

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

I solve problems, often learning new skills along the way. I write equations, develop software and lead projects.

Experience

Max Planck Institute for Biophysical Chemistry

Göttingen, Germany

POSTDOCTORAL RESEARCH ASSOCIATE | ADVISOR: DR. JOHANNES SÖDING

May 2015 – Present

- Developed a Bayesian methodology and software for large scale analyses of medical data.
- Communicated our method in an international peer-reviewed journal as the first author of a research article.
- Presented our work at an international conference (ISMB 2019). Invited to speak at the University of Göttingen.
- Coordinated a project to develop a software for analysing large scale transcriptomics data. Communication in progress.
- Supervised a Master's thesis and mentored three internship students. Three students are now pursuing higher studies at reputed international institutes in Canada, United States and Australia. Another student is working at PWC, Switzerland.

Indian Institute of Science

Bengaluru, India

RESEARCH ASSOCIATE | ADVISOR: PROF. BIMAN BAGCHI

May 2014 – Apr. 2015

- Led two projects with challenging deadlines and international collaborations: (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 Sep. 2011 to Apr. 2015.

Co-founder, Beejig

Bengaluru, India

A B2B COMPANY FOR WORD-OF-MOUTH MARKETING

Jan. 2012 – Sep. 2013

- 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 22% 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

Indian Institute of Science

Bengaluru, India

PHD IN STATISTICAL PHYSICS | ADVISOR: PROF. BIMAN BAGCHI

Aug. 2009 – Apr. 2014

- Diffusion equation for a rugged potential energy landscape; composition-dependent anomalies in binary mixtures.

M.S. IN CHEMISTRY

Aug. 2007 – Jun. 2009

- Class rank 2nd with a CGPA of 6.9 out of 8.

Software

B-LORE Post-GWAS analyses using Bayesian multiple logistic regression with variable selection.

TEJAAS Large scale sparse multiple linear regression to identify trans-eQTLs.

Skills

Programming Python, FORTRAN, C++, Java







Molecular Dynamics LAMMPS, GROMACS

Web HTML5, CSS, PHP, Node.JS

Languages Bengali (native), English (full proficiency), Hindi (full proficiency), German (basic)

Others Linux, Bash, LaTeX, Git, VMD, Adobe Illustrator, Adobe Photoshop, Inkscape

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)
-  Stability of fluctuating and transient aggregates of amphiphilic solutes in aqueous binary mixtures: Studies of dimethyl sulfoxide, ethanol, and tert-butyl alcohol. SAIKAT BANERJEE AND BIMAN BAGCHI. *The Journal of Chemical Physics*, **139**, 164301 (2013)
-  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)
-  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

Basel, Switzerland

BAYESIAN LOGISTIC REGRESSION FOR CASE-CONTROL GWAS

Jul. 2019

Advanced seminar for statistical genetics

Göttingen, Germany

INVITED TALK AT UNIVERSITY OF GÖTTINGEN

Aug. 2017

Honors & Awards

- 2017 **Best Poster**, Faraday Discussions, Royal Society of Chemistry
- 2009 **Best Poster**, Frontier Meeting in Chemical Biology
- 2007 **Gold Medalist**, Secured 1st position at B.Sc. University of Calcutta
- 2002 **National Merit Scholarship**, Sponsored by Govt. of India after 10th standard.

Extracurricular Activity

Android consultant

U.S.A

Z-AXIS LABS

May 2014 - Apr. 2015

- Led a team of two developers and a graphic designer to create an Android app.

Graphic design and web development

FREELANCER

- Curated award-winning logos and created web / brand identity for more than 20 startups.
- Designed two book covers for Oxford University Press