

Curriculum Vitae: Dr.Ganesh Bhimanna Bagler

RESEARCH INTERESTS: Mathematical Modeling of Biological Systems, Complex Systems, Complex Networks, Systems Biology, Computational Neuroscience.

CURRENT POSITION

Post Doctoral Fellow (PDF) **July 2007—**
National Centre for Biological Sciences (NCBS), Bangalore, INDIA.

EDUCATION

Ph.D., Computational Biology (December 2006)
Centre for Cellular and Molecular Biology (CCMB), Hyderabad, INDIA.

M.Tech., Computational Techniques (January 2002) — First Class
School of Physics, University of Hyderabad, Hyderabad, INDIA.

M.Sc., Physics (May 1999) — Second Class
Department of Physics, University of Pune, Pune, INDIA.

B.Sc., Physics (April 1997) — First Class with Distinction
Sangameshwar College, Shivaji University, Kolhapur, INDIA.

OTHER ACADEMIC ACHIEVEMENTS

- Consistently topped in School and College; **TOEFL Score**: 637
- Graduate Aptitude Test in Engineering, 2000. (72.84 percentile; All India Rank: 340).
- **Diploma in Information and Software Management** from Aptech Computer Education (1998)

FELLOWSHIPS AND SCHOLARSHIPS

- **Ekalavya Scholarship** by Maharashtra Government, India, 1997—1999.
- **Junior Research Fellowship** by Council of Scientific and Industrial Research, India, Jan 2001.
- **Senior Research Fellowship** by Council of Scientific and Industrial Research, India, Jan 2003.

HONORS AND AWARDS

- Selected as a Speaker for “Theoretical Physics Seminar Circuit” (**TPSC**), Nov 2006.
- Visited the Santa Fe Institute (SFI), USA as an **International Fellow**, March 2007.
- Selected for participation in the prestigious **Complex Systems Summer School (Beijing, China, 2005)** of Santa Fe Institute, New Mexico, USA.
- **Best Graduate-Student Seminar Award**, Centre for Cellular and Molecular Biology, 2003.
- Aptech Leadership Award, Aptech Computer Education, 1998.
- Rajya Puraskar Award, A State-level Award by Bharat Scouts and Guides, India, 1992.

PEER REVIEWER: Refereed for **Bioinformatics** and **Physica A**.

PUBLICATIONS

- **Ganesh Bagler** and Somdatta Sinha, “Assortative mixing in Protein Contact Networks and protein folding kinetics”, **Bioinformatics**, vol. 23, no. 14, 1760—1767 (2007).
- **Ganesh Bagler** and Somdatta Sinha, “Network Properties of Protein Structures”, **Physica A**, 346, pp. 27—33, (2005); arXiv:q-bio.MN/0408009.
- **Ganesh Bagler**, “Analysis of Airport Network of India as a complex weighted network”, arXiv:cond-mat/0409773 (2004).
- **Ganesh Bagler** and Somdatta Sinha, “The Role of Host Migration on Host-Parasite Population Dynamics”, in Proceedings of the Second Conference on Nonlinear Systems and Dynamics, pp. 37—40, (2005).
- Hemant Dixit, **Ganesh Bagler**, Somdatta Sinha, “Modelling the host-parasite interaction”, in Proceedings of the First Conference on Nonlinear Systems and Dynamics, pp. 321—324, (2003).
- **Ganesh Bagler**, Wei-chao Chen, Jia-xin Cui, Sutirth Dey, W. Tyler Gibson, Vuk Milošević, Daniel Rosenbloom, and Jiang Zhang (in alphabetical order), “Non-verbal human communication under varying levels of restrictions: An empirical and computational investigation of Password and Gasekitomu games,” SFI CSSS **Student Papers**, Beijing (2005).
- Samraat Pawar, Oskar Burger, Brian Hallmark, **Ganesh Bagler**, Frank Wang, and Xue Fu, “Evolution of Food-web Networks in Fluctuating Environments,” SFI CSSS **Student Papers**, Beijing (2005).

INVITED TALKS AND VISITS

“**On Chimp and Human brains**” at “A day long meeting on Comparative Genomics of Chimps and Humans” at Centre for Cellular and Molecular Biology, Hyderabad, INDIA. October 4, 2005.

“**Protein Contact Networks: Relation of topological parameters with the rate of protein folding of single-domain two state proteins**” A Condensed Matter Special Seminar at Tata Institute of Fundamental Research (TIFR), Bombay, INDIA. October 16, 2005.

“**Complex Networks— A Model for systems-level study**”, at International Institute of Information Technology (IIIT), Hyderabad, INDIA. October 29, 2005

Graduate Visitor at Institute of Mathematical Sciences (IMSc), Chennai, INDIA. September 12—30, 2005.

COMPUTATIONAL SKILLS

Operating Systems: GNU/Linux, Unix, Windows, DOS.

Languages: Fortran 77/95, C.

Scientific Packages: MatLab, Origin.

Applications: L^AT_EX, HTML.

PROJECTS

Complex Systems Summer School (Beijing, China), Group Project-I July 9—August 5, 2005
“Non-verbal human communication under varying levels of restrictions: An empirical and computational investigation of Password and Gasekitomu games.”

Complex Systems Summer School (Beijing, China), Group Project-II July 9—August 5, 2005
“Evolution of Food-web Networks in Fluctuating Environments.” We used weighted, directed network model, to address questions about evolution of food-web characteristics under fluctuating environments.

MTech (Computational Techniques) August 2001—January 2002
“Detection of erasures in Questioned Documents using Image Processing Techniques” at Department of Computer Science, University of Hyderabad, India; Guide: Dr. Chakravarthy Bhagvati. Developed Image Processing Algorithms for semi-automation of Questioned Document Examination process. Project developed for: Bureau of Police (Research and Development), Ministry of Home Affairs, Government of India.

MSc (Physics) January—April 1999
“Estimation of the baryonic content of the universe from QSO absorption lines” at Inter-University Centre for Astronomy & Astrophysics (IUCAA), Pune, India; Guide: Dr. Srianand.

MSc (Physics)—Mini Project November 1998
“Simulation of a 13-atom Argon stable crystal structure using method of annealing”. Project carried out for a course on Methods in Computational Physics. The simulation was coded in FORTRAN.

Summer-School Project June 1998
“Hologram Simulation.” While attending the Golden Jubilee Summer School at Raman Research Institute (RRI), Bangalore, India; Guide: Dr. Hema Ramchandran. Studied basics of hologram and did a computer simulation of a simple geometric shape using MATLAB.

Software Project at Aptech Computer Education November 1997—January 1998
“Bajaj Sales & Stock Management.” Methodologies Used: System Analysis and Design, Programming Methodologies. Coding was done in FOXPRO using the front-end tool.

CONFERENCES AND WORKSHOPS

“CCMB-DAAD Workshop on Behavioral Neuroscience”, at CCMB, India. Sept—Oct 2006.

Santa Fe Institute’s “**Complex Systems Summer School**”, held at Institute of Theoretical Physics, Chinese Academy of Sciences, **Beijing, CHINA**. July 9—August 5, 2005

“**Short course on Computational Neuroscience**” at **University of Hyderabad, INDIA**, (11—21 October, 2004), and at **IIT Bombay, INDIA**, (8—16 Oct 2005).

“**Workshop on Economy as a Complex System**” at Institute of Mathematical Sciences, Chennai, INDIA. December 6—7, 2004

International Conference on Statistical Physics, STATPHYS-KOLKATA V, “Complex Networks: Structure, Function and Processes” at Bose Centre, Kolkata, INDIA.
June 27—30, 2004

“**National Conference in Nonlinear Systems and Dynamics**” at Indian Institute of Technology (IIT) Kharagpur, INDIA. December 28—30, 2003

“**Meeting on Robustness, Emergence and Pattern Formation in Biological Systems**” at Institute of Mathematical Sciences, Chennai, INDIA. December 1—3, 2002

“**Symposium on The Current Excitement in Biology**” at Centre for Cellular and Molecular Biology, Hyderabad, INDIA. November 24—29, 2002

“**School and Workshop on Distributed Parallel Computing for Physicists**” at Harish-Chandra Research Institute (HRI), Allahabad, INDIA. April 11—19, 2002

EXTRA-CURRICULAR ACTIVITIES

“Table-Tennis Champion” at CCMB’s Annual Games, 2004.

— Represented CCMB at CSIR’s zonal tournaments.

Coordinator of “PhD Students’ Saturday Seminar” at Centre for Cellular and Molecular Biology.

“Students’ Placement Coordinator” for M.Tech. 2000 batch, University of Hyderabad.

Extensive participation in “Scout Movement”. Representation at National Level as a Patrol Leader.

First award in the Scientific Project Competition organized by SEARCH. Project : *Milk Miracle*.

Hobbies: Reading, Sketching, Sky-gazing.

REFERENCES

1. **Dr. Somdatta Sinha**, Senior Scientist (Email: sinha@ccmb.res.in)
Group Leader, Mathematical Modeling and Computational Biology Group,
Centre for Cellular and Molecular Biology, Hyderabad, INDIA. Ph: +91-40-2719-2588
2. **Dr. L S Shashidhara**, Senior Scientist (Email: shashi@ccmb.res.in)
Group Leader, Drosophila Genetics and Developmental Biology,
Centre for Cellular and Molecular Biology, Hyderabad, INDIA. Ph: +91-40-2719-2604
3. **Dr. R. Sankaranarayanan**, Senior Scientist (Email: sankar@ccmb.res.in)
Group Leader, Structural Biology Lab,
Centre for Cellular and Molecular Biology, Hyderabad, INDIA. Ph: +91-40-2719-2832

CONTACT INFORMATION

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(Ganesh B. Bagler)

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