# BISWAS SHARMA

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**EDUCATION**

**University of Tennessee** Knoxville, TN  
**Doctoral Candidate, Early Stage (Physics – Mathematical and Computational Physics concentration)**Aug 2015 –

Current Courses: Mathematical Methods, Quantum Mechanics, Problems in Theoretical Physics I, Seminar, Colloquium

**Morehead State University** Morehead, KY  
**BS Astrophysics (Magna Cum Laude), BS Mathematics (Magna Cum Laude); Honors**Aug 2011 – July 2015

Awards: Outstanding Astrophysics Student (Morehead State University, 2015)  
 DAAD-RISE Scholarship (German Academic Exchange Service, 2013) Academic Honors Scholarship (Morehead State University, 2011-2015)

Upper Level Courses: High Energy Astrophysics, Quantum Mechanics, Data Mining, Partial Differential Equations

Computer Skills: Python, C++, R, Shiny, Weka, LabVIEW, HTML, LaTeX, Minitab, CIAO, DS9, Shell scripting

**EXPERIENCE**

**Space Science Center, Morehead State University (MSU)** Morehead, KY

***Student Head of Science Mission, Cosmic X-ray Background Nanosatellite- 2 (CXBN-2)***Dec 2014 – July 2015

* Used radioisotopes and data analysis techniques in R statistical programming language to characterize semiconductor X-ray detectors flown on the CXBN-2 spacecraft (to be launched in 2016)
* Completed Preliminary Design Review with NASA and external reviewers (Jan 23, 2015)  
  Demonstrated compliance of science mission objectives, requirements and operations with spacecraft systems constraints
* Built interactive web application, using Shiny, to make testing of the detector convenient for new student researchers

***Research Assistant***Sep 2011 – July 2015

* Operated MSU 21-meter Space Tracking Antenna to track satellites and study astronomical radio sources   
  Exchanged telemetry with NASA’s ISEE-3 spacecraft during its approach to earth after 36 years
* Used astrophysics data reduction and analysis software packages in Ubuntu-Linux environment to study supernova remnants in the X-ray frequency and characterize discrete X-ray sources in nearby galaxies

Publications:

* “*Radio-continuum study of the nearby sculptor group galaxies. Part 3: NGC 7793 at λ=12.2, 6 and 3 cm*,” 2014, Astrophysics and Space Science, October 2014, Volume 353, Issue 2, pp 603-611
* “*Chandra and Very Large Array Observations of the Nearby Sd Galaxy NGC 45*,” 2015, The Astronomical Journal, August 2015, Volume 150, Number 3

**Dark Energy Group, University of Bonn** Bonn, Germany

***Summer Intern***Summer 2013

* Reduced X-ray datasets of 36 galaxy clusters with data reduction tools, BASH scripts and parallel computing
* Analyzed results in astrophysical data visualization software   
  Studied dynamical disturbance statistics of these largest gravitationally-bound structures in the Universe

**Midreel.com** World Wide Web

***Co-founder/Recruiter***July 2014 – Current

* Collaborated with 3 co-founders from USA and Germany to launch and manage multi-author blogging platform
* Recruited 6 of 20 unpaid writers who posted articles in the website

**ACTIVITIES**

* JPL/NASA Solar System Ambassador: Organized public astronomy events in Morehead, KY on behalf of NASA
* Technical Supervisor for MSU Students in Free Enterprise (SIFE/Enactus): Directed MSU paper recycle drive;   
  Conducted food waste audit in university cafeteria; Organized and documented trail work at MSU Eagle Lake
* Member of the Honors Committee: Created and amended policies for MSU Academic Honors Program
* Assisted EF-3 tornado rehabilitation in West Liberty, KY with MSU Cares on March 2, 2012
* Soccer: MSU Intramural Soccer Champion (Independent, Men) – April, 2015