

Recommendations from the 2003 Departmental Retreat

Group 1: What steps should the department take for next year to recruit a larger number of outstanding graduate student applicants and to enroll the best of the group? Should we create an international consortium of associated faculty for recruitment of graduate students and for graduate education and if so, what would it ideally look like?

Facilitator: Karen Bandeen-Roche

- What's working? (per students in the group)
 - Reputation
 - University itself
 - Books/articles
 - Recommendations from teachers
 - Professor:student ratio
 - Visits to campus
 - Friends in programs (already having contacts here)
 - Website
- Room for improvement:
 - Personal contact for applicants
 - Personal phone calls from faculty, current students
 - Earlier/quicker decisions on applications
 - "Biostatistics" as a field has poor reputation/low visibility in many countries
- What to do?
 - Website detailing costs, how to apply, financial/funding information, etc.
 - Recruitment poster mailed to individual colleagues (not to general departmental address)
 - Set up visits/exchanges with:
 - China: University of Munich
 - India: Indian Institute of Technology
 - Italy: University of Bocconi/University of Padua
 - UK: University of Lancaster
 - Romania: University of Bucharest
 - China: Peking University/USTC/Tsinghua University/Fudan University
 - Korea: Seoul National University
 - Canada: University of Toronto
 - Summer program for math teachers in biostatistics (funding partnership with NIH?)
 - Summer program for undergraduates in biostatistics (already underway—Felicity's grant)
 - Advertise bioinformatics
 - Have faculty/students give talks at home universities ("piggyback" with local conferences/meetings)
 - Advertise training grants to prospective applicants
 - Publish in non-traditional places (what do undergrads read?)
 - Alternative training programs (certificates, non-traditional degrees, etc.)
 - Strengthen links to MD/PhD program

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Group 2: What steps should the department take for next 5-10 years?

Facilitator: Marie Diener-West

- Recruitment:
 - Spread the word in other countries that adequate support is available:
 - Make a presence at the international conferences (biostatistics and not)
 - Contact colleagues in other countries
 - Contact institutions/organizations outside academics
 - Send posters to undergraduate departments
 - Make extra effort to recruit minorities
 - Seminars to undergraduate schools within 100 miles of JHU
 - Sponsored by the ASA MD chapter
 - Invite prospective students to visit prior to acceptance
 - More personal contacts between faculty, current students, and prospective students
 - Create a chat room with faculty available to answer questions
 - Long-Term goals:
 - Involve students in collaborating projects and more heavily in the Consulting Ctr
 - List collaborating projects ongoing in the department
 - Create international affiliates
 - Team with other schools to lift the field
 - Develop a Biostatistics brochure (catchy, “cool,” show projects, photos, etc.)
 - Market our department as “Biostatistics in action”
 - Application materials: testimonials of graduates on CD-ROM
- Web Presence:
 - Website (key words, google hits list)
 - Develop “cool” faculty webpages
 - Web presence of collegiality (photos of the retreat)
 - Characterize what constitutes a “successful” graduate (ie, job opportunities, salary survey)
 - Web page for applicants – promote the possibility for prospective students to visit
 - Emphasize the public presence of the faculty in the website
 - Link from Math/Sciences website to ours

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Group 3: What changes should we make to the PhD curriculum and the departmental environment to improve the longer-term productivity of PhD graduates? (inference/methodology)

Facilitator: Dan Scharfstein

- Things to pursue?
 - Add decision theory/Bayes course to core curriculum
 - Where to fit in?
 - Alternate with/expand upon foundations course?
 - Improved ability of students to present
 - Have formal one-term, once per week course with faculty members where students discuss recent seminars and give and receive feedback on their own seminars
- Further things to pursue?
 - Consulting opportunities/consulting class
 - Have formal course
 - Have students partner with Consulting Center staff on specific projects
 - Have students meet with each other to compare notes on their research assistantships, compare notes, etc.
 - Have faculty involve their advisees more in their own research projects (ie, webpage of research opportunities)
 - More computing, particularly in R
 - More programming instruction may already be in the works as part of the new bioinformatics curriculum
 - Is advanced probability in the best interests of **all** our students? (ie, biology-oriented students might benefit just as much from higher-level biology courses)
- Other issues
 - Collegiality
 - Construction noise, no lounge, overworked
 - Are we too big? What is the goal for department size?
 - Bring back donuts/bagels
 - More frequent social gatherings outside work (summer picnic, Szechuan Best)
 - Unfunded PhD students – creating two “tiers” of students?
 - Consensus that real analysis more important advanced probability
 - Why isn't advanced probability taught within the department?
 - Recruitment
 - Hard to get the word out about biostatistics to small liberal arts colleges
 - Have summer program targeting underrepresented minorities
 - Students
 - Importance of self-motivation
 - Informal working/study groups often just as useful as formal classes

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Group 4: What changes should we make to the PhD curriculum and the departmental environment to improve the longer-term productivity of PhD graduates (probability/stochastic processes/analysis)?

Facilitator: Brian Caffo

- Rigorous mathematical training -- separate logistic issues from curriculum issues
 - Logistic issues (in-house vs at Homewood)
 - Increasing number of available in-house faculty
 - Going to Homewood is a hassle
 - Lack of control over external teaching
 - Importance of linking topics to biostatistics/public health
 - Is it necessary for research mathematicians to teach math courses for biostatisticians?
 - Curriculum issues
 - Universal agreement on the need for rigorous mathematical training (importance of training, important indirect benefits)
- Probability and stochastic processes:
 - Provides “street credibility” and a complete “toolbox”
 - PhD is not a vocational degree
 - But needs to be made more relevant to biostatistics
- Stochastic processes:
 - Crucial material for much of modern statistics methodology
 - MCMC
 - Advanced survival
 - Environmental epi, ...
- Potential new course:
 - Maintain mathematical rigor while linking the coursework to biostatistics/public health
 - We can't just keep adding courses
 - Combined in-house course on probability and stochastic processes with applications in biostatistics
 - We have the faculty resources to teach this course at the appropriate level
- Computing:
 - Need rigorous course in computer science (not techniques and programs)
 - Object-oriented programming
 - Literate programming
 - Relational databases
 - Program organization and structure
 - Extensibility and style
 - Algorithms
 - Work with bioinformatics program