**Approved by the Regents**
**May 18, 2023**

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL AND COLLEGE OF ENGINEERING
DEPARTMENT OF BIOMEDICAL ENGINEERING

Sriram Chandrasekaran, Ph.D., assistant professor of biomedical engineering, Department of Biomedical Engineering, Medical School and College of Engineeering, is recommended for promotion to associate professor of biomedical engineering, with tenure, Department of Biomedical Engineering, Medical School and College of Engineering.

Academic Degrees:

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| Ph.D. | 2013 | University of Illinois, Urbana-Champaign, IL |

Professional Record:

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| 2017-present | Assistant Professor, Department of Biomedical Engineering, University of Michigan |

Teaching: Dr. Chandrasekaran's contributions to teaching include classroom instruction at the undergraduate, graduate, and post-doctoral levels as well as to visiting students. From 2020-2022, he was the sole instructor of a course he created entitled Artificial Intelligence in Biomedical Engineering (BIOMEDE 499-060, WN2022), with his most recent scores being his best to-date. Dr. Chandrasekaran has also made an impact through instruction and mentorship of student research for post-doctoral fellows, Ph.D. students, medical students, masters students, and undergraduate students. Examining his role as a mentor, Dr. Chandrasekaran has been continually active in ensuring a high success rate for his mentees. Many of his Ph.D. students have been recognized for their work in research with one receiving a two-year appointment with the National Cancer Institute Proteogenomics of Cancer Training Program Fellowship, one receiving the Glenn Edmonson Scholarship, one receiving a CBTP Fellowship as well as a Rackham Merit Fellowship, and one receiving a Rackham International Fellowship. Overall, Dr. Chandrasekaran's classroom instruction and research mentorship have demonstrated a dedication to excellence in teaching undergraduate and graduate students at the University of Michigan.

Research: Dr. Chandrasekaran's research interests are in the areas of artificial intelligence (AI) in drug discovery for metabolism and precision health. The goal of his lab is to develop machine learning algorithms that rapidly search through millions of drug combinations with enhanced potency and reduced potential for developing resistance. His lab also studies pathogen metabolism and pathogen-immune interactions to uncover synergistic antibiotics against pathogens such as *M. tuberculosis* and *S. aureus.* Dr. Chandrasekaran's lab also develops algorithms that provide a holistic view of metabolic changes that happen in cells or individuals using omics data. His lab focuses on developing new modeling tools to simulate the activity of thousands of metabolic reactions in human or microbial cells, giving a unique systems perspective on metabolic regulation. Through the methods his lab has developed, further understanding of microbial, stem-cell, cancer, and brain metabolism using omics datasets have been achieved. Dr. Chandrasekaran has published 47 peer-reviewed publications and one book chapter. His research is very well funded with a prestigious National Institutes of Health R35 grant (Maximizing Investigators' Research Award),

a National Institutes of Health R01 award, a Bill and Melinda Gates Foundation grant, and the Camille and Henry Dreyfus Foundation grant being just a few of the awards he has received.

Recent Significant Publications:

Smith K, Shen F, Lee HJ, Chandrasekaran S, "Metabolic signatures of regulation by phosphorylation and acetylation," *iScience*. 2022 Jan 1;25(1):103730.

Ma S, Jaipalli S, Larkins-Ford J, Lohmiller J, Aldridge BB, Sherman DR, Chandrasekaran S, "Transcriptomic signatures predict regulators of drug synergy and clinical regimen efficacy against tuberculosis," *American Society for Microbiology*, 2019 Nov;10(6):1-16.

Shen F, Boccuto L, Pauly R, Srikanth S, Chandrasekaran S, "Genome-scale network model of metabolism and histone acetylation reveals metabolic dependencies of histone deacetylase inhibitors," *Genome Biology*. 2019 Mar 1;20(1):49.

Cokol M, Li C, Chandrasekaran S, "Chemogenomic model identifies synergistic drug combinations robust to the pathogen microenvironment," *PLOS Computational Biology*. 2018 Dec. 31;14(12):e1006677.

Dotiwala F, Santara SS, Binker-Cosen AA, Li B, Chandrasekaran S, Lieberman J, "Granzyme B disrupts central metabolism and protein synthesis in bacteria to promote an immune cell death program," *Cell*, 2017 Nov 16;171(5):1125-1137.

Service: Dr. Chandrasekaran has a strong record of service, and has participated as an ad hoc fellowship or grant reviewer for the National Research Council and the National Institutes of Health. He has served as a peer reviewer for many journals including *Cell Systems*, *PLOS Genetics*, and *Nature Communications*. He is an associate editor for *BME Systems Biology* and was a guest editor for *PloS Computational Biology*. Dr. Chandrasekaran has served as session chair for sessions at the Biomedical Engineering Society (BMES) Annual Meeting and for the International Winter Quantitative Biology Conference. Dr. Chandrasekaran served as a member of the Summer Undergraduate Research in Engineering Committee, the EBS-IT Committee, and the organizer of the Biomedical Engineering Seminar Committee. His lab actively participates in Girls Who Code and Michigan DNA Day, high school outreach activities focused on women in science and showcasing science in underserved communities, respectively. Dr. Chandrasekaran has also served on 14 dissertation committees (outside of his own students) from biomedical engineering, bioinformatics, chemical engineering, and chemical biology at the University of Michigan.

External Reviewers:

Reviewer A: "Dr. Chandrasekaran has clearly demonstrated outstanding achievement in the areas of research, teaching and professional service, and, without doubt, meets the criteria for an Associate Professor Promotion with tenure. Dr. Chandrasekaran is highly regarded by his peers, and I would easily rank him in the top 5% of academicians in the field of biomedical engineering."

Reviewer B: "I consider that Dr. Chandrasekaran's scholarly contributions, impact, and career trajectory are excellent, and he compares quite strongly to other candidates at a similar professional stage that I have evaluated… I believe that Dr. Chandrasekaran is certainly a rising star who is well-positioned to continue to make impactful research contributions in BME."

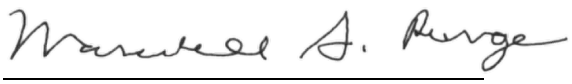
Reviewer C: "I've been continually impressed by Sriram himself, by his research, and by his

trainees…I believe that Dr. Chandrasekaran is ready and well-credentialed for promotion to Associate Professor with Tenure. Based on his publication record, his funding record, and his development of a new and forward-thinking course, I believe that he would be promoted at our institution."

Reviewer D: "In my view, the University of Michigan is fortunate to have as gifted and innovative a scholar as Dr. Chandrasekaran on the faculty. His efforts in teaching and service and the signs of his recognition by funding. agencies and national and international journals are commensurate with the criteria for promotion to Associate Professor and tenure."

Reviewer E: "Sriram has been productive and he has a pipeline in place to more than support the argument that he will continue to be productive. Sriram is an absolute star and he is well deserving of promotion and tenure. I believe he would be awarded tenure at any Biomedical Engineering department in the country."

Summary of Recommendation:
Dr. Chandrasekaran's research is healthy, having established a strong international reputation, a robust stream of extramural funding, and particularly recently, excellent productivity in terms of publications. Dr. Chandrasekaran is an outstanding teacher and mentor, and also engages in substantial professional and institutional service. We are very pleased to recommend Sriram Chandrasekaran, Ph.D. for promotion to associate professor of biomedical engineering, with tenure, Department of Biomedical Engineering, Medical School and College of Engineering.



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

Alec D. Gallimore, Ph.D.
Robert J. Vlasic Dean of Engineering
College of Engineering

May 2023