

Satyendra Nath Bose, Ph.D.

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Dr. Maureen Conway
Chair, Department of Biology
Box 123
Williams College
Williamstown, MA 01267

November 1, 2013

Dear Dr. Conway:

I am writing to apply for the position of Assistant Professor of Biology in the areas of bioinformatics and molecular biology. My graduate work at the University of California, Davis centered around the mechanism of translation initiation in prokaryotes; I am currently pursuing postdoctoral research in bioinformatics at the Gladstone Institutes at the University of California, San Francisco. Having benefited from close interactions with faculty as an undergraduate at Xavier University, I wish to give back as a teacher and mentor to the next generation.

As can be seen from my curriculum vitae, I am deeply committed to community outreach and undergraduate teaching. The two must go hand in hand to improve science education for all. As a graduate student at the University of California, Davis, I organized my fellow students to volunteer at a local junior high school. This culminated in my teaching a special hands-on science elective for girls. I have continued to do science outreach as a postdoctoral fellow, volunteering with the University of California, San Francisco Science and Health Education Partnership to lead an after school science club at a local middle school. The experience and training I have gained in inquiry-based science at the K-12 level translates directly into concrete strategies I can use with undergraduates.

I had the opportunity to use these strategies when I taught a molecular biology course at San Domingo University in between my graduate and postdoctoral work. Having complete freedom to develop both the lecture and lab for the course, I created a lab exercise based on my graduate work where students cloned different mutations in 16S rRNA into an *E. coli* expression vector and analyzed the growth phenotype of the mutant cells. Students were excited about the project, coming into the lab at night and on weekends to see their results, which were unknown at the start, even to me. I also developed a bioinformatics lab exercise where students analyzed a protein's sequence and structure using tools available on the web.

The synergy between my research and teaching interests extends to my postdoctoral work on the *postdoc work described here in one paragraph.*

Current/future research interests described here in one paragraph.

Finally, my interest in teaching and research at Williams College stems not just from my commitment to quality science education, but also from my desire to enrich the lives of my students. The mentoring skills I have developed as a leader in the Palo Alto chapter of the Association for Women in Science and Lion II Seminars (a leadership training company) will make a positive impact on the life choices of my students. In short, my mission is to impart my passion for biology to students in such a way that it contributes to the entire community.

I have enclosed my curriculum vitae, statements of teaching philosophy and research interests, selected reprints, and letters of reference from C.V. Ramen and J.C. Bose (a letter from Srinivasa Ramanujan has been sent directly). Please let me know if you would like any other materials. I look forward to hearing from the committee.

Thank you for your consideration,

Satyendra Nath Bose, Ph.D.

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EDUCATION

- Ph.D.** **University of California, Davis** March 2008
Molecular, Cellular, and Developmental Biology Program
Advisor: Srinivasa Ramanujan, Ph.D.
Committee: C.V. Raman, Ph.D., J. Sarabhai, Jr., Ph.D.
Thesis: *Name of thesis here.*
- B.A.** **Xavier University, Cincinnati, OH** May 2001
Biology, *cum laude*
- University College, Oxford University, Oxford, England** Fall 1999
Study Abroad Program
Specialized tutorial in Philosophy of Science
-

HONORS & AWARDS

- GAANN Fellowship, UC Davis** 2003–2005
- Phi Beta Kappa** 2001
- Thom Prize in Biology, Xavier University** 2001
- Senior Service Award, Xavier University** 2001
- Lydia Jones Library Prize, Xavier University** 2001
- Sigma Xi** 2000
- Best Seminar in Plant or Microbial Biology** 2000
West Coast Undergraduate Research Conference in the Biological Sciences
-

TEACHING EXPERIENCE

College Level

Adjunct lecturer	<i>Molecular Biology</i> Department of Biology, University of San Domingo	Spring 2008
	<ul style="list-style-type: none">• Taught lecture and lab to 20 upper-division biology majors; was solely responsible for course content• Developed lab exercise based on thesis research where students cloned different mutations in 16S rRNA into an <i>E. coli</i> expression vector and analyzed the growth phenotype of the mutant cells• Evaluated highly by students for stimulating independent thinking and for demonstrating an interest in them	
Course assistant	<i>Cell Biology</i> Department of Biology, University of San Domingo	Winter 2006
	<ul style="list-style-type: none">• Led discussion of research articles	
Teaching assistant	<i>Concepts in Biology</i> Department of Biology, U.C. Davis	Fall 2002
	<ul style="list-style-type: none">• Lectured when professor was out of town	
Teaching assistant	<i>Molecular and Cell Biology Laboratory</i> Howard Hughes Summer Institute, U.C. Davis	Summer 2002
	<ul style="list-style-type: none">• Supervised semi-independent research projects on the cloning of <i>frequency</i> homologues in different species of fungi	

K-12

Scientist volunteer	<i>Triad Science Club</i> Science and Health Education Partnership Thomas Mann Middle School, U.C. San Francisco	2008–2010
	<ul style="list-style-type: none">• Developed and led hands-on activities• Practiced strategies to promote gender equity	
Elective Teacher	<i>Project SAME: Science and Math Equity</i> Wilma Mankiller Junior High School, U.C. Davis	Fall 2002
	<ul style="list-style-type: none">• Taught a girl-only elective class on building simple machines with the Lego-Logo system	

Teaching Interests

cell and molecular biology, bioinformatics and genomics, RNA and protein structure and function, scientific writing and speaking, gender and science, ethical issues in biotechnology

RESEARCH EXPERIENCE

- Postdoctoral Fellow** 2008–2010
Gladstone Institute of Cardiovascular Disease
U.C. San Francisco
Advisor: Birbal Sahni, M.D.
Topic: Title of Topic Here.
- Visiting Researcher** 2005–2008
Department of Structural Biology
CSU Hayward
Advisor: Srinivasa Ramanujan, Ph.D.
- Research Assistant** 2003–2005
Department of Biology
U.C. Davis
Advisor: Srinivasa Ramanujan, Ph.D.
- Undergraduate Researcher** Summer 2001
Howard Hughes Summer Institute
U.C. Davis
Advisor: Shanti - Swarup Bhatnagar, Ph.D.
Topic: Title of Topic Here.
- Undergraduate Researcher** 1999–2000
Department of Biology
Xavier University
Advisor: J.J. Rawal, Ph.D.
Topic: Title of Topic Here.

Research Interests

One line statement of research interests.

PROFESSIONAL INVOLVEMENT

- Association for Women in Science (AWIS)** 2006–2010
Chair, Programs Committee, Davis Chapter 2009–2011
- Organized and led monthly chapter meetings attended by 50-75 people
 - Invited speakers (women scientists, career development)
- Postdoctoral Women Peer-mentoring Group** 2009–2011
U.C. San Francisco
- Alumni Volunteer Admissions Interviewer** 2003–2005, 2009
Xavier University

Memberships

International Society for Computational Biology	2000–present
American Physiological Society	2000–present
American Association for the Advancement of Science	2003–present

PUBLICATIONS

Peer-reviewed Research

Nath Bose, S., Saha, M., Jehangir Bhabha, H. & Singh, J. (2010) Title of Publication Here. *Name of Journal Here* **31**: 19-20.

Ramanna, R., **Nath Bose, S.**, & Singh, J. (2011)) Title of Publication Here. *submitted*.

Saha, M., **Nath Bose, S.**, Jehangir Bhabha, & Singh, J. (2011) MAPPFinder) Title of Publication Here. *Name of Journal Here* **4**: R7.1-R7.12.

Nath Bose, S. & Chandra Bose, J. (2010) Title of Publication Here. *Name of Journal Here* **299**: 1-15.

Nath Bose, S., & Chandra Bose, J. (2009) Title of Publication Here. *Name of Journal Here* **286**: 33-43.

Nath Bose, S., & Chandra Bose, J. (2006) Title of Publication Here. *Name of Journal Here* **262**: 421-436.

Reviews, Book Chapters, Conference Proceedings

Nath Bose, S. & Singh, J. (2013) Title of Publication Here. *Name of Journal Here* (Brown, J and Smith, S. eds.), John Wiley & Sons, Inc., New York, N.Y., *in preparation*.

Chandra Bose, J., Sarabhai, V., **Nath Bose, S.**, Bhagvantam, S. (2009) Title of Publication Here. *Name of Journal Here* (Jones, B. and Ford, H, eds.), pp. 419-429. ASM Press, Washington, D.C.

Nath Bose, S. & Chandra Bose, J. (2005) Title of Publication Here. *Name of Journal Here* **33**: 170-171.

PRESENTATIONS

Research Talks—External

Advanced Topics in Microarray Analysis, National Institutes of Health

Bethesda, Maryland, January 2013

Title of Talk Here

Lillehei Heart Institute, University of Minnesota

Minneapolis, Minnesota, October 2012

Tutorial: Name of Tutorial Here

Seminar: Name of Seminar Here

The Fourth BioPathways Consortium Meeting, Intelligent Systems for Molecular Biology

Edmonton, Alberta, Canada, August 2012

Name of Talk Title Here

Physiological Genomics of Cardiovascular Disease: from Technology to Physiology

San Francisco, California, February 2012

Name of Talk Title Here

Bay Area Bioinformatics Discussion Group

Stanford, California, January 2012

Name of Talk Title Here

NIH-NHLBI Programs for Genomic Applications, External Scientific Panel Review

Bethesda, Maryland, June 2011

Name of Talk Title Here

Iconix Pharmaceuticals

Mountain View, California, June 2011

Name of Talk Title Here

Department of Neurosciences, University of New Mexico Health Sciences Center

Albuquerque, New Mexico, October 2010

Name of Talk Title Here

National Center for Genome Resources

Santa Fe, New Mexico, October 2010

Name of Talk Title Here

Bay Area RNA Club

San Francisco, California, June 2006

Name of Talk Title Here

Research Talks–Internal

Gladstone Institute of Cardiovascular Disease Scientists Meeting

San Francisco, California, May 2012

Name of Talk Title Here

U.C. San Francisco, Pharmaceutical Sciences and Pharmacogenomics Program Retreat

Marshall, California, November 2011

Name of Talk Title

The J. David Gladstone Institutes Joint Scientific Retreat

Pacific Grove, California, May 2011

Name of Talk Title

Gladstone Institute of Neurological Disease Weekly Seminar

San Francisco, California, November 2010

Name of Talk Title

Stanford University, Structural Biology Department Retreat

Pacific Grove, California, November 2008

Name of Talk Title

Stanford University, Molecular Biophysics Club

Stanford, California, February 2008

Name of Talk Title

U.C. Santa Cruz, MCD Biology Seminar

Santa Cruz, California, May 2006

Name of Talk Title

U.C. Santa Cruz, RNA Club

Santa Cruz, California, December 2004

Name of Talk Title

Research Posters–External

Intelligent Systems for Molecular Biology

Edmonton, Alberta, Canada, August 2012

Name of Poster Title Here

Physiological Genomics of Cardiovascular Disease: from Technology to Physiology

San Francisco, California, February 2012

Name of Poster Title Here

The Third International Meeting on Microarray Data Standards, Annotations, Ontologies and Databases

Stanford, California, March 2011

Name of Poster Title Here

Research Posters–External (continued)

The Ribosome: Structure, Function, Antibiotics, and Cellular Interactions

Helsingør, Denmark, June 2009

Name of Poster Title Here

RNA Society Meeting

Madison, Wisconsin, May 2006

Name of Poster Title Here

RNA Structure Meeting

Santa Cruz, California, June 2005

Name of Poster Title Here

RNA Society Meeting

Banff, Alberta, Canada, May 2005

Name of Poster Title Here

Keystone Symposium: RNA-Protein Interactions

Taos, New Mexico, February 2007

Name of Poster Title Here

RNA Society Meeting

Madison, Wisconsin, May 2004

Name of Poster Title Here

Symposium on RNA Biology I: RNA-Protein Interactions

Research Triangle Park, North Carolina, October 2003

Name of Poster Title Here

Frontiers in Translation

Victoria, British Columbia, Canada, May 2003

Name of Poster Title Here

Research Posters–Internal

The J. David Gladstone Institutes Joint Scientific Retreat

Pacific Grove, California, May 2010

Name of Poster Title Here

U.C. San Francisco, Cardiovascular Research Institute Retreat

Tahoe City, California, November 2011

Name of Poster Title Here

U.C. San Francisco, Biomedical Sciences Program Retreat

Tahoe City, California, November 2009

Name of Poster Title Here

Other Presentations

U.C. Berkeley, History of Science Graduate Student Workshop

Berkeley, California, January 2005

Panel Discussion: Name of Title Here

Sigma Xi Forum: Scientists, Educators, and National Standards: Action at the Local Level

Atlanta, Georgia, April 2002

Poster: Name of Title Here

ADDITIONAL TRAINING

Strategies in Gender Equitable Teaching

2006–2008

U.C. Berkeley Extension, Berkeley, California

Beginning Dreamweaver 4

April 2007

Ciber Training Center, San Francisco, California

Advanced Microsoft Access 97

August 2007

New Horizons Computer Learning Centers, Inc., San Francisco, California

Biostatistics 183: Introduction to Statistical Analysis

Fall 2007

U.C. San Francisco, San Francisco, California

Art of Lecturing

Summer 2007

Gladstone Institutes, San Francisco, California

Scientific Writing

Spring 2007

Gladstone Institutes, San Francisco, California

Microarray Academy

Fall 2006

Genomics Core, Gladstone Institutes, San Francisco, California

REFERENCES

C.V. Ramen, M.D.

Associate Investigator
Gladstone Institute of Cardiovascular Disease
University of California, San Francisco
P.O. Box 100
San Francisco, CA 94100-9100
123-456-7890
cvramen@gladstone.ucsf.edu

Srinivasa Ramanujan, Ph.D.

Associate Professor
Department of Biology
University of Maryland School of Medicine
112 Shoe Center
College Park, MD 20815
123-456-7890
sri@umar.edu

J.C. Bose, M.A.

Lecturer in Scientific Writing and Lecturing
Cardiovascular Research Institute
Gladstone Institutes
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CV and cover letter provided by:

*Bill Lindstaedt, MS Director UC San Francisco Office of Career and Professional Development
Cynthia Fuhrmann, PhD, Assistant Dean, University of Massachusetts Medical School*