Approved by the Regents
May 19, 2022

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF HUMAN GENETICS
DEPARTMENT OF COMPUTATIONAL MEDICINE AND BIOINFORMATICS

Jeffrey M. Kidd, Ph.D., associate professor of human genetics, with tenure, Department of Human Genetics, and associate professor of computational medicine and bioinformatics, without tenure, Department of Computational Medicine and Bioinformatics, Medical School, is recommended for promotion to professor of human genetics, with tenure, Department of Human Genetics, and professor of computational medicine and bioinformatics, without tenure, Department of Computational Medicine and Bioinformatics, Medical School.

Academic Record:

Ph.D.	2010	University of Washington
B.S.	2005	Case Western Reserve University

Professional Record:

2018 - present	Associate Professor of Human Genetics, with tenure, University of Michigan
2018 - present	Associate Professor of Computational Medicine and Bioinformatics, University of Michigan
2012 - 2018	Assistant Professor of Human Genetics and Computational Medicine and Bioinformatics, University of Michigan

Summary of Evaluation:

Teaching: Dr. Kidd has become a critical contributor to the Medical School's educational mission. He is the co-developer and co-director of an innovative course on computational genomics (HG551) that aims to bring these skills to a larger population of biomedical researchers. He is one of a very small group of individuals that can effectively teach evolutionary and population genetics, has made key contributions to a course on population and statistical genetics (HG544), and has consistently taught single lectures in several additional courses at the Medical School and undergraduate campus. Since 2017, Dr. Kidd has served on the Human Genetics Ph.D. Program Committee, which oversees all aspects of Ph.D. training. In 2020, he took on the role of the associate chair for education in Human Genetics and oversees three degree-granting programs in the department. Dr. Kidd is also an effective educator in the laboratory and his mentorship is heavily sought after by trainees at the Medical School. To-date, he has completed the training of five post-doctoral fellows, six undergraduate students, and 23 graduate students. Dr. Kidd puts a great deal of time, effort, and care in training individuals in his laboratory, which is underscored by each one obtaining excellent positions in diverse areas of science; this includes two post-doctoral fellows who secured faculty positions at top institutions. Currently, he is training two Ph.D. students, one master's degree student, and one Michigan PREP post-baccalaureate student, and each trainee is performing at a high level. In recognition of his outstanding abilities as an educator and mentor, Dr. Kidd was awarded the 2018 Endowment for the Basic Sciences Teaching Award.

Research: Dr. Kidd has established himself as an international expert and leader in the field of evolutionary, population, and statistical genetics, with a focus on defining the forces that shape genomic variation. He develops and employs cutting-edge strategies to obtain an integrated view of structural and sequence variation in the context of the evolutionary and mutational processes that continue to shape genome architecture. To do this, he employs multiple model systems, including canines and non-human primates, in a comparative framework and applies direct experimental evidence to confirm and refine predictions made from informatic analyses of high-throughput sequencing. Dr. Kidd has been successful as a faculty member at the University of Michigan with major accomplishments, including: obtaining a refined view of canine origins including the identification of molecular changes selected for domestication; demonstrating mobile element activity in canines; developing tools to efficiently assess genetic variation in duplicated and repetitive sequences, which revealed rare variation in human gene families; and establishing procedures for the robust identification of somatic single-nucleotide variation from genome sequence data. As a result, he has published 12 manuscripts since his last promotion, including five as a corresponding author. He has also been successful in obtaining significant external funding for his research program, including as the principal investigator of an NIH R03, and as co-principal investigator of an NIH R01 and R21. In recognition for his diverse, innovative, and productive research program, Dr. Kidd was honored with the 2018 Michigan Medicine Dean's Basic Science Research Award.

Recent and Significant Publications:

Halo, JV, Pendleton, AL, Shen, F, Doucet, AJ, Derrien, T, Hitte, C, Kirby, LE, Myers, B, Sliwerska, E, Emery, S, Moran, JV, Boyko, AR, Kidd, JM: Long-read assembly of a Great Dane genome highlights the contribution of GC-rich sequence and mobile elements to canine genomes. *Proc Natl Academy of Science USA*, 2021 Mar 16;118(11):e2016274118. doi:10.1073/pnas.2016274118.

Shen, F, Kidd, JM: Rapid, Paralog-Sensitive CNV Analysis of 2457 Human Genomes Using QuicK-mer2. *Genes*, 2020 Jan 29;11(2):141. Doi: 10.3390/genes 11020141.

Read, DF, Atindaana, E, Pyaram, K, Yang, F, Emery, S, Cheong, A, Nakama, KR, Burnett, C, Larragoite, ET, Battivelli, E, Verdin, E, Planelles, V, Chang, CH, Telesnitsky, A, Kidd, JM: Stable integrant-specific differences in bimodal HIV-1 expression patterns revealed by high-throughput analysis. *PLoS Pathogens*, 2019 Oct 4;15(10):e1007903. doi: 10.1371/journal.ppat.1007903. eCollection 2019 Oct.

Halo, JV, Pendleton, AL, Jarosz, AS, Gifford, RJ, Day ML, Kidd, JM: Origin and recent expansion of an endogenous gammaretroviral lineage in domestic and wild canids. *Retrovirology*, 2019 Mar 7;16(1):6. doi; 10.1186/s12977-019-0468-z.

Pendleton, AL, Shen, F, Taravella, AM, Emery, S, Veeramah, KR, Boyko, AR, Kidd, JM: Comparison of village dog and wolf genomes highlights the role of the neural crest in dog domestication. *BMC Biology*, 2018 Jun 28;16(1):64. doi:10.1186/s12915-018-0535-2.

Service: Dr. Kidd is an outstanding colleague who has performed a high level of service both locally and globally. He is currently the associate chair for education in the Department of Human Genetics and is the director of the Human Genetics Ph.D. program. He has served on 23 dissertation committees, two as the chair. Dr. Kidd has performed ad hoc review service for dozens of journals, including *Cell*, *Genome Research*, and the *American Journal of Human Genetics* and several NIH study sections. He has also served as a guest editor for *eLife* and is an editorial board member of *Genes*. Due to his expertise in human genetic research, he has been recruited to serve on the Program Committee for the International Society for Computational Biology, and as both a member and chair of the Program Committee for the American Society of Human Genetics.

External Reviewers:
Reviewer A: "Dr. Kidd has a very strong background and has been very productive in his publications throughout his career…The primary focus of his laboratory is the canine genome. This is a rich environment for genomics/phenotype research and gives him a strong niche. However, he has also developed new technical approaches, particularly related to bioinformatics.…I am quite impressed with the diversity of funding held by Dr. Kidd currently, and in the past. It shows a significant amount of drive as well as showing that he can be a PI on grants, as well as work successfully with collaborators…Dr. Kidd shows a record of accomplishment at all stages of his career and in all of the key areas needed for a professor…I have no question that Dr. Kidd would be promoted to Professor at [my institution] and I would love to have him as a colleague."

Reviewer B: "Dr. Kidd's research program is highly collaborative, as evidenced by numerous co-authored publications and by his role as a co-investigator or key collaborator on several grants…it is clear that Dr. Kidd's research program has a strong, central focus but also contributes in unique ways – for example, by bringing the tools of deep genome sequencing and analysis to bear on one of the central questions in HIV/AIDS research…Dr. Kidd's funding portfolio also continues to be impressive. His current and past funding includes a mix of PI and Co-PI/collaborative grants. …he is strong on all fronts – research, teaching/advising, and service – and therefore an excellent candidate for promotion to the rank of Professor with tenure."

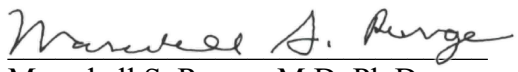
Reviewer C: "Besides his studies in domestic dogs, I think an important contribution has been Dr. Kidd's modeling of human population divergences using phased genomes. His article in 2017 in the journal *Genetics*, brought to my attention the strength of phased genome assemblies for the inference of population dynamics…This work has helped him to develop a niche that may [be] making his research stand-out from other bioinformatics teams…Importantly, he is an ad hoc reviewer for both the NIH and NSF and other international funding agencies. He is now a chair of one of the American Society of Human Genetics committees, and has substantial membership of institutional committees…Overall, Dr. Kidd has demonstrated a consistent career with acquisition of strong funding, adequate production of publications, significant service to the profession and the university and he is actively developing the future scientists in bioinformatics."

Reviewer D: "…I consider this level of research productivity to be excellent for his rank and career stage. Jeff has also continuously produced a series of high-quality and impactful research resources and scientific discoveries that have advanced the value of the canine model for studying phenotypic evolution, domestication, and disease traits…Dr. Kidd serves as course director for

Computational Genomics and serves as co-instructor or contributes lectures to more than one dozen additional undergraduate and graduate courses. Dr. Kidd also appears to be heavily engaged in student mentorship within his laboratory and department…considering all of the components that demonstrate potential for leadership and excellence within his field, it is my professional opinion that Dr. Kidd's academic performance has been consistent with promotion to the rank of Full Professor."

Reviewer E: "I am impressed…to see the breadth of work and impact that Dr. Kidd has accomplished since taking his position. He has continued and grown in his leadership in particular fields (e.g. canid genomics and structural variation), and expanded into others (e.g great ape genomics, transposon/mobile element/retroviral genomics). His portfolio of papers has grown large and reflects both key contributions spearheaded by his team as well as collaborative work to empower large team projects…he continues to develop novel technologies for assaying complex genomic structures and evolution, and I see this as an activity of paramount importance of the broader field of genomics…Dr. Kidd exceeds the requirements for tenure at my institution. It would be exciting and a pleasure to have someone with his genomics knowledge, technical skillset, and collegiality as an additional colleague here."

Summary of Recommendation:
Dr. Kidd is an outstanding faculty member who has established himself as an internationally recognized expert on genome biology and evolutionary genetics. He is an effective teacher and mentor in the classroom and laboratory, and his former trainees have transitioned to top positions in science. I am pleased to recommend Jeffrey M. Kidd, Ph.D. for promotion to professor of human genetics, with tenure, Department of Human Genetics, and professor of computational medicine and bioinformatics, without tenure, Department of Computational Medicine and Bioinformatics, Medical School.



Marschall S. Runge, M.D, Ph.D.
Executive Vice President of Medical Affairs
Dean, Medical School

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