the External Advisory Board.
  
- **Interactive Biomaterials REU – Hasenwinkel**
  - *Application process closed on Friday, March 1*
  - *50/50 representation between male and female students from over 70 colleges.*
  - *17% minority applicants*
  - *High quality of students applied with average GPA of 3.5*
  - *Need project submissions for 12 students*
  - *Based on our survey from last year, the program needs more consistency across disciplines and interaction with graduate students. Will look for training opportunities for graduate student REU mentors prior to the start of the program.*
  - *1 REU student has applied to the IGERT.*
  - *Need to acknowledge student publications and abstracts.*
  
- **“Materials Matter” Student Collaboration Project – New proposed program, description to be distributed to faculty separately.**



- Experimental Facilities

- *New in SBI Central Research Facility (Finkelstein)*  
*Hysitron TS-75 TriboScope nanomechanical test instrument interface and NanoDMA III upgrade for AFM.*  
<http://www.hysitron.com/products/ts-series/ts-75-triboscope>  
<http://www.hysitron.com/products/options-upgrades/nanodma-iii>

*TS 75 Triboscope (Hysitron) nanomechanical test instrument is mounted on our Nanoscope IIIA Multimode atomic force microscope (AFM) (Digital Instruments, Bruker Nano). Modulus data will be acquired using the nanoDMA III module (Hysitron) for the TS-75 Triboscope, along with a temperature control stage capable of heating from room temperature to 100 degrees Celsius. This instrument performs nanoindentation with a three-sided pyramidal Berkovich probe to generate modulus and hardness data.*

- *MRI Proposal Team (Gitsov, Movileanu, Maye and Mather) submitted NSF proposal through ESF.*
- *Future Needs-Jeremy Gilbert is investigating the purchase of an Digital Microscope; **Keyence VHX 2000** which offers large depth-of-field, 3-D imaging, real-time measurements, one-push operation and recording ( e.g. 30 second movie- behavior of a cell), HDR and 0.1x-5.000x magnification range. Cost estimate is \$65,000 and currently looking at funding options, if interested please contact Jeremy.*  
[http://www.keyence.com/products/microscope/microscope/vhx2000/vhx2000\\_features\\_1.php](http://www.keyence.com/products/microscope/microscope/vhx2000/vhx2000_features_1.php)

- Courses Offerings - All

- *IGERT Courses (Marchetti, Pepling & Forstner, Bowick and Mather)*
  1. *Open Problems in Soft Interfaces (14 students), should recruit more students for future classes. Faculty and student seem to be enjoying the class which features five students each class presenting papers and then class selects papers for deep investigation. Also, discussing cover letters for submission to journals and editor review.*
  2. *Physical/Cell Biology- need to cap the course across all disciplines to even the distribution and reduce class size.*
- *Fall Biomaterials*
  1. *Soft Matter 444 ( Bowick)*
  2. *Please send course information to list on website.*



- SBI Website
  - *Student Section- plan to feature students discussing their research project using a collection of 30 second video clips. We will make arrangement for the video production or if you have any student videos, please send, so they can be added to the website. Also, will feature deeper dive presentation from a few students.*
  - *Please send student pictures and alumni information*
  - *Minutes will be posted on SBI intranet*
  
- Advisory Board Update – Invitation letters are being sent, plan for early Fall (September) advisory board meeting.
  
- MRSEC/MIRT
  - *Pre-proposal submission coming up this fall. Need to leverage our IGERT and REU programs to develop technical theme. Lisa Manning is working on description of areas- need to organize a meeting very soon.*
  
- New Business

*Chemistry has a new MRI-funded NMR instrument arriving in July; the Bruker 400 MHz instrument with liquid nitrogen cryoprobe and automatic sample changer. Chemistry will also upgrade the console and probe of the current 300 MHz instrument. The 300 will also have a sample changer, but less sophisticated than on the 400. The 300 will mainly be used for instruction and as overflow instrument.*

*Liviu is organizing a visit by Professor Hagan Bayley, on Monday, June 10, which will include an IGERT lecture and reception:*

*Professor Bayley is currently a Professor of Chemical Biology at Oxford. He is a Fellow of the American Association for the Advancement of Science, a Fellow of the Society of Biology (London, UK) and a Fellow of the Royal Society (London, UK). Professor Bayley has received numerous awards including the Royal Society of Chemistry 2009 Chemistry World, Entrepreneur of the Year. Professor Bayley is the founder of Oxford Nanopore Technologies Ltd., a private company based in Oxford (UK).*

*More information about Hagan Bayley can be found at: <http://bayley.chem.ox.ac.uk/>*