

Saikat Banerjee

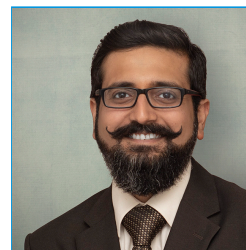
STATISTICAL GENETICS · BAYESIAN METHODS · SYSTEMS MEDICINE · DATA SCIENCE

T4/103, Am Faßberg 11, Göttingen 37077, Germany

☎ (+49) 17621103442 | ✉ saikat.banerjee@mpibpc.mpg.de

🏠 saik.at | 📺 banskt | 📺 banskt

👤 8 Sep. 1985 | 🇮🇳 Indian



Scientist/ex-entrepreneur/graphic designer. I write equations, develop software and lead projects to understand biomedical data. I solve problems, often learning new skills at a professional level.

Experience

Postdoctoral Fellow, Max Planck Institute for Biophysical Chemistry

Göttingen, Germany

ADVISOR: DR. JOHANNES SÖDING

Jun. 2015 – Present

- Developed three statistical methods for understanding disease mechanism from large scale biomedical data. Technical details: (1) Bayesian multiple logistic regression for finemapping in post-GWAS analysis, (2) large-scale trans-eQTL discovery from RNA-Seq data, (3) Bayesian multi-omics approach to combine GWAS and eQTL data.
- Communicated and collaborated with medical doctors leading to a first author publication.
- Presented our work at an international conference (ISMB 2019). Invited to speak at the University of Göttingen.
- Supervised a Master's thesis and mentored three internship students.

Research Associate, Indian Institute of Science

Bengaluru, India

ADVISOR: PROF. BIMAN BAGCHI

Aug. 2014 – May 2015

- Led two projects with challenging deadlines: (1) Understanding the origin of long-range hydrophobic force, and (2) Role of biological water in the hydration shell of proteins.
- Communicated both of them in international peer-reviewed journals, one of them as first author.
- In charge of administration and maintenance of high performance computing (HPC) cluster from Aug. 2011 to May 2015.

Co-founder, Beejig

Bengaluru, India

A B2B COMPANY FOR WORD-OF-MOUTH MARKETING

Jan. 2013 – Feb. 2014

- Extensively involved in conceptualization, market research and app development.
- Raised initial funding of \$20000 and recruited sales manager along with a team of two sales executives.
- Deployed our marketing tool for Lakme India chain of salons in Bengaluru. Their sales increased by 12% in only two months, and we were invited to launch our program in Mumbai.
- Organized the dissolution of our company by selling the assets to a bigger company.

Education

PhD (Computational Biophysics), Indian Institute of Science. More than 10 peer-reviewed publications.

2014

M.S. (Chemistry), Indian Institute of Science. Class rank 2nd with a CGPA of 6.9 out of 8.

2009

B.Sc., University of Calcutta. Ranked 1st among all colleges in the university.

2007

Skills


Programming	Python, FORTRAN, C++, Java
Bioinformatics	GWAS, EQTL, Finemapping, PrediXcan, omics data
Biophysics	LAMMPS, GROMACS, VMD
HPC	Slurm, LSF, SGE
Web	HTML5, CSS, PHP, Node.JS
Others	Linux, Bash, Git, \LaTeX , Adobe Illustrator, Adobe Photoshop, Inkscape
Languages	Bengali (native), English (native), Hindi (native), German (beginner)

Software

B-LORE Bayesian multiple logistic regression with variable selection.

TEJAAS L_2 regularized 'reverse' multiple linear regression for discovering trans-eQTLs.

Select Publications

-  Bayesian multiple logistic regression for case-control GWAS. SAIKAT BANERJEE, LINGYAO ZENG, HERIBERT SCHUNKERT AND JOHANNES SÖDING. *PLOS Genetics*, DOI:10.1371/journal.pgen.1007856 (2018)
-  Orientational order as the origin of the long-range hydrophobic effect. SAIKAT BANERJEE, RAKESH S. SINGH AND BIMAN BAGCHI. *The Journal of Chemical Physics*, **142**, 134505 (2015)
-  Diffusion on a rugged energy landscape with spatial correlation. SAIKAT BANERJEE, RAJIB BISWAS, KAZUHIKO SEKI AND BIMAN BAGCHI. *The Journal of Chemical Physics*, **141**, 124105 (2014)
-  Fluctuating micro-heterogeneity in water-tert-butyl alcohol mixtures and lambda-type divergence of the mean cluster size with phase transition-like multiple anomalies. SAIKAT BANERJEE, JONATHAN FURTADO AND BIMAN BAGCHI. *The Journal of Chemical Physics*, **140**, 194502 (2014) **[Featured Article]**
-  Structural transformations, composition anomalies and a dramatic collapse of linear polymer chains in dilute ethanol-water mixtures. SAIKAT BANERJEE, RIKHIA GHOSH, AND BIMAN BAGCHI. *The Journal of Physical Chemistry B*, **116**, 3713–3722 (2012)
-  Theoretical and computational analysis of static and dynamic anomalies in water-DMSO binary mixture at low DMSO concentrations. SUSMITA ROY, SAIKAT BANERJEE AND BIMAN BAGCHI. *The Journal of Physical Chemistry B*, **115**, 685–692 (2011)
-  Enhanced pair hydrophobicity in the water-dimethyl sulfoxide (DMSO) binary mixture at low DMSO concentrations. SAIKAT BANERJEE, SUSMITA ROY AND BIMAN BAGCHI. *The Journal of Physical Chemistry B*, **114**, 12875–12882 (2010)

Select Presentations

Annual meeting of the International Society for Molecular Biology (ISMB 2019)

BAYESIAN LOGISTIC REGRESSION FOR CASE-CONTROL GWAS

Basel, Switzerland

Jul. 2019

Advanced seminar for statistical genetics

INVITED BY DR. HENNER SIMIANER, GEORG AUGUST UNIVERSITÄT

Göttingen, Germany

Jan. 2017

Honors & Awards

- 2015 **Best Poster**, Faraday Discussions FD177, Royal Society of Chemistry
- 2009 **Best Poster**, Frontier Meeting in Chemical Biology
- 2007 **Gold Medalist**, 1st position in B.Sc. Chemistry Honors at the University of Calcutta
- 2002 **National Merit Scholarship, Govt. of India**, 23rd rank in final school examination, West Bengal

Extracurricular Activity

Graphic design and web development, Freelancer

- Curated award-winning logos and created web / brand identity for more than 20 startups.
- Consulted the design and development of the iOS app 'Isle of Miles'.
- Designed two book covers for Oxford University Press.

Hobbies

- Photography, Hiking, Long distance biking