2022-01-01

Dear faculty, staff, students, and friends of BMI,

Remembering the Roman myth of Janus, it's a good time to look back and look ahead. Looking back on 2021, let me first express my appreciation for how everyone adapted to remote /hybrid work and found new ways to develop and maintain relationships with colleagues. These efforts have allowed us to continue to thrive and even expand the BMI research and education portfolio during the pandemic. Thank you, sincerely.

On the admin side, we saw big HR changes in 2021, including remote work agreements, the Title and Total Compensation (TTC) transformation, and single payroll implementations, all of which occurred over only a couple of months. Thanks to everyone for their engagement in managing and adapting to these three big changes.

On some "hockey card" stats for 2021,

Grant and contract proposals submitted through BMI:

- 53 proposals for $47,876,516 in direct costs.
- This includes 40 new projects, 8 continuations, 5 resubmissions, and 1 revision.
- This number does not include all the proposals on which BMI faculty and staff are named and that are submitted through other units, for example the ICTR renewal.

Awards to BMI:

- 33 award actions for $3,575,263
- 21 fixed price contracts
- 1 PCORI grant
- 10 new federal grants
- As with proposals, this does not include awards made to BMI PIs through other campus units or the collaborative awards on which BMI faculty, staff, and students are named.

Faculty Changes:

- Junjie Hu and Anoop Mayampurath became BMI assistant professors, and both are off to a great start!
- Tony Gitter was promoted to Associate Professor.
- Brian Patterson, Majid Afshar, Matt Churpek, and Dave Schneider became BMI faculty affiliates.

Staff Changes:

- The research administration team turned over, with three new faces: Missy Williams, Julie Schaus, and Sue Atkinson). Cathy Goelzer moved to Pediatrics and Renee Zook is now at the Cancer Center.
- The Cancer Informatics Shared Resource (CISR) added 2 new scientists: Philippos Tsourkas and Jess Vera.
- We hired a record number of new postdocs, including
  - Chung Lab: Das Soumya, Duc Anh Doan, and Vijai Dharmalingam
  - Park Lab: Kwangmin Lee
  - Zhao Lab: Trinetri Ghosh and Qinglong Tian
- We've been recruiting for two biostatisticians to replace Colin Longhurst and Grace Chen, who start the PhD in Biomedical Data Science program.

Graduate training:

- We supported over 65 research and teaching assistants.
- We taught 17 courses in Spring '21 and 18 courses in Fall '21.
- We welcomed new BDS PhD students: Grace Chen, Abrar Majeedi, Parth Khatri, Jiren Sun, Colin Longhurst, and Wallance Wei; and we also welcomed new BDS MS students: Ryan Burczak, Viswantha Gajjala, Tim Gruenloh, Huan Liang, Elizabeth McKernan, and Daniel McNeela.
- We graduated some terrific students including Jared Brown, Rui Chen, Jake Maronge, Yunyang Xiong, Akshay Sood (and surely more; I'm missing spring grads, sorry!)
- We approved new courses BMI 738 Ethics for Data Scientists, and BMI 775 Computational Network Biology

Space:

- We partnered with the School of Computing, Data, and Information Science so that east-campus BMI operations will be housed permanently in the planned CDIS+ building.

- We began moving out of Biotech, with most BMI residents to go into the next-door Center for Genomic Science and Innovation.

Some notables, 2021:

- Clinical trials for Regeneron's COVID-19 monoclonal antibody therapy were successful, thanks in part to SDAC support of the data monitoring committee.
- Founding chair Dave DeMets spearheaded a national initiative to address the shortage of qualified people to serve on data monitoring committees.
- KyungMann Kim was lead editor of the newly published "Handbook of Statistical Methods for Randomized Controlled Trials", from Chapman & Hall/CRC Press -- an instant classic. And the INVESTED trial results were published.
- In an example of AI meeting healthcare, Irene Ong contributed to the development of a new device to detect in-patient breathing problems.

- Tony Gitter's work on AI in biomedical research was featured in the Capital Times; and his lab reported a virtual chemical screen on over a billion chemicals.
- Sündüz Keleş was named Vilas Associate by the OVCRGE.
- UW launched the Center for Health Disparities, with Menggang Yu as Director of Biostatistics.
- Andreas Velten was selected as senior member of the National Academy of Inventors, and he explained how to see around corners.
- Dave DeMets was awarded the 2021 Dixon Award by the ASA.
- BCG expanded its system to 120 64-bit servers with more than 2900 cores and 540 TB of networked storage.
- Vikas Singh was awarded new GPU servers from the UW/AmFam Data Science Institute in memory of Olvi Mangasarian; and his *Nyströmformer* paper is blowing up.
- Mark Craven led a new U01 project from NHGRI Impact of Genomic Variation on Function Consortium, with the Center for Genome Science and Innovation.
- Moo Chung organized virtual workshops: *Topological Data Analysis and Machine Learning* and *Nonstandard Brain Image Analysis*. Yin Li was area chair for WACV and IJCAI, two international vision/AI conferences.
- Colin Dewey's *RSEM* paper topped 11,500 citations.
- Karl Broman made more than 1900 Github contributions.
- Daniel Pimentel-Alarcón brought machine learning to a wide audience in El Zoominario
- Christina Kendziorski and Sushmita Roy pushed the envelope on RNA-Seq and software naming, with *SpotClean, Dino,* and *GRiNCH*!
- Qiongshi Lu explained genetic nurture to *PNAS* readers and challenged in the software naming competition with *DONUTS* and *QUAIL*.
- Daifeng Wang advanced *Genome Medicine* with *scGRNom*, though for the naming competition I like his *VARMOLE*!
- The clinical trialists went for less mnemonic software names, with the likes of *rmt* (Lu Mao), *survWM2* (Rick Chappell), *METT* (Yeonhee Park), and *MCID* (Jiwei Zhao), though *ordinalNet* (Bret Hanlon) seems to trip nicely off the tongue!
- Guanhua Chen and Zheng-Zheng Tang collaborated on a new NSF award and a new person (Claire)!
- Lu Mao discovered a new efficiency property of the Wilcoxon-Mann-Whitney test.
- Rick Chappell's refereed papers list passed 200 entries; Ron Gangnon and Jens Eickhoff each passed 250.
- Cats showed up in many zoom calls, in Emmanuel Sampene's *Journal of Feline Medicine and Surgery* paper, and in Kathleen Wannemuehler's Regeneron contract on cat allergies!
- Matt Amodio, a former CS/BDS trainee, had an historic winning streak on Jeopardy. He won 38 straight games, giving 1,299 correct clues, and racking up $1,518,601 in winnings, which puts him in second place all time for games won. Ironically, one of the people he lost to is a statistical research assistant in Nashville, TN.

A year from now I expect we'll be celebrating a bunch of promotions and recognizing impressive achievements throughout the department.   Our strategic planning committee got us started last year with a mission statement and strategic priorities, and I also look forward to movement on some of these identified priorities in 2022. We've had one full department meeting discussing the mission statement, "Advancing data science to accelerate biomedical research and improve human health."   Recognizing a rather broad, inclusive definition of data science, most of us found the statement quite compelling. A biostatistician's role is sometimes a deliberate, methodical, and cautious effort against the overzealous collaborator, and so "accelerate" may have been perceived by some as poorly aligned with that work. However, the whole enterprise will fail to move without that careful, scholarly work, so let us continue to sift, winnow, and accelerate biomedical research by our efforts.

All the best for the new year,

-Michael N.