

Pinaki Bose | Resume

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Education

- M.S. Chemical Biology from Johns Hopkins University Chemistry-Biology Interface 2015
- B.S. Biochemistry Honors (3.89/4.00 GPA) and minors in Mathematics and Biology in 2 1/2 years of study from the University of Texas at Arlington. Premedical requirements fulfilled. Dec 2011
- B.S. Chemistry (3.90/4.00 GPA) from the University of Texas at Arlington. May 2012
- High school diploma (4.73 GPA) from Robert L. Paschal High School May 2009

Skills

* Biochemistry and Molecular Biology

- Molecular cloning
- Gateway cloning
- Bacterial cell culture
- Mammalian cell culture
- DNA/RNA electrophoresis
- *in vitro* transcription (IVT)
- PURExpress translation
- Western blotting
- Coomassie staining
- Protein purification
- Bradford-Coomassie Assay
- ELISA, immunoassays
- Affinity chromatography
- Solid-phase peptide synth.
- HPLC (liq chromatography)
- HSV1 virology, purification
- Viral titration
- Electron microscopy
- Fluorescence microscopy
- *in situ* hybridization (FISH)
- BRET; PPI assays

* Computational

- bash/sh/Tcl (advanced level)
- LSF/bsub (batch jobs; HPC)
- Linux (Debian, Arch, other)
- Python3, Java (intermediate)
- Galaxy (bioinformatics)
- ImageJ and Fiji
- PHP, HTML, CSS, JS/jQuery
- Apache, nginx, lighttpd
- SQL (basic knowledge)
- C/C++ (basic knowledge)
- Matlab and Mathematica
- VASP (DFT calculations)
- pymol and Chimera
- MS Office, Google Apps
- \LaTeX and \TeX

Research

- * **Pharmacology and Virology Research at Johns Hopkins University** 2013–Present
 - Bacterial and mammalian cell culture; virology (stocks, purification, titration)
 - High-throughput research: designing microarrays and microarray experiments
 - Molecular cloning (traditional and Gateway system), DNA/RNA manipulation
- * **National Cancer Institute (NCI/NIH) Postbaccalaureate Fellow** 2012–2013
 - Structural and computational biology; single-particle analysis of proteins
 - Focused Ion Beam Scanning Electron Microscopy; high-resolution 3D cellular imaging
- * **National Cancer Institute (NCI/NIH) Summer Intern** Summer 2012
 - Coregulation of E2-responsive genes in human breast cancer cells
 - Fluorescence *in-situ* Hybridization (FISH), high-throughput fluorescence microscopy
- * **Summer Undergraduate Research Fellowship (SURF) Program** Summer 2011
 - Pharmacology and protein-protein interactions; interaction between AMPK and ERK
 - Mammalian cell culture and protein biochemistry; Western, Bradford Assay, ELISA
- * **Undergraduate Research Assistantship: Computational Chemistry Research** 2009–2012
 - Computational chemistry and high-performance computing (VASP, bsub, Tcl)
 - Study of optoelectronic properties of gallium nitride nanocrystals
- * **Indo-US Joint Center on Biomaterials for Health Care** 2009–2010
 - Design and fabrication of HDPE-HAp-Al₂O₃ composites for use in bone implants
 - Materials science, injection molding, mechanical and physical property testing

Publications

1. Basu, B., Jain, D., Kumar, N., Choudhury, P., Bose, A., Bose, S. and **Bose, P.** (2011), Processing, tensile, and fracture properties of injection molded HDPE-Al₂O₃-HAp hybrid composites. *J. Appl. Poly. Sci.*, 121:2500–2511.

Teaching and Mentoring

- ★ **Teaching Assistant for Organic Chemistry I & II (JHU)** 2014–2015
 - Direct instruction of undergraduate organic chemistry students; exam grading
- ★ **Teaching Assistant for General Chemistry I (UTA)** Fall 2011
 - Instruction, supervision, grading of undergraduate chem lab students; received excellent reviews
- ★ **Science Fair Project Mentor** 2011–2014
 - Mentored three students (grades 6–12) with original STEM research projects
 - All won multiple awards at the Fort Worth regional (FWRSEF) and Texas state (EMTSEF) levels
- ★ **University Tutor** 2010–2011
 - Served as tutor for the UTA Chemistry Clinic assisting chemistry students at all levels
 - Worked as chemistry tutor through university tutorial service on a per-appointment basis

Volunteer Work

- ★ **Chesapeake Lighthouse Foundation Science Fair Judge** Feb 2016
- ★ **Fort Worth Regional Science Fair Webmaster and Judge** 2011–2012
 - Designed the Fort Worth Regional Science and Engineering Fair's website <http://fwrsef.org/>
 - Served as a judge for the science fair; assessed scientific merit of high school level projects
- ★ **Clinical Volunteering**
 - Medical Center of Arlington (Jan–May 2011)
 - Shadowing neonatal ICU doctor (2011)
 - NIH Clinical Center ICU Rounds (2012–2013)
 - Harris Methodist Hospital Emergency Department (2011–2012)
 - Bob Mann Medical Clinic (2010)

Leadership

- ★ **NIH Postbac Committee Chairperson** 2013
 - Arranged a wide variety of community outreach and social events for NIH fellows and summer interns
- ★ **Founding Secretary for UTA Linux Users Group (LUG)** 2011–2012
 - Cofounder of the group and instrumental in bringing membership to 50+ in one semester
 - Arranged talks and events to raise awareness of software freedom
- ★ **Public Relations Officer for the UTA Medical/Dental Preparatory Association** 2011–2012
 - Invited speakers to give talks at weekly meetings and increased student membership

Awards and Honors

- Honorable Mention, 2015 NSF Graduate Research Fellowship Program Mar 2015
- Honorable Mention, 2014 NSF Graduate Research Fellowship Program Mar 2014
- Cancer Research Training Assistantship Postbaccalaureate Fellowship (NCI/NIH) Sep 2012
- Cancer Research Training Assistantship Summer Internship (NCI/NIH) Jun 2012
- Summer Undergraduate Research Fellowship (UT Southwestern Medical Center) Jun 2011
- UT Arlington College of Sciences Dean's List for Academic Excellence Sep 2012
- UTA Chemistry/Biochemistry Society Research Symposium Second Place Winner Sep 2011
- University Scholar Award (Top 1% of student body) Apr 2011
- Dennis S. Marynick Scholarship for outstanding physical chemistry research Apr 2011
- Robert F. Francis Award for Outstanding Sophomore (awarded Freshman year) Apr 2010
- **University of Texas at Arlington Academic Scholarships:** UTA Academic Enhancement Scholarship 2010–2011; UTA President's Science Fair Scholarship 2009–2011; UTA President's Charter Scholarship 2009–2011; UT System Top 10% Scholarship 2009–2011; UTA Computer Science and Engineering Stipend 2009–2010

Other Interests

- Freelance web designer; portfolio: <http://pinakibose.com/work/webdev/> 2006–Present
- Pianist and performer for Antorik Bengali Association, Rhythm Cultural Association, and Bengali Association of Dallas/Fort Worth (BADFW). 2009–2012
- Greater Fort Worth Susan G. Komen Race for the Cure (5K) 14th in age category. Apr 2012