March 1, 2022

William J. Karpus, Ph.D.
Dean of the Graduate School
University of Wisconsin-Madison

Dear Dr. Karpus and GFEC members,

On behalf of the Steering Committee of the MS program in Biomedical Data Science, I am writing this letter in response to the GFEC recommendations that were conveyed as part of our five-year program review. Below we restate each recommendation and describe how we are responding to it.

**Work out agreements with other departments to reduce the difficulty for students enrolling in first year courses.** Discussions with the Statistics Department have made us aware of which courses our students have regular access to, and which are reserved for students in other programs. With this information, we have removed these electives from our curriculum and been able to provide better guidance to our students. Our students have not had problems enrolling in Statistics courses this year. We still have some challenges getting students into Computer Sciences (CS) courses, especially for first-year graduate students who have a late enrollment date. We have worked with individual instructors to ensure that our students are able to take the CS courses they need, and we are currently working with the department on a more formal agreement. CS courses have been in extremely high demand, and hence the CS department is dealing with a multiplicity of enrollment challenges.

**Develop a plan to actively recruit and matriculate a diverse group of students to the program.** Our efforts on this front are being jointly developed with the PhD program in Biomedical Data Science and the NLM/NIH-funded Computation and Informatics in Biology and Medicine (CIBM) training grant. We have taken the following steps to increase the diversity of students in our program:

- Several program representatives attended the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) virtual conference. We staffed a virtual booth at the conference and reached out to conference attendees.

- We held our Summer Research Opportunity Program (SROP) in Biomedical Data Science online in the Summer of 2021, and recruited a diverse cohort of undergraduate students to this program. The program seeks to recruit URM students and women to the research area and help them prepare for graduate school.

- As program director, I participated in several webinars that described the field of biomedical data science and advertised graduate programs in the field. These webinars were specifically targeted to students from about 60 HBCUs and other Minority-Serving Institutions. They were organized by the NIH/NLM-funded training programs in biomedical informatics and data science, including CIBM.

- For the first time, we are nominating several eligible, accepted MS students for the SciMED Graduate Research Scholars program.

- We have started advertising our program by directly reaching out to faculty in related areas at a broad range of undergraduate-serving institutions.
• The program faculty and staff are actively involved in various other diversity-promoting efforts. Dr. Rick Chappell serves on the Climate & Diversity Committee in the Statistics Department. Dr. Christina Kendzierski previously served as Chair of the UW-Madison Committee of Undergraduate Recruitment, Admissions, and Financial Aid (CURAFA). Dr. Sushmita Roy and Dr. Anthony Gitter are serving as mentors in the Wisconsin Science and Computing Emerging Research Stars (WISCERS) program which aims to expose students from underrepresented groups to computer science, statistics and data science programs (Spring 2022). Dr. Roy also gave a talk at the WISCERS kickoff program to talk about computational biology and machine learning. Dr. Roy also participated in the Women In Scientific Education and Research (WISER) Spring Networking event in April 2021. WISER is a student organization on campus to provide exposure to undergraduate women to different research careers and topics. Dr. Daniel Pimentel-Alarcn participated in outreach activities at Madison High School to recruit URMs in STEM fields.

Explore strategies to enhance the sense of community among students in the program. This has certainly been a challenge during the pandemic. However, we have resumed regular department-sponsored social events for our graduate students, including a pizza lunch at the end of the fall semester, and a coffee and bagels/donuts gathering next week. We have also set aside a large, dedicated office in the Medical Sciences Center for the MS students to use as their own.

Develop a plan to help students find research projects needed for their degree. We believe that this recommendation refers to helping our students find assistantships and other paid positions. We have taken steps to make faculty in our department more aware of the MS students who are available for positions, and we have offered students guidance about departments (e.g. Math, CS) that often hire TAs from other programs. We also plan to reach out more broadly to colleagues and departments across campus who may have positions for students with strong quantitative and computational skills. We note that 12 of our current 14 MS students have RA, TA, or PA positions.

I appreciate the effort that you and the Graduate Faculty Executive Committee have put into reviewing our program, and I would be happy to answer any additional questions you have.

Sincerely,

Mark W. Craven
Professor, Department of Biostatistics & Medical Informatics
Department of Computer Sciences
28 September 2021

Michael Newton, Ph.D.
Professor and Chair, Biostatistics and Medical Informatics
School of Medicine and Public Health
University of Wisconsin–Madison
Sent Electronically

Dear Professor Newton,

When the School of Medicine and Public Health (SMPH) assembled a review committee to conduct a five-year program review of MS in Biomedical Data Science, Professor Gail Robertson was asked to serve as the Graduate Faculty Executive Committee (GFEC) representative. Professor Robertson led a discussion of the review at the GFEC meeting on September 10, 2021. In this letter, I summarize the committee’s discussion.

The GFEC learned of the many strengths of the program including strengths of the program including implementation of a refocused and streamlined program, successful career outcomes of graduates from the program, and well preparedness of students for future advancement.

The GFEC has the following recommendations.

• Work out agreements with other departments to reduce the difficulty for students enrolling in first year courses.
• Develop a plan to actively recruit and matriculate a diverse group of students to the program.
• Explore strategies to enhance the sense of community among students in the program.
• Develop a plan to help students find research projects needed for their degree.

GFEC recommends the programs engage in efforts to address the recommendations. Please provide a written response by March 1, 2022 on how the department is addressing these recommendations, which will be discussed at a subsequent GFEC meeting. Thank you for your commitment to graduate education.

Sincerely,

William J. Karpus
Dean of the Graduate School
Professor of Pathology and Laboratory Medicine

Cc: Robert N. Golden, Dean, School of Medicine and Public Health
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