THE FACULTY OF MEDICINE
Harvard University

HMS/HSDM Faculty Council

Faculty Council Minutes
January 8, 2025

Present: Aguayo-Mazzucato, Agudo, Astley, Bauer, Becker, Bi, Biddinger, Chen, Cluett, Daley, D'Amore, Drachman, Fregni, Gehrke, Giannobile, Goodman, Greenberg, Haberer, Harris, Henske, Huang, Jena, Kaban, Mathis, Meyerson, Morton, Murray, A. Nazarian, R. Nazarian, Royce, Shih, Song, Stern, Struhl, Treister, Tsai, Wagers, Wu

Guests: Drs. Besche, Blacklow, Chang, Datta, Golan, Manrai, Shin, Zitnik; Mss. Bittinger, DeCoste, Lewis

Staff: Mss. Hecht, Ryan, Spearman

This Faculty Council meeting was held virtually, via Zoom.

Dr. Lisa Henske welcomed the Faculty Council (FC) and called the meeting to order at 4:01pm. Dr. Henske mentioned the December 11th, 2024, FC and Faculty of Medicine meeting and its joint nature. She explained that she would like to capture the feedback of the FC on the format of the meeting. Lorien Hecht, the Assistant Director of the Dean's Office and Special Projects, shared a link to a padlet for the FC members to provide feedback on the meeting.

Next, Dr. Henske asked for and received approval for the December 11th, 2024, meeting minutes. Then Dr. Henske turned the floor over to Dr. Steve Blacklow, Chair of Chairs, HMS Pre-Clinical Chairs, for brief remarks on the Faculty Senate Planning Body. Dr. Blacklow thanked Dr. Henske and the FC for their time. He explained that there is a working group of professors that got together and circulated a proposal to colleagues urging the formation of the University Wide Faculty Senate Planning Body. He stressed that this is not a Faculty Senate. Dr. Blacklow added that this body hopes to research how to raise awareness and create a set of by-laws for a Senate. Dr. Blacklow added that the pre-Clinical chairs would like members of the HMS and HSDM community to be represented in the Senate. He also recognized that determining the right number of representatives from HMS to the planning body is particularly challenging because the vast majority of HMS-appointed faculty are not University employees. He added that they do; however, contribute greatly to the HMS mission. He said that there will be 7 proposed planning body members (4 from quad, 2 from affiliated institutions, and 1 from HSDM). Dr. Blacklow then introduced Dr. Robert (Bob) Datta, Professor of Neurobiology, to delve deeper into the aim of the Senate and give context to the FC. Dr. Datta gave some background on how the group came together. He explained that this arose after Claudine Gay left the HU presidency. Dr. Datta explained that Harvard is one of the only major research institutions that does not have a Senate, and therefore we are an outlier. Dr. Datta explained that they would like to have representatives from all of the Harvard schools. Dr. Blacklow explained that members of the Senate would meet every other week, with smaller groups meeting regularly. He asked the FC to let them know if they are interested in participating. They explained that the expectation would be that they would draw from the FC for members of the Senate. Then, Dr. Blacklow and Dr. Datta fielded questions from the FC.

Dean Daley shared his thoughts on the Senate. He encouraged people to have an open mind about the notion of a Faculty Senate.

Dr. Blacklow added that HMS should be sure that the Faculty Senate are there in partnership with the leadership of HMS to have voices heard through that channel as well. He added that there is a strong capacity for faculty feedback.

Following the thoughtful discussion, Dr. Henske introduced the next meeting topic: AI at HMS. She explained that there would be three presentations. Dr. Henske introduced Dr. Arjun (Raj) Manrai, Assistant Professor of Biomedical Informatics, to share about AI in the Clinical Setting. He explained that his lab worked on computation to improve medical decision making. Dr. Manrai first spoke about lessons for AI from familiar clinical equations. He explained that there is a lot we can learn a lot about AI from familiar clinical equations. Dr. Manrai spoke about a set of projects his team is working on surrounding race adjustments or defining normal variation, for examples, estimates of kidney function based on race. He explained that more recently, they have been looking at lung function and race. Dr. Manrai address the value of non-AI questions. He also touched on what biases are introduced when they are preprocessing or filtering the data. Then, he provided a demo with a large language model (LLM). Dr. Manrai concluded with some recent progress in his work. Then, Dr. Manrai took questions in the chat.

Next, Dr. Henske introduced Dr. Marinka Zitnik, Assistant Professor, Biomedical Informatics and Associate Faculty, Kempner Institute for the Study of Natural and Artificial Intelligence, to discuss the future of science and research with AI, today. Dr. Zitnik shared that she was very excited to be on the call. She spoke about the advances of AI in research settings and how recent algorithms and methods developed in these areas and can empower biomedical research. Dr. Zitnik touched on empowering discovery with AI agent, including how to use reasoning, interaction and memory for reflective learning. Next, Dr. Zitnik discussed the foundation model for protein phenotypes and the ProCyon model training. She explained that ProCyon identifies peptides that bind ACE2; followed by experimental validation. She spoke about retrieving proteins against small molecule drugs and prompting ProCyon with complex, pleiotropic phenotypes. Dr. Zitnik fielded questions in the chat.

Then, Dr. Henske thanked Dr. Marinka and introduced Dr. Henrike Besche, Director of Education, Harvard-MIT Health Sciences & Technology, to speak about Faculty Experience and AI Tools for the Learning Environment. She gave a disclaimer that she is not an expert in AI, but is working on AI to help in the learning environment. She gave background on her project, specifically touching on Consolidation Assessment Exercises (CAEs). Dr. Besche explained that CAEs involve short-answer questions of increasing complexity and they aim to foster critical thinking skills. She added that CAEs also provides formative feedback on students' ability to consolidate class learning. Dr. Besche talked about a challenge of evaluating free-form CAE responses, explaining that CAEs are labor-intensive for faculty. She noted the daily frequency and large student cohort of 190 first year students. Dr. Besche added that they used a LLM to synthesize faculty responses for students and the foundations of medicine, a 13-week course. They were also able to use this system through Canvas to synthesize what students understand and what they were stuck on.

Dr. Henske opened the floor to questions and comments from the FC and a discussion ensued.

Dr. Henske thanked everyone for their participation. Dr. Henske adjourned the meeting at approximately 5:33pm.