Kewalin **Samart**

COMPUTATIONAL BIOLOGY · METHOD DEVELOPMENT · MACHINE LEARNING · HOST-DIRECTED DRUG REPURPOSING ·

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Education

University of Colorado Denver, Anschutz Medical Campus (CU Anschutz)   *Aurora, Colorado*

DOCTOR OF PHILOSOPHY IN COMPUTATIONAL BIOSCIENCE   *Aug 2022 – present*

- Thesis Advisors: Dr. Arjun Krishnan, and Dr. Janani Ravi (co-primary)
- C. Werner and Kitty Hirs Fellowship

Michigan State University (MSU)   *East Lansing, Michigan*

B.SC. IN COMPUTATIONAL MATHEMATICS; MINOR IN COMPUTATIONAL MATH, SCIENCE, AND ENGINEERING   *May 2022*

- High Honor (Summa Cum Laude)
- McCartney Math Award, L.C. Plant Math Award, College of Natural Science Scholar
- Cumulative GPA: 3.98/4.00; Major GPA: 4.00/4.00
- Dean's Honor List: Fall 2018 – Spring 2022
- Royal Thai Government Scholarship Recipient 2017

Skills

Programming Languages   R, Python, C++, TeX

Computational Tools   Git, vi, Terminal, Unix/Linux, High-performance/ Cluster computing, LaTeX

Publications

- **Kewalin Samart**[**], Phoebe Tuyishime[**], Arjun Krishnan[*], Janani Ravi[*]. Reconciling multiple connectivity scores for drug repurposing. *Briefings in Bioinformatics*(2021) doi.org/10.1093/bib/bbab161.
  GitHub: github.com/jravilab/connectivity_scores; Live doc: jravilab.github.io/connectivity_scores
- Janani Ravi[*], **Kewalin Samart**, Jason Zwolak. Modeling the START transition in the budding yeast cell cycle. *bioRxiv.*(2023) doi.org/10.1101/2023.11.05.564806; Online simulator: http://sbmlsimulator.org/simulator/by-start. *Submitted to eLife.*
- **Kewalin Samart**, Amy Tonielli, Arjun Krishnan, Janani Ravi. Integrating multiple transcriptome-based methods for drug repurposing in tuberculosis. *In preparation.*
  [**]co-primary authors; [*]corresponding authors[*]

Presentations

Research/Technical Talks

- R workshop at Global Alliance for Rapid Diagnostics (GARD). Virtual, Mar. 21, 2023. Presentation material: github.com/jananiravi/R_intro
- 2nd Latin American Congress of Women in Bioinformatics and Data Science (WBDS LA). Virtual, Sep. 23, 2021.
- 29th Conference on Intelligent Systems for Molecular Biology and the 20th European Conference on Computational Biology (ISMB/ECCB). Virtual, Jul. 25, 2021.
- R-Ladies Pune. Virtual, May. 9, 2021.Presentation material: github.com/KewalinSamart/Rladies-lightning-talk-distill

Poster Presentations

- Colorado Immunology and Microbiology conference. Vail, CO, Sep. 24 – 26, 2022.
- Intelligent Systems for Molecular Biology, ISMB 2022, International Society for Computational Biology flagship conference. Virtual, Jul. 11 – 12, 2022.
- 2nd Latin American Congress of Women in Bioinformatics and Data Science (WBDS LA). Virtual, Sep. 22 – 24, 2021.
- 2021 Mid-Michigan Symposium for Undergraduate Research Experiences (Mid-SURE). Virtual, Jul. 28, 2021.
- 29th Conference on Intelligent Systems for Molecular Biology and the 20th European Conference on Computational Biology (ISMB/ECCB). Virtual, Jul. 25 – 30, 2021.
- 2021 Great Lakes Bioinformatics Conference (GLBIO). Virtual, May 10 – 13, 2021.
- 2021 University Undergraduate Research and Arts Forum (UURAF). Virtual, Apr. 15 – 19, 2021.
- 2020 Mid-Michigan Symposium for Undergraduate Research Experiences (Mid-SURE). Virtual, Aug. 10 , 2020.

Podcast Interview

- Repurposing drugs for diseases. The Sci-Files on Impact 89FM Episode 11 Season 6, Aug. 1, 2021.
  Podcast: https://impact89fm.org/101365/podcasts/the-sci-files-08-01-2021-kewalin-samart-repurposing-drugs-for-diseases/

Peer Review

Academic Journals   Contributed to peer review at PROS ONE

Honors/ Awards/ Scholarships

Aug 2022 **C. Werner and Kitty Hirs Fellowship**, University of Colorado Denver, Graduate School   *Aurora, CO*

Date	Award	Location
May 2022	**High Honor (Summa Cum Laude)**, Michigan State University	*East Lansing, MI*
Apr 2022	**McCartney Mathematics Award**, MSU Department of Mathematics	*East Lansing, MI*
Oct 2021	**Fall 2021 CNS Undergraduate Research Scholarship**, MSU College of Natural Science	*East Lansing, MI*
May 2021	**Summer Research Scholarship**, EnSURE program – MSU College of Engineering	*East Lansing, MI*
Jan 2021	**Spring 2021 CNS Undergraduate Research Scholarship**, MSU College of Natural Science	*East Lansing, MI*
Oct 2020	**Fall 2020 CNS Undergraduate Research Scholarship**, MSU College of Natural Science	*East Lansing, MI*
May 2020	**Summer 2020 CNS Undergraduate Research Scholarship**, MSU College of Natural Science	*East Lansing, MI*
Apr 2020	**L.C. Plant Mathematics Award Scholarship**, MSU Department of Mathematics	*East Lansing, MI*
Jan 2020	**Spring 2020 CNS Undergraduate Research Scholarship**, MSU College of Natural Science	*East Lansing, MI*
Mar 2018	**Academic Excellence Award (High Honor)**, Lawrence Academy	*Groton, MA*
Dec 2017	**Academic Excellence Award (Honor)**, Lawrence Academy	*Groton, MA*
May 2017	**Full-Ride Scholarship**, BIOTEC, Royal Thai Government	*Bangkok, Thailand*

Research Experience

JRavi and Krishnan Labs; PIs: Dr. Janani Ravi and Dr. Arjun Krishnan   *Jul 2023 – present*

DEPARTMENT OF BIOMEDICAL INFORMATICS, CU ANSCHUTZ   *Aurora, CO*

- Graduate researcher
- Current projects:
  (i) Integrating multiple transcriptome-based methods for drug repurposing in tuberculosis.
  (ii) "TB or not TB" A data-driven approach to infer molecular signature of Mycobacterium tuberculosis infection in human.
  (iii) Mechanism-guided drug repurposing for host-directed therapy of infectious diseases using interpretable and integrative ML.
  NIH R21 funding.

Zhang Lab; PI: Dr. Fan Zhang   *Mar 2023 – May 2023*

DEPARTMENT OF BIOMEDICAL INFORMATICS, CU ANSCHUTZ   *Aurora, CO*

- PhD rotation student
- Project: Predicting drug response pathway-driven cell phenotypes in Rheumatoid arthritis using large single-cell transcriptomics.

Kechris Lab; PI: Dr. Katerina Kechris   *Jan 2023 – Mar 2023*

DEPARTMENT OF BIOSTATISTICS AND INFORMATICS, CU ANSCHUTZ   *Aurora, CO*

- PhD rotation student
- Project: Identification of enriched pathways associated with multiple Chronic Obstructive Pulmonary Disease phenotypes.

Krishnan Lab; PI Dr. Arjun Krishnan   *Mar 2021 – May 2022*

MSU DEPERTMENT OF COMPUTATIONAL MATHEMATICS, SCIENCE, AND ENGINEERING   *East Lansing, MI*

- Undergraduate researcher in computational biology
- Research focus: methods and applications of transcriptome-based drug repurposing.

JRavi Lab; PI: Dr. Janani Ravi   *Dec 2019 – May 2022*

MSU DEPARTMENT OF PATHOBIOLOGY AND DIAGNOSTIC INVESTIGATION   *East Lansing, MI*

- Undergraduate researcher in computational biology
- Research focus: methods and applications of transcriptome-based drug repurposing and mathematical modeling.

Teaching Experience

CPBS 7712: Research Methods in Biomedical Informatics   *Jan 2024 – May 2024*

COMPUTATIONAL BIOSCIENCE PROGRAM, CU ANSCHUTZ   *Aurora, CO*

Education assistant

CMSE 202: Computational Modeling and Data Analysis II   *Jan 2022 – Apr 2022*

MSU DEPERTMENT OF COMPUTATIONAL MATHEMATICS, SCIENCE, AND ENGINEERING   *East Lansing, MI*

Undergraduate learning assistant (LA) with Dr. Luciano Silvestri

University Service/ Leadership

Committee Member   *Aurora, CO*

COMPUTATIONAL BIOSCIENCE (CPBS) SEMINAR COMMITTEE   *2023-2024 Academic Year*

- Plan and coordinate recurring seminars for the CPBS graduate program.

Co-organizer   *Aurora, CO*

R-LADIES AURORA   *August 2023–present*

- Plan and organize events for R-Ladies Aurora.

Committee Member   *Aurora, CO*

COMPUTATIONAL BIOSCIENCE PROGRAM RETREAT   *2022-2023 Academic Year*

- Planned and organized the annual retreat for the Computational Bioscience graduate program.

Committee Member   *East Lansing, MI*

A REPRESENTATIVE ON BEHALF OF MSU COLLEGE OF NATURAL SCIENCE FOR   *2021-2022 Academic Year*

- the University Academic Grievance Hearing Board
- the University Academic Integrity Hearing Board
- the University Academic Appeal Board

Extracurricular/ Volunteer Activities

Jul 2023	**2023 Summer Academy, SACNAS at CU Anschutz**, Helped set up program activities	*Aurora, CO*
Jul 2021	**useR! 2021 The R Conference**, MaRmot; Helped provide program information to participants	*Virtual*
2021–	**Association for Women in Mathematics (AWM)**, Member	*Providence, RI*
2021–2022	**MSU Women in STEM**, Member	*East Lansing, MI*
2020–2022	**Women + Data Science**, Member	*East Lansing, MI*
2019–2022	**R-Ladies East Lansing**, Member	*East Lansing, MI*
2018–2022	**MSU Thai Student Association (ThaiSA)**, Member	*East Lansing, MI*
Jul 2018	**Burirum Pitthayakhom School**, Assisted in the educational guidance seminar for K-12 students	*Burirum, Thailand*
Mar 2018	**The Arc of Opportunity in North Central Massachusetts**, Cared for people with disabilities	*Fitchburg, MA*
2017–2018	**Math Club**, Member	*Groton, MA*
2017–2018	**Stage Crews**, Member; 6 hours/week working and learning art and technician skills for stage plays	*Groton, MA*
2017–2018	**LA Singers (High School Choir)**, Member; Soprano	*Groton, MA*
Nov 2017	**Rise Against Hungers**, Assisted in cooking foods/desserts and organized fundraising tables	*Groton, MA*