November 20, 2013

Paul M. DeLuca, Jr., Ph.D.
Provost and Vice Chancellor for Academic Affairs
150 Bascom Hall
- CAMPUS -

Re: MS Degree Program in Biomedical Informatics Proposal

Dear Provost DeLuca:

On behalf of the School of Medicine and Public Health (SMPH), I wish to provide my personal endorsement of the Proposal for the MS Degree Program in Biomedical Informatics.

The SMPH Academic Planning Council members have unanimously approved this request on November 20, 2013. I have enclosed a copy of the request for your review.

Thank you for your consideration of this request. If you require additional information, please do not hesitate to contact my office at jledge@wisc.edu.

Sincerely,

[Signature]

Robert N. Golden, M.D.
Robert Turell Professor in Medical Leadership
Dean, School of Medicine and Public Health
Vice Chancellor for Medical Affairs
University of Wisconsin-Madison

xc:
Jocelyn Milner, Ph.D., Director of Academic Planning and Analysis
Kelly Haslman, Graduate Executive Faculty Committee
Tracy Cabot, SMPH Dean’s Office
Paul Rathouz, PhD, Professor and Chair, Biostatistics and Medical Informatics
Mark Craven, PhD, Professor, Biostatistics and Medical Informatics
Eneida Mendonca, MD, PhD, Associate Professor, Biostatistics and Medical Informatics
Whitney Sweeney, BMI Training Program Coordinator

Enclosures:
MS Degree Program in Biomedical Informatics Proposal
October 7, 2013

Academic Planning Council
School of Medicine and Public Health
University of Wisconsin – Madison

Dear Colleagues:

Attached is a request for Permission to Plan for a New MS Degree Program in Biomedical Informatics to be housed and administered by the Department of Biostatistics and Medical Informatics (BMI).

There is a clear need for scientists and clinical investigators in Biomedical Informatics. The new degree program that we are planning will be one step towards meeting this need. The curriculum we propose will provide a forum where both the typical clinical investigator and computer savvy scientist can pursue the training needed to contribute informatics expertise both to biomedical research and to clinical care and processes. The Department of Biostatistics and Medical Informatics has a strong, maturing, and expanding cadre of faculty who cover many specialized areas in the field including (but not limited to) medical imaging, genomics and bioinformatics, clinical trials, applications of machine learning, natural language processing, clinical informatics, and population health informatics. A graduate degree program in Biomedical Informatics will capitalize on this strength, and greatly leverage it for myriad research programs in the School of Medicine & Public Health. We predict that it will also be greatly desirable to clinical faculty members and recruits as they look to expand their methodological research skills.

At a meeting of the BMI Departmental Executive Committee on October 4, 2013, 14 members of the EC were present and voted unanimously to advance the Permission to Plan for a new MS degree program in Biomedical Informatics. Three other members provided proxy votes in favor, and one additional member expressed strong support to me via email before the meeting. Two other members of the EC were not present and did not weigh in. Among all those involved, the common thought is that the development of such a program is not only long-overdue, but essential to the growth of the Department.

We thank you in advance for your consideration.

Sincerely,

Paul J. Rathouz, PhD
Professor and Chair
Department of Biostatistics and Medical Informatics
Notice of Intent to Plan a MS Program in Biomedical Informatics in the UW-Madison Department of Biostatistics and Medical Informatics in the School of Medicine and Public Health

Introduction

Biomedical informatics is the interdisciplinary field that studies and pursues the effective uses of biomedical data, information, and knowledge for scientific inquiry, problem solving, and decision making, driven by efforts to improve human health. Biomedical informatics investigates and supports reasoning, modeling, simulation, experimentation, and translation across the spectrum from molecules to individuals to populations [1]. The field of Biomedical Informatics requires (i) understanding and application of key concepts and methodologies from computer science and statistics, (ii) knowledge of biological, biomedical, and population health concepts and problems, and (iii) insight into the central computational problems in biomedicine and how methods from computer science, statistics and engineering can be applied to address them.

Nationwide, the biomedical research community is struggling to manage, share, analyze and fully exploit expanding quantities of data in the biomedical sciences. The need for a workforce capable of innovating, implementing and using methods from biomedical informatics is widely recognized. This demand has been driven by several factors:

- The proliferation of high-throughput biological experimental methodologies (next-generation sequencing, microarrays, SNP arrays, etc.) has transformed biology into a data-intensive science. It has become commonplace for biological studies to involve and rely on scientists and staff who are trained in bioinformatics.
- A similar pattern is emerging with state of the art medical and neuro-imaging studies.
- Incentives, such as those specified by the Health Information Technology for Economic and Clinical Health (HITECH) Act, are accelerating the adoption and broadening functionality of electronic health records and health care billing records, including application in the important area of comparative effectiveness research.
- Increasingly, biomedical studies and clinical decision-making are integrating and making inferences with varied types of data (genotypes, molecular profiles, images, electronic health records, and population-based data), which heightens the need for sophisticated computational methods.

The NIH has clearly identified biomedical informatics as an area of priority for increased training in order for clinical and translational research to proceed at a pace that takes advantage of the tremendous output of scientific and clinical data. In a recent report, the Data and Informatics Working Group of the NIH Director’s Advisory Committee made a specific recommendation to “build capacity by training the work force in the relevant quantitative sciences such as bioinformatics, biomathematics, biostatistics and clinical informatics” [2]. The NIH has formally recognized the need to expand the quantitative sciences workforce and methodology through its “Big Data to Knowledge” (BD2K) initiative (http://bd2k.nih.gov). Thus, there is a pressing need and a keen interest of translational researchers for such training.

Acknowledging this new discipline and the need for a specialized workforce the American Board of Medical Specialties has recently added Clinical Informatics as a certified subspecialty for physicians. The first certificates will be awarded this year. In addition, the Accreditation Council for Graduate Medical Education (ACGME) has also released draft requirements for Clinical Informatics fellowship subspecialty programs [3]. The fellowship program will be one of the requirements for physicians who want to take the subspecialty exam board. It is likely that fellows will be taking courses in our proposed program or completing the MS program in order to prepare for the board examination.

Provide a clear and focused explanation of how the proposed program fits with the institutional mission, the University’s strategic directions, and the program array. In other words, why is this program an important offering for UW-Madison?

In 1997, at the request of and in pursuit of the mission of the School of Medicine, the Department of Biostatistics at UW-Madison became the Department of Biostatistics and Medical Informatics (BMI). With that change, the Department embarked on long-term mission to build and fully develop scholarly programs in biomedical informatics in the School of Medicine (since transformed to the School of Medicine and Public Health; SMPH). Our programs began in the areas of bioinformatics, machine learning, and medical imaging. Initially, activities in these areas were closely tied to the Department of Computer Sciences (CS), through which many of our current
graduate students are trained. Our program in bioinformatics has now attained a certain degree of scholarly maturity, and additionally has expanded to embrace clinical informatics and population public health informatics as well as image analysis. At the same time, junior faculty hired in the late 1990's have been enormously successful at establishing robust and rich research and teaching programs, and they are now in a position to lead a new graduate program. Additionally, with the emergence of new scientific environments generated by the advent of the electronic health record and the increasing granularity of genomic sequencing technology, new audiences for training in biomedical informatics have emerged.

These audiences extend beyond the disciplines of computer sciences and industrial engineering to include individuals trained as clinicians, social scientists, and/or biological scientists. There are many individuals in these areas in need of training in biomedical informatics, but who do not have the capacity or the interest in pursuing training in computer sciences and industrial engineering, only to then have to bridge that work into the biomedical world. Because a key component of the Department's mission is to be a fully-elaborated scholarly home for biomedical informatics, and because there is a demonstrated need for graduate programs in this area, we would be abdicating our mission by not proposing, mounting, growing and maintaining such a program.

In addition to the demonstrated need and demand for training in the area of biomedical informatics, we are now facing a growing and intense need for graduate students to support our faculty's research programs and activities. In bioinformatics, we need to be able to recruit additional students, and we are losing out to many institutions that offer programs specifically in bioinformatics, computational biology or biomedical informatics. Our ability to attract and retain faculty is therefore threatened by not having our own program. In clinical informatics, activities and expertise are sufficiently differentiated from those in CS to make it infeasible to build a tight connection between our Department and CS in that area. There are some clinical informatics overlaps with ISyE, but these are not sufficiently robust to anchor a program in biomedical informatics. Therefore, for BMI to reach its full potential in biomedical informatics, ranging from bioinformatics to clinical and population health informatics, a graduate program is essential.

At the level of the School of Medicine and Public Health, biomedical informatics has become a mission-critical focus. In the past several years, use of electronic medical records in our partner clinical organizations has become widespread. Recently, the School hired a Chief Research Information Officer to spearhead the development of a clinical data warehouse, among other things. As these resources grow, training in biomedical informatics will be increasingly critical to the School's interest in leveraging these resources. The Institute for Clinical and Translational Research (ICTR) at the University of Wisconsin has embraced biomedical informatics and has made its growth and development at the SMPH one of its central areas of emphasis. This includes a formal graduate program at UW. This training program will serve those interested in pursuing MS-level training in a stand-alone program as well as junior clinical faculty and clinical fellows. We anticipate that some graduates may end up being employed in research programs in the SMPH. Indeed, we have two openings in our Department currently for just such individuals.

An additional benefit to SMPH faculty of graduate training in biomedical informatics is that it will make individuals who complete the program much better collaborators with faculty in biomedical informatics. Here, we believe there is a strong analogue to biostatistics: Often the greatest benefit of training in biostatistics directed at clinicians is not that they eventually do all of their study design and data analysis on their own, but that they become better collaborators with their biostatistical colleagues. We expect the same phenomenon to arise in the arena of biomedical informatics.

At the University level, such a program is in broad support of the University's mission. Three points in particular are advanced by the proposed program (italicized text indicates quotes from the University mission):

1. Generate new knowledge through a broad array of scholarly, research and creative endeavors, which provide a foundation for dealing with the immediate and long-range needs of society.

Owing to the onslaught of data from myriad sources and in myriad formats, to the need for rigorous and broadly applicable quantitative approaches to handing such data, and to the special role that quantitative sciences play as a unifying and integrating force in interdisciplinary science, programs in biomedical informatics will be instrumental in advancing programs in biomedical science in maximal service to the needs of society.
2. Achieve leadership in each discipline, strengthen interdisciplinary studies, and pioneer new fields of learning.

As mentioned above, quantitative sciences can provide a unifying platform from which to view many disciplines within biomedical sciences. A program in biomedical informatics will advance the quality and rigor of many areas of biomedical sciences as well as strengthening the ties that bind together those areas at transdisciplinary nexuses.

3. Maintain a level of excellence and standards in all programs that will give them statewide, national and international significance.

As mentioned in the foregoing, our research and teaching program in biomedical informatics has over the past 16 years evolved from a nascent program to a nationally recognized research program. Our Department has 34 faculty who can contribute to the training in informatics, either through teaching or mentoring research. More than 30 students are currently in training in informatics with these faculty. Existing training in informatics through the Department of Biostatistics and Medical Informatics involves 10 courses, including seminars and workshops. Additional courses are currently in development. We currently have all of the elements for an effective program, but we lack a cohesive system for training new researchers and professionals in this area, a limitation that is now inhibiting our program’s trajectory to full maturity.

What is the need for the program, in the context of existing programs at UW-Madison and System-wide?

Include any available data on student demand and market demand for graduates. If this is an emerging field, explain how it will be important in the future.

As described in the foregoing, our program focuses on applications in biomedical science broadly construed, including bioinformatics, image analysis, and health and clinical informatics. Students will be trained in (1) key concepts in biomedicine, (2) biomedical applications, (3) biostatistics, in addition to (4) computer sciences. As such, the proposed program relates to- and is especially contrasted with- four existing programs on campus: Those in Biostatistics, in Industrial and Systems Engineering (ISyE), in Computer Sciences, and in Clinical Investigation.

MS and PhD programs in Biostatistics are provided through a close relationship between our Department and that of Statistics. The proposed program will emphasize statistical reasoning but will not ask the students to pursue work in statistical theory or modeling methods. Rather, it will emphasize approaches to biomedical sciences based more on data structures and algorithms from computer science. Hence, relative to (bio)statistics, our proposed program represents an alternative set of quantitative methodologies for contributing to and advancing biomedical science.

As such, those individuals wishing to pursue graduate level biomedical informatics at UW-Madison have three primary options: Computer Sciences, Industrial and Systems Engineering, and Clinical Investigation. None of these programs fully satisfy students in our intended audience interested in biomedical informatics. The program in Clinical Investigation shares some overlap with our proposed program in intended audience and in its emphasis on quantitative research methodologies. It completely lacks a formal informatics component, however, and such material could only be taken in a limited way as a set of electives.

The relationship and contrast to ISyE lies along the axis running between the invention of new systems, processes and devices for clinical care to the development of new methods for biomedical and clinical research. Our program emphasizes the latter elements and the connections to research design. It also provides greater emphasis on bioinformatics. Our Department has a strong relationship to ISyE, and as can be seen, our proposed curriculum includes shared courses with ISyE, courses for which we are full partners in staffing and maintaining.

Finally, for most students, the program in Computer Sciences will not be sufficiently concentrated in the arenas of biomedical or clinical science to move the students from basic interest and background knowledge to functional skills in biomedical or clinical informatics. For the typical clinician, a program is needed that builds on his/her existing clinical training and knowledge while at the same time recognizing that the quantitative background going
into the program may not be that strong. For the individual with a stronger undergraduate background in computer sciences, a program is needed that provides appropriate background in biomedical processes and systems, so that technical and methodological material is appropriately contextualized. Our program brings all these needs together to provide clinicians, undergraduates with a computer sciences background, and other similar students with the training needed to contribute informatics expertise both to biomedical research and to clinical care and processes. Having said that, our program does include many elective courses in CS. Several of these are commonly taught by BMI faculty who have affiliate appointments in CS, including CS 540, 760 and 766. Over time, we will expand our course offerings in BMI; most junior faculty members have developed their own course during their probationary period; as such, we expect to continue to grow our course offerings.

The University of Wisconsin-Milwaukee has a Master of Science in Health Care Informatics. This program focuses on the areas of systems analysis and design, database and project management, decision support, network design, and health care applications and procurement. Its focus is narrower than the program in this proposal. The program is designed for individuals who seek careers in health care systems implementation and delivery, managed care organizations, and health care system vendors. The program does not have an emphasis in the research or academic side of biomedical informatics, nor at the imaging, public health, or bioinformatics aspects of the field.

Our program will be similar to some other programs in the nation. There are currently no ranking criteria for the area of biomedical informatics. We have recently been awarded a renewal of our National Library of Medicine-funded training grant in biomedical informatics. Top programs in the nation have been also recognized by National Library of Medicine with such an award including: Columbia University, Stanford University, Vanderbilt University, University of California-San Diego, University of Colorado Anschutz Medical Campus, Yale University, Oregon Health & Sciences University, University of Pittsburgh, Rice University, University of Utah, and the University of Washington. Some of these programs have similar focus as the one proposed here; others differentiate by having a more specific focus, such as bioinformatics. Our proposed program includes a large spectrum of informatics research: health/clinical informatics, population informatics, image analysis, and bioinformatics.

Provide a brief description of the program. All of the curricular details do not need to be worked out at this stage but a general outline of what is intended is helpful.

The full curriculum and learning objectives are elaborated in the attached draft program proposal (see Appendix A). Our proposed program both covers the waterfront (as defined by national standard for graduate training in biomedical informatics) in terms of training in health informatics, clinical informatics, bioinformatics and medical imaging informatics [1, 4, 5], while at the same time offering a special emphasis on quantitative and computational methods. This emphasis on quantitative reasoning and methods will set our program apart and be a competitive advantage for us.

Describe the resources requirements of the program. If it will be supported from reallocation or existing resources, provide a summary explanation. If unusual resources, such as program-revenue, will support this program provide a description and summary business plan. (The vice chancellor for administration will review the proposal before it is advanced to the UAPC and will approve any resource considerations).

The development of the MS degree program in Biomedical Informatics is led by a committee which includes Paul Rathouz (chair, BMI), Mark Craven (faculty, BMI), Eneida Mendonca (faculty, BMI), Whitney Sweeney (staff, BMI) and Debora Treu (staff, MIR). All faculty in BMI will be available to support the program when it is implemented. These 34 faculty members, including affiliates (see Table 1) are in a position to teach courses in the curriculum and/or provide projects for students. BMI faculty also frequently teach some of the elective courses (e.g., CS 540, 760, 766, and ISyE 617) that are "owned" by other departments (e.g., Computer Sciences or Industrial and Systems Engineering). Although we currently have sufficient staffing for the development and maintenance of this new graduate program and for the provision of student services, we plan to monitor closely the administrative tasks entailed in this endeavor so that we can identify need for additional staffing. The Department is also in the process of expanding its available space at the MSC, and some of this newly available space will be dedicated to housing students in this program.
The faculty in BMI are well funded by NIH, NSF, DOD and other sources, awarded at least $21,611,687 during 2010-12. This attests to the rich research environment that will be available for new informatics students to pursue interesting thesis topics. Further, some of this funding may be available to newly enrolled students as stipends for Program Assistantships or Research Assistantships to help defray the cost of their participation in the program. Other sources of funding may also be available to the new students including teaching assistantships and clinical fellowships from sponsoring departments.

During the inaugural year of the program, enrollment will be small with only a few newly enrolled students. Thus, enrollment should be easily accommodated by the current faculty and staff. Our courses should also be of sufficient capacity to accommodate the newly enrolled students. Growth will be measured to match available resources.

The Department is fortunate to have an able, experienced and energetic Student Services Coordinator in Whitney Sweeney. She has played integral coordinating roles in our summer programs for undergraduates and in our biostatistics training grants. We have also benefited greatly from her background: She holds a PhD in Psychology including training in research methods, and is a former faculty member involved in teaching and training.

Provide a list of the program faculty who are central to the planning process and who will participate in the program when it is implemented. For graduate programs that will include a thesis or major project, this list should include faculty who are likely to be major professors in the new program.

See Appendix B.

Attach letters of support or concurrence from departments, schools, and colleges that are contributing courses to the program; units that will have an interest in the program; or units that may offer existing programs that potentially overlap with the proposed program in name or content. It is especially important to include letters from units outside the home school/college.

See Appendix C.

References
3. ACGME Program Requirements for Graduate Medical Education in Clinical Informatics (Subspecialty of Anesthesiology, Emergency Medicine, Medical Genetics, Pathology, Pediatrics, or Preventive Medicine). 2013. http://www.acgme.org/acgmeweb/Portals/O/PDFs/Clinical Informatics PRs RC.pdf
Appendix A

ADraft Proposal for an MS Program in Biomedical Informatics at the University of Wisconsin-Madison

Guiding Tenets for an MS Curriculum in Biomedical Informatics

This document describes a draft of a curriculum for an MS program in Biomedical Informatics at the University of Wisconsin-Madison. This curriculum is motivated by several goals:

- The program should take a broad view of what constitutes biomedical informatics, in terms of the biomedical problems being addressed. The scope of the program should cover the spectrum from analyzing molecular-level data to analyzing populations of individuals. That is, it should encompass the subfields of bioinformatics, imaging informatics, translational bioinformatics, clinical informatics, clinical research informatics, public health informatics, and consumer health informatics.

- The program should take a broad view of what constitutes biomedical informatics, in terms of the informatics methods and approaches being used. Relevant methodological areas include, but are not limited to: artificial intelligence (including computer vision, machine learning, natural language processing), databases, human-computer interaction, optimization, and security.

- All students in the program should take a common core curriculum that covers the breadth of challenges and scales in biomedical informatics.

- Students should finish the program with solid knowledge of, and competence in computer science, statistics, and the biomedical sciences.

There are two rather distinct populations of prospective students that an MS in Biomedical Informatics might serve:

- Students who have an undergraduate degree in computer science, engineering or a related discipline, and are interested in a terminal MS degree that will equip them to work as a biomedical informatics professional in industry (e.g. Epic, DNASTar, EMC Greenplum, etc.), a hospital, or a research lab.

- Students who have a professional degree in a clinical field, and are interested in doing research that has a significant biomedical informatics component. Models for this type of student would be Drs. Josh Medow and Kimberly Shoenbill who have pursued their studies through the Clinical Investigation program at the University of Wisconsin.

These two student populations could be served with somewhat separate Professional and Research curricular tracks that have significant overlap.

The curriculum described below assumes that incoming students have already done some coursework in mathematics and computer science. For the former, something like one year of college-level calculus is probably adequate. For the latter, we would assume programming skills and knowledge of basic data structures and algorithms (i.e., the equivalent of CS 302 and CS 367).
In addition to the distinction between the Professional and Research tracks, each student would select or define an area of concentration within biomedical informatics. These concentration areas might correspond to common subareas such as bioinformatics or imaging informatics. Alternatively, a concentration might represent a more specialized, not so well defined area such as secondary analysis of clinical data. The student will select or define such an area with the advice and approval of a program faculty member. The electives chosen in the biomedical informatics and computer science categories below would then be selected to best support the student’s concentration.

**Draft Curriculum**

The curriculum is substantially the same for Professional and Research track students. The key distinction is the following: Professional students would be required to take the biomedicine electives, but not the research credits. The assumption here is that this cohort of students probably does not have a substantial background in biomedicine. The Research track students, on the other hand, would not be required to take the biomedical electives, but instead would be required to take the CIBM seminar class (1 credit), an additional course in statistical methodology (3 credits) and do a thesis research project (3 credits).

1. **Core courses (12 credits)**
   a. Introduction to Bioinformatics (BMI 576)
   b. Introduction to Biomedical Imaging (in development; covering central topics in biomedical imaging)
   c. Health Informatics (course to be developed; covering central topics in clinical informatics, consumer health informatics; public health informatics)
   d. Introduction to Biostatistics (BMI 541 or 571, BMI 551 if they’re planning to take 552)

2. **Electives in biomedical informatics area of concentration (6 credits)**
   E.g. for a concentration in bioinformatics, students would take
   a. Advanced Bioinformatics (BMI 776)
   b. Statistical Methods for Molecular Biology (BMI 877)
   E.g. for a concentration in imaging informatics, students might take
   a. Methods in Medical Image Analysis (BMI 767)
   b. Statistical Methods for Medical Image Analysis (BMI 768)
   c. Medical Imaging Systems (Med Physics 530)
   E.g. for a concentration in clinical informatics, students might take
   a. Introduction to Health Systems Engineering (ISyE 417)
   b. Health Information Systems (ISyE 617)

3. **Computer science electives (6 credits)**
   Coursework of high relevance includes the following areas
   a. Algorithms (CS 577, CS 787)
   b. Computer vision (CS 766)
   c. Databases (CS 564, CS 764)
   d. Human-computer interaction (CS 570, CS 770)
   e. Machine learning (CS 540, CS 760, CS 761)
   f. Natural language processing (CS 545, CS 769)
   g. Optimization (CS 425, CS 525, CS 635, CS 720)
   h. Security (CS 642)
4a. Professional Track: Biomedicine electives (6 credits)
   
   E.g. for a concentration in bioinformatics
   a. General Genetics (Genetics 466)
   b. Introduction to Human Biochemistry (Biomol Chem 314)

4b. Research Track: Research electives (8 credits)
   a. Computers and Informatics in Biology and Medicine seminar (BMI 915)
   b. Statistics elective (Statistics 333, 349, 421, 424, 426, 456, 575; BMI 542, 552, 572, 641, 642, 741, 877)
   c. Responsible conduct of research and research ethics (Nursing 802, Surgical Sciences 812, Pharm Sciences 800)
   d. Thesis research

References

## Appendix B

Faculty Members in the Department of Biostatistics and Medical Informatics (BMI) as well as other contributors to the MS Degree program in Biomedical Informatics

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<tr>
<th>Department faculty</th>
<th>Affiliate faculty</th>
<th>Other Contributors</th>
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<td>Karl Broman</td>
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<td>Pascale Carayon</td>
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<td>Richard Chappell</td>
<td>Patricia Brennan</td>
<td>Umberto Tachinardi</td>
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<td>(Nursing and Industrial Engineering)</td>
<td>(Associate Dean for Biomedical Informatics)</td>
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<td>Moo Chung</td>
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<td>Mark Craven</td>
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<td>Menggang Yu</td>
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<td>Yingqi Zhao</td>
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* Denotes joint executive
Appendix C: Letters of Support

Sanjay Asthana, MD, FACP, FRCP(C)
Professor, Head of Medicine
Professor, Department of Medicine
Head, Division of Geriatrics and Gerontology
Director, NIA/NIH Wisconsin Alzheimer’s Disease Research Center (ADRC)
Director, Madison VA Geriatric Research, Education and Clinical Center (GRECC)
UW Madison, School of Medicine and Public Health

Howard Bailey, MD
Interim Director, University of Wisconsin Carbone Cancer Center
Professor, Department of Medicine
UW Madison, School of Medicine and Public Health

Vicki M. Bier, PhD
Professor and Chair, ISyE
College of Engineering

Patti Brennan, MSN, PhD
Professor, School of Nursing, ISyE
Director of Living Environments Laboratory, WID
UW Madison, School of Medicine and Public Health
College of Engineering

Elizabeth Burnside, MD, MPH, MS
Associate Professor of Radiology
UW Madison, School of Medicine and Public Health

Marc K. Drezner, MD
Senior Associate Dean
Professor of Medicine
Executive Director, Institute for Clinical and Translational Research
UW Madison, School of Medicine and Public Health

Edward Jackson, PhD, FAAPM, FACR
Professor and Chair, Department of Medical Physics
UW Madison, School of Medicine and Public Health

Jeffery F. Naughton, PhD
Professor and Chair, Computer Sciences
College of Letters and Sciences

F. Javier Nieto, MD, MPH, PhD
Professor and Chair, Department of Population Health Sciences
UW Madison, School of Medicine and Public Health

Lloyd M. Smith, PhD
W.L. Hubbell Professor of Chemistry and
Director of the Genome Center of Wisconsin
College of Letters and Sciences

Maureen A. Smith, MD, PhD, MPH
Professor, Population Health Sciences
UW Madison, School of Medicine and Public Health

Brian Yandell, PhD
Professor and Chair, Statistics
College of Letters and Sciences
September 12, 2013

Paul Rathouz, PhD  
School of Medicine and Public Health  
Professor and Chair  
Department of Biostatistics and Medical Informatics  
4675, K6/446 Clinical Science Center  
600 Highland Ave  
Madison, WI 53792

Dear Dr. Rathouz:

It is my pleasure to provide my strongest level of support for the Department of Biostatistics and Medical Informatics to develop a MS degree program in Biomedical Informatics within the School of Medicine and Public Health.

The Department of Biostatistics and Medical Informatics plays a key role in the research conducted by the Alzheimer’s Disease Research Center (ADRC) of which I am the director. We have enjoyed many years of productive collaborations with your Department, and the Data Management and Biostatistics Core of the ADRC, led by Dr. Richard Chappell, adroitly supports our clinical investigators. Given the nature of the clinical investigators’ research, many of these clinicians are eager to learn more about informatics. Your faculty have often provided informal training to our faculty and fellows. I see the new MS degree program in Biomedical Informatics as an essential opportunity for them to engage in more formal training. Our researchers will find this program especially appropriate given your strong set of courses in image analysis that will be part of the curriculum. This new program will be a unique asset to the SMPH for recruitment and professional development of our clinical investigators, including faculty, fellows, and scientists in the ADRC.

I wish you the best in your efforts and look forward to the opportunities that will arise from such an endeavor.

Yours truly,

Sanjay Asthana, MD, FACP, FRCP(C)  
Professor, Department of Medicine  
Head, Division of Geriatrics and Gerontology  
Director, NIA/NIH Wisconsin Alzheimer’s Disease Research Center (ADRC)  
Director, Madison VA Geriatric Research, Education and Clinical Center (GRECC)  
University of Wisconsin School of Medicine and Public Health
September 27, 2013

Paul Rathouz, PhD
School of Medicine and Public Health
Professor and Chair
Department of Biostatistics and Medical Informatics
4675, K6/446 Clinical Science Center
600 Highland Ave
Madison, WI 53792

Dear Prof. Rathouz:

It is my pleasure to provide my enthusiastic support for the Department of Biostatistics and Medical Informatics to develop a MS degree program in Biomedical Informatics within the School of Medicine and Public Health.

For over two decades, the Biostatistics Shared Resource and Cancer Informatics Shared Resource provided by your department have contributed statistical and computing expertise to members of the UWCCC in the design, conduct, and analysis of laboratory, clinical and epidemiologic studies promoting high quality, innovative cancer research. As we all know, cancer research is becoming much more data intensive and our curricula need to change in turn. Data sets have become increasingly larger and more complex with “big data” resulting from genomic and imaging studies, as well as new order entry systems. It is crucial that we have programs that will train scientists and clinical investigators who have substantial expertise in biomedical informatics in order to handle these challenges. This is why I enthusiastically support the MS program in Biomedical Informatics that your department is developing. Your program will provide the much needed training for new scientists as well as help in the recruitment and professional development of our clinical investigators, including faculty and fellows in the UWCCC.

I wish you the very best and am happy to help in any way I can.

Sincerely,

Howard Bailey, MD
Interim Director, University of Wisconsin
Carbone Cancer Center
Professor of Medicine
UW School of Medicine and Public Health
Paul Rathouz, PhD  
School of Medicine and Public Health  
Professor and Chair  
Department of Biostatistics and Medical Informatics  
4675, K6/446 Clinical Science Center  
600 Highland Ave  
Madison, WI 53792  

October 4, 2013  

Dear Professor Rathouz:

On behalf of the Department of Industrial and Systems Engineering (ISyE), I would like to extend our enthusiastic support for the plan to develop a MS degree program in biomedical informatics on campus. As you know, ISyE at the University of Wisconsin-Madison has a long and celebrated history in health-systems research. In fact, health-systems engineering is one of the four areas of focus for our department's research and education programs. Our program focuses on developing innovative transportable solutions to critical healthcare problems while contributing to advancements in decision science, decision-support systems, and quality engineering. In addition, several of our faculty members have research interests that overlap with the field of medical informatics, and in fact one of them is a past president of the American Medical Informatics Association.

Over the years, the collaboration between ISyE and Medical Informatics has been strong and productive, and in fact a faculty member in Medical Informatics has been involved in teaching one of our courses (617, Health Information Systems). Therefore, I anticipate that our department will connect with the proposed program on biomedical informatics in several important ways. First, our courses in health systems will be relevant and valuable electives for those students in your program who choose to focus on clinical informatics. Second, our department has several faculty members with joint appointments in Medical Informatics (Professors Patti Brennan, Elizabeth Burnside, and Eneida Mendonca), who will be actively involved in shaping the proposed program and mentoring its students. Third, some of the proposed courses in your program are likely of interest to graduate students in ISyE, making a degree program in biomedical informatics a timely addition to our educational offerings.

In short, my faculty strongly supports your proposed MS degree program, and believes that it will complement our existing graduate program. I wish you the best in your efforts, and look forward to collaborating on this endeavor as it evolves.

Sincerely,

Vicki Bier, PhD  
Professor and Chair, ISyE  
Department of Industrial and Systems Engineering  
University of Wisconsin - Madison
30 September 2013

Paul Rathouz, PhD
School of Medicine and Public Health
Professor and Chair
Department of Biostatistics and Medical Informatics
4675, K6/446 Clinical Science Center
600 Highland Ave
Madison, WI 53792

Dear Prof. Rathouz:

I am writing with my most enthusiastic support of the development of a MS degree program in Biomedical Informatics in the Department of Biostatistics and Medical Informatics.  

As you know, my research investigates the use of computer technologies, including the Internet, in the home-care of persons with complex health problems. I lead the Living Environments Laboratory at the Wisconsin Institute for Discovery. In addition, I directed the Wisconsin IAIMS initiative, along with Dave Demets. This federally-funded program helped to strengthen the information technology infrastructure of the health science schools. With the increasing use of information technology in health care, we have a critical need for additional scientists and clinical investigators who can develop approaches that translate the resulting data into improved health outcomes.

I direct doctoral students in nursing and in industrial engineering; in addition I am on the management team of the Computation and Informatics in Biology and Medicine training program. The new MS degree in Biomedical Informatics articulates with but does not duplicate efforts in those programs.

My perspective is also based on my long-term involvement in the American Medical Informatics Association, including having served as the president of this organization. AMIA is the premier professional society for biomedical informatics. The University of Wisconsin has a number of significant strengths that will ensure that the proposed program is competitive with, yet differentiated from, existing graduate programs in biomedical informatics.

This program will be an asset to the SMPH and the UW more broadly, and I am happy to contribute in any way that would be helpful.

Sincerely,

[Signature]

Patti Brennan
September 27, 2013

Paul Rathouz, PhD  
School of Medicine and Public Health  
Professor and Chair  
Department of Biostatistics and Medical Informatics  
4675, K6/446 Clinical Science Center  
600 Highland Ave  
Madison, WI 53792

Dear Prof. Rathouz:

I’m writing to provide my enthusiastic support for the MS degree program in Biomedical Informatics that you and the Department of Biostatistics and Medical Informatics are developing.

As you know, my research investigates the application of artificial intelligence methods to breast imaging in pursuit of improving the population based screening and diagnosis of breast cancer. This multidisciplinary research is facilitated by my own MS in Medical Informatics. Thus, I know full well the value of such a program. Further, through my appointment in the Department of Radiology, I work with many clinical investigators who would be eager to embark upon such training. Your program would be a real asset to the SMPH and would be useful for both recruitment for and professional development of many of our clinical investigators.

Thus, I am highly supportive and extremely enthusiastic about this initiative that you and your faculty have taken on. Please don’t hesitate to let me know how I can support this critically important initiative.

Sincerely,

Elizabeth Burnside, M.D., MPH, M.S.  
Associate Professor of Radiology  
Breast Imaging
September 24, 2013

Paul Rathouz, PhD
School of Medicine and Public Health
Professor and Chair
Department of Biostatistics and Medical Informatics
4675, K6/446 Clinical Science Center
600 Highland Ave
Madison, WI 53792

Dear Prof. Rathouz:

On behalf of the Institute for Clinical and Translational Research (ICTR), I am pleased to provide my unqualified support to the Department of Biostatistics and Medical Informatics for the development of a degree program in Biomedical Informatics in the School of Medicine and Public Health.

The Department of Biostatistics and Medical Informatics has been a key partner with ICTR in research services and education programs, since the beginning of the Institute in 2007. In both of these areas of endeavor, informatics training has been identified as a pressing need and a keen interest of translational researchers. Moreover, the NIH has clearly identified biomedical informatics as an area of priority for increased training, in order for clinical and translational research to proceed at a pace that takes advantage of the tremendous output of scientific and clinical data. And finally, students in the short courses and the Graduate Programs in Clinical Investigation, offered by ICTR, have asked specifically for increased training in biomedical informatics.

I am fully confident researchers will find a graduate degree in Biomedical Informatics an asset to their careers and to speeding the progress of translational research. I wish you the best in this endeavor and look forward to working with you to fulfill the new potential of the program.

Sincerely,

Marc K. Drezner, MD
Senior Associate Dean
School of Medicine and Public Health
Executive Director
Institute for Clinical and Translational Research
Professor of Medicine
October 7, 2013

Paul Rathouz, PhD
Professor and Chair
Department of Biostatistics and Medical Informatics
School of Medicine and Public Health
4675, K6/446 Clinical Science Center
600 Highland Ave
Madison, WI 53792

Dear Prof. Rathouz:

Thank you for stopping by this morning and presenting your proposed MS degree program in Biomedical Informatics. It was an excellent occasion to become acquainted. While I am a relatively new chair of the Department of Medical Physics, your department and your vision for its continued evolution impresses me. Medical Physics already enjoys a strong interaction with Biostatistics and Medical Informatics, and I hope to continue and deepen collaborations in training and research involving medical imaging analysis.

On that note, it is my pleasure to provide my strongest support for your goal of developing a MS degree program in Biomedical Informatics. Indeed, it is a strategic point for the SMPH to further develop research in biomedical informatics, and I see the development of the MS degree in Biomedical Informatics as a natural continuation of the progress that your department has already enjoyed. Your proposed program will be an asset to the academic environment of the entire SMPH.

Thank you for the opportunity to comment on this endeavor, and I wish you the best as your program continues to expand.

Yours truly,

Edward Jackson, PhD, FAAPM, FACR
Professor and Chair
Department of Medical Physics
efjackson@wisc.edu
November 11, 2013

Paul Rathouz, PhD
School of Medicine and Public Health
Professor and Chair
Department of Biostatistics and Medical Informatics
4675, K6/446 Clinical Science Center
600 Highland Ave
Madison, WI 53792

Dear Dr. Rathouz:

I am pleased to extend my full and enthusiastic support to the Department of Biostatistics and Medical Informatics in their proposed development and launch of a MS degree program in Biomedical Informatics within the School of Medicine and Public Health. As you recall, you and Professor Mark Craven and I have discussed this program earlier this year, and my enthusiasm for it has only grown since those preliminary discussions. Thank you for sharing your proposal with me.

Up to this point in time, students interested studying biomedical informatics (either clinical or bioinformatics) would typically apply to the Department of Computer Sciences. There, they would take courses in biomedical informatics and pursue their research with CS faculty who share that expertise. Many such faculty are primary members of your Department, Biostatistics and Medical Informatics, and some of the key courses are either owned by, or cross-listed with, BMI. Under this arrangement, our two departments have worked very well together to provide the needed training. However, as the field of informatics evolves in complexity, in the range of problems and approaches, in the demand for training, and in the diversity of audiences for that training, the need for your own program on this campus is quite clear. A distinct degree in biomedical informatics is, indeed, a timely addition to our educational offerings and will nicely complement our existing programs in the Department of Computer Sciences.

I wish you the best in your efforts. Please feel free to contact me if I can be of any assistance in the process.

Yours truly,
Jeffrey F. Naughton
John P. Morgridge Professor and Chair
Computer Sciences
3 October 2013

Paul Rathouz, PhD
Professor and Chair
Department of Biostatistics and Medical Informatics
School of Medicine and Public Health
4675, K6/446 Clinical Science Center
600 Highland Ave
Madison, WI 53792

Dear Dr. Rathouz:

On behalf of the Department of Population Health Sciences, I am pleased to support the request for the Department of Biostatistics and Medical Informatics to develop an MS degree program in Biomedical Informatics within the School of Medicine and Public Health.

Population Health Sciences is an interdisciplinary department with the goal of understanding, preserving, and improving the health of human populations and individuals. As part of this mission, it is critical that we can effectively manage and analyze the ever-increasing amounts of data emerging from resulting research. Thus, I think the MS degree will nicely complement our existing graduate programs in Population Health and Epidemiology.

Over the years, our Department has developed a close working relationship with the Department of Biostatistics and Medical Informatics. It has been delightful to watch BMI grow and evolve. Whereas the Medical Informatics portion of the department was once a nascent entity, it has become a nationally recognized research program. A distinct degree in biomedical informatics is not only long overdue, but it is a timely addition to our educational offerings.

I wish you the best in your efforts and look forward to the opportunities that will arise from such an endeavor.

Sincerely,

F. Javier Nieto, MD, MPH, PhD
Professor and Chair
Department of Population Health Sciences
September 12, 2013

Paul Rathouz, PhD
School of Medicine and Public Health
Professor and Chair
Department of Biostatistics and Medical Informatics
4675, K6/446 Clinical Science Center
600 Highland Ave
Madison, WI 53792

Dear Dr. Rathouz:

I am pleased to provide my support for the proposed MS degree program in Biomedical Informatics in the Department of Biostatistics and Medical Informatics.

As director of the Genome Center, I see the importance of Bioinformatics as a discipline on a day-to-day basis. It is crucial that we have academic programs to support and educate our genomic research, graduate and undergraduate teaching and pre- and post-doctoral training. Your MS degree program will be an important part of this. The Genome Center is widely connected across campus with over 17 participating departments, some of which will contribute to the electives that some of your participating students will take. This is one way our organizations can work together to help create the academic environment that we seek to enrich our work.

Please let me know if there is anything I can do to assist you as you move forward in this endeavor.

Yours truly,

Lloyd M. Smith, Ph.D.
W. L. Hubbell Professor of Chemistry and
Director of the Genome Center of Wisconsin
University of Wisconsin-Madison
September 12, 2013

Paul Rathouz, PhD
School of Medicine and Public Health
Professor and Chair
Department of Biostatistics and Medical Informatics
4675, K6/446 Clinical Science Center
600 Highland Ave
Madison, WI 53792

Dear Prof. Rathouz:

I am happy to provide my strong support for the MS degree program in Biomedical Informatics that you and the Department of Biostatistics and Medical Informatics are developing.

The Department of Population Health Sciences and the Department of Biostatistics and Medical Informatics have a long cooperative relationship in terms of training students in statistics, informatics and epidemiology. Your outstanding faculty provide quality training for many students in our department. I have no doubt this quality training will continue with your new MS degree program, and I look forward to our continued collaborations.

The creation of this program is essential. Through my research and educational activities in the field of health services, the need for training in biomedical informatics is obvious. In addition, through my other roles within the SMPH – Director of the UW Health Innovation Program, Director of the Community Academic Partnerships core of the NIH-CTSA funded Institute for Clinical and Translational Research, and Associate Director for Population Sciences at the UW Carbone Cancer Center – it is easy to see the far reaching impact this program can have for scientists and clinical investigators on campus.

Your program sounds terrific, and I would be delighted to be involved in any way that would be helpful.

Yours truly,

Maureen Smith
The Department of Statistics enthusiastically supports the proposal for an MS in Biomedical Informatics. The intended audience is substantially different from any present or proposed degree offered through the Department of Statistics. Further, the expected impact on statistics course offerings is likely to be slight, as these would come in under a wide array of elective courses in the research track.
Appendix D: Minutes

Department of Biostatistics and Medical Informatics
Executive Committee Meeting Minutes

Friday, October 4, 2013
Prior to BD2K meeting

In Attendance:
Executive Committee Members: Rathouz, Palta, Gangnon, Dyer, Rosenberg, Kim, Wahba, Dewey, Keles, Broman, Yu, Craven, Page, Chappell

Also present by not on EC: Burnside, Wang, Coen, Roy

1. MS Degree Program in Biomedical Informatics was briefly described and discussed. Karl Broman motioned for a vote for approval and KyungMann Kim seconded the motion. All Executive Committee members present at the meeting voted in favor of moving forward with the proposal. Proxy: Lindstrom: Rathouz, Mendonça: Craven, Shavlik: Craven (all proxy votes were in favor of the motion). Voiced approval to PR over email prior to the meeting: Fisher and Singh
Thanks for the feedback, Francisco. Very helpful.
Cheers,
Sarah

On 1/16/2014 10:16 AM, Francisco Pelegri wrote:

Hi Sarah,
this seems like a great program and having Genetics 466 or equivalent as an elective seems very appropriate if not essential. I was not clear how many students would be part of the MS, to estimate potential increase in number of students in Gen 466. The document said at one point that 30 students were part of an equivalent focus at the moment, and assuming that only a fraction of them take Gen 466 as an elective then the extra load on 466 would not be an issue.
Thank you for conferring with us. Best wishes,
Francisco

On 01/15/14, "Sarah Pfatteicher, Ph.D." wrote:

Dear Whitney and Profs. Culbertson and Pelegri,

I have reviewed the attached NOI for an MS program in Bioinformatics, to be administered out of SMPH. I believe such a program could be of interest to students completing undergraduate work in CALS. I see no administrative or advising obligations expected of CALS and thus no need for formal APC review at this stage.
I do note the inclusion of one course from the CALS course array – Genetics 466. This course is, to the best of my knowledge, predominantly an undergraduate course and you may wish to take that into account as you ensure your proposed program meets all applicable rules of the Higher Learning Commission and the Graduate School. I am copying Prof. Culbertson and Prof. Pelegri of the Department of Genetics to ask for their input on whether 466 has what they would consider appropriate content for the proposed program, and whether the course would have sufficient capacity for additional students. In the absence of any input from the Department of Genetics, it does not appear that the success of the proposed program is dependent on access to or inclusion of this particular course and so do not believe the proposal process should be delayed pending receipt of input from this department.

You may certainly provide a copy of this message in the packet you forward to UAPC, and I would be happy to answer any additional questions that may arise.

Regards,
Sarah Pfatteicher

Sarah K.A. Pfatteicher, Ph.D.
Associate Dean for Academic Affairs
College of Agricultural & Life Sciences
Research Professor of Civil & Environmental Engineering
College of Engineering
University of Wisconsin-Madison

Sent from my iPad. Apologies for typos and such.

Begin forwarded message:

-------- Original Message --------
Subject:  
APC Meetings  

Date:  
Tue, 26 Nov 2013 14:00:32 -0600  

From:  
Whitney Sweeney <sweeney@biostat.wisc.edu> <sweeney@biostat.wisc.edu>  

To:  
jscharm@CALS.wisc.edu <jscharm@CALS.wisc.edu>  

Dear Julie  

Our department is creating a MS program in biomedical informatics. We need approval from each division that hosts classes that are in our curriculum. I believe there are genetics and biochemistry courses in our curriculum; Therefore, we need CALS approval. I would love for this to be on the December 3 agenda. I can send you documents very soon (we are finalizing them) if this is possible. Please let me know what you think.  

Thanks,  

Whitney A. Sweeney  
BMI Training Program Coordinator
Department of Biostatistics and Medical Informatics

SROP - Computational Biology and Biostatistics
http://www.biostat.wisc.edu/Education/CBB/index.htm

Summer Institute for Training in Biostatistics
http://www.biostat.wisc.edu/Education/SIBS/index.htm

--

Sarah K.A. Pfatteicher, Ph.D.
Associate Dean, College of Agricultural & Life Sciences
Research Professor, Dept. of Civil & Environmental Engineering

University of Wisconsin-Madison

116 Agricultural Hall, 1450 Linden Drive
Madison, WI 53706
spfatt@cals.wisc.edu
608/262-3003

http://www.cals.wisc.edu/academics/

Please consider the environment before printing this email.
Please consider the environment before printing this email.

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Sarah K.A. Pfatteicher, Ph.D.
Associate Dean, College of Agricultural & Life Sciences
Research Professor, Dept. of Civil & Environmental Engineering
University of Wisconsin-Madison
116 Agricultural Hall, 1450 Linden Drive
Madison, WI 53706
spfatt@cals.wisc.edu
608/262-3003

http://www.cals.wisc.edu/academics/

Please consider the environment before printing this email.
December 17, 2013

Dr. Paul M. DeLuca, Jr., Provost
UW-Madison
150 Bascom Hall
Madison, WI 53706

Dear Dr. DeLuca:

At its meeting on Wednesday, Dec. 11, 2013, the College of Engineering’s Academic Planning Council voted unanimously to support the Notice of Intent to Plan an MS Degree Program in Biomedical Informatics. As this notice was very detailed, the College does not feel it necessary to review the full proposal when developed unless there are substantial changes from what was presented in this notice.

The Department of Industrial & Systems Engineering has been collaborating with the Department of Biostatistics & Medical Informatics for several years and enthusiastically supports the continued development of this program. Many of our courses in health systems will be of interest to students pursuing this degree and some of the proposed courses in the program may be of interest to our graduate students as well.

If you require additional information, please contact my office.

Sincerely,

[Signature]

Ian M. Robertson
Dean
30 December, 2013

TO:         Paul J. Rathouz, Ph.D, Professor and Chair, Biostatistics and Medical Informatics
FROM:      John Karl Scholz, Dean
RE:  Proposed MS in Biomedical Informatics
CC:  Elaine Klein, Assistant Dean for Academic Planning, L&S
          Whitney A. Sweeney BMI Training Program Coordinator
          Eric Wilcots, Associate Dean for the Natural and Mathematical Sciences, L&S

On December 17, 2013, the L&S Academic Planning Council reviewed the School of Medicine and Public Health’s Notice of Intent to plan a new MS Program in Biomedical Informatics. As you know, the proposal has the enthusiastic support of the departments of Computer Sciences and of Statistics; in addition, we shared it with the School of Library and Information Science, which also offers courses in information management and informatics. Our colleagues there suggest that as this proposal matures, the authors consider contacting SLIS to determine if any courses may be relevant to the program.

I’m pleased to say that the L&S APC approved this request unanimously and enthusiastically. We wish you all success as you move forward.
Subject: New version of March 6 message
From: Whitney Sweeney <sweeney@biostat.wisc.edu>
Date: 3/7/2014 3:59 PM
To: 'Jocelyn Milner' <jlmilner@wisc.edu>

Dear Jocelyn-

We would like to submit the following addendum as per your email on February 19, 2014.

Update on program review for Certificate Programs in Bioinformatics

We have completed our self-study. It was approved by the department faculty at the faculty meeting on March 7, 2014. We have submitted the approved draft to the Dean of the SMPH. Thus, the program review continues to move forward.

Program enrollment size

GFEC raised questions about our intended enrollment size. We had initially planned to start the program with about five enrollees per year. This would give us a total of about 10 students at any given time, after the first year. We think this is a reasonable place to begin the program, but are very open to expanding the program over time. We feel that our program and accompanying resources are sufficient to create a program that is sustainable, interesting and productive for as many as double our initial numbers. Some fairly well known MS programs in Biomedical Informatics typically have about 15-18 MS students during a given year. It is quite possible that our program may grow to reach the same size as these other programs. Interest is growing in this field and our MS program will be a relatively unique entity in the region.

Feedback regarding curriculum
We just received this feedback from Donna Paulnock today and will not comment on it in this addendum. We will be prepared to discuss it at the UAPC meeting, however.

Whitney A. Sweeney
BMI Training Program Coordinator
Department of Biostatistics and Medical Informatics

SROP - Computational Biology and Biostatistics
http://www.biostat.wisc.edu/Education/CBB/index.htm

Summer Institute for Training in Biostatistics
http://www.biostat.wisc.edu/Education/SIBS/index.htm

-----Original Message-----
From: Jocelyn Milner [mailto:jlmilner@wisc.edu]
Sent: Wednesday, February 19, 2014 9:09 AM
To: Paul Rathouz
Cc: Mark Craven; Whitney Sweeney; Kelly L. Haslam; Donna Paulnock; Robert N. Golden; rlmoss@wisc.edu; Tracy L. Cabot
Subject: MS-Biomedical Informatics - GFEC and UAPC considerations

Paul and all,
I am following up on what's next for the MS-Biomedical Informatics notice of intent proposal. You will get a formal follow up from Donna Paulnock on the GFEC discussion and I've included a few points below.

The next step is UAPC consideration at the March 27 UAPC meeting (materials due March 6). If that isn't convenient, then the next meeting is April 17 (materials due March 28). That should still work as long as we stay one meeting ahead of the full proposal (which I think you are planning for May?)

There are a few additional pieces of information it would be helpful to add to existing packet before taking this to the UAPC.

1. An update on program review for the Capstone Certificate in Bioinformatics and the Graduate Certificate in Bioinformatics. These programs were implemented in 2001 and have never been reviewed. I understand that the self-study of the certificates (essentially the same program offered two ways) is now underway. Given the provost's interest in seeing progress on program review and a memo to the deans on this topic in January, I think it may be best to have the self-study submitted to the dean's office before the notice of intent is considered by the UAPC. Depending on the timeline for how that's progressing, that might be another reason to delay until April. We will need to have a written update on program review to append to the proposal. (I'd advise to also address the low-enrollment status of the certificates noted below.)

2. GFEC raised questions about the planned program size of 5 enrolled students at any one time. They observed that this seems like a very small program. It puts it close to the low-enrollment standard (fewer than 5 degrees in five years). Given that both of the Bioinformatics programs are low-enrollment (no awards in either program in the past 3 years and no awards in the capstone since 2006), there are questions about maintaining reasonable levels of enrollment. This also connects to questions about how the proposed MS relates to other programs including the certificates and perhaps other MS programs on campus. I understand that this will be somewhat addressed in the program review. You might want to be prepared for such questions again at the UAPC meeting.

3. GFEC also raised some questions about the curriculum and because those would be addressed in the full proposal, and not at this stage, that advice will come to you from Donna Paulnock.

I've included so many people on the copy list just to make sure that your planning group, Grad School, and SMPH dean's office colleagues are aware of the next steps.

I look forward to an update when you have one. Thanks, Jocelyn

--
Jocelyn Milner
Director of Academic Planning and Institutional Research
University of Wisconsin-Madison
169 Bascom Hall, Madison WI, 53706
apir.wisc.edu
jlmilner@wisc.edu