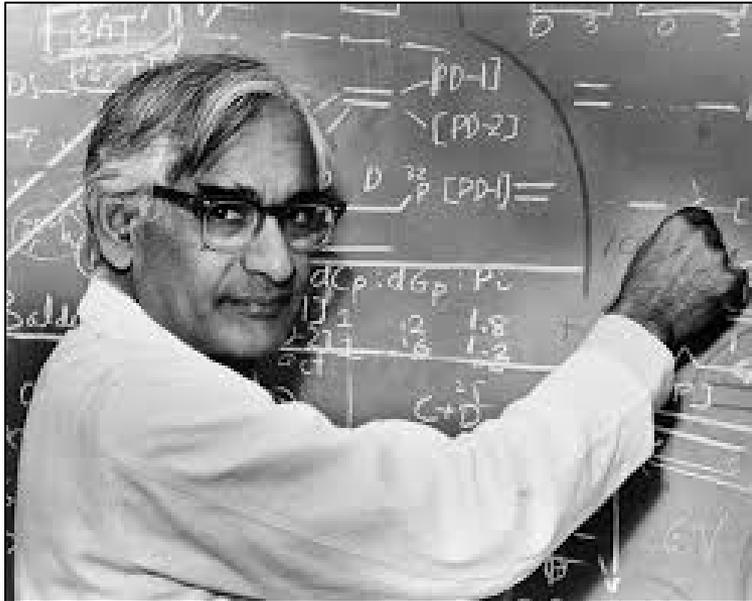




# The Khorana Program



- **Inspired by Har Gobind Khorana**



- **Indian-American Nobel Laureate:**
- Gene synthesis
- Deciphering the genetic code





# The Khorana Program

## Goals

1. *Provide students with a transformative experience*
2. *Rural development & Global Food Security*
3. *Increase partnerships between academia and the private sector to benefit society*



# *Transformative Experience*

## **1. Indian students in US research laboratories**

- 10 -12 weeks research with top labs
- Weekly lectures by highly effective thought leaders  
(scientists, sociologists, social entrepreneurs, business leaders, technocrats, policy makers)
- Impart the fundamentals of scientific enquiry, impart leadership skills and a sense of social responsibility

## **2. US students at partner universities in India**

- 10 -12 weeks research at TIFR, NCBS, IITs, IISERs, CCMB, CDFD, LV Prasad, NCBS, IISc (and several other leading academic institutions)



# Government of India

Minister of Science & Technology (MoST)  
Human Resource Development (MHRD)



सत्यमेव जयते

2008



Ken

Kim



# UW to the Big Ten



## KHORANA Program for SCHOLARS

The Department of Biotechnology, Govt. of India, University of Wisconsin-Madison (UW) (and partner universities) and the Indo-US Science and Technology Forum (IUSSTF) are partnering to support the prestigious **Khorana Program for Scholars** named in honor of Dr. Har Gobind Khorana, who won the Nobel Prize in 1968 for his work at the interface of Chemistry and Biology while a member of the UW faculty. **The Khorana Program will provide opportunities to Indian students to undertake research at University of Wisconsin-Madison and partner universities in Summer 2013 for a period of 10 weeks.** A list of UW partner universities is available at [https://www.biochem.wisc.edu/faculty/ansari/khorana\\_program/](https://www.biochem.wisc.edu/faculty/ansari/khorana_program/)

### The Khorana Program is envisaged to:

- Provide encouragement to young scholars to undertake R&D
- Enable students to carry out research at a premier University in the United States
- Transform research into societal benefits
- Build a seamless scientific community between India and the United States

### Eligibility:

B.Tech, M.Tech and M.Sc. students currently enrolled in a recognized institution of higher education in India in the areas of biotechnology including agricultural, health and biomedical sciences.

### Scholarship includes:

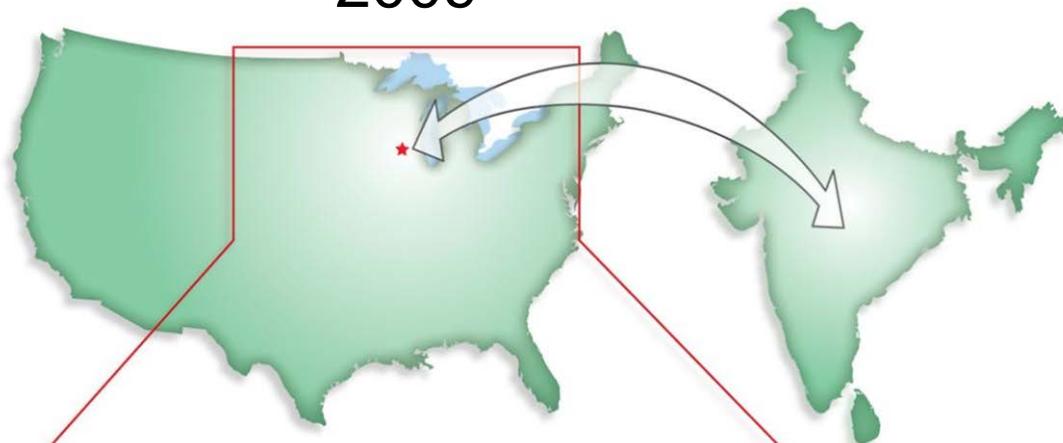
- Stipend • Accommodation • Airfare

### For program information contact:

**Dr. Nishritha Bopana**  
Indo-US Science and Technology Forum (IUSSTF)  
12 Hailey Road, Fulbright House,  
New Delhi- 110 001  
E-mail: scholar@indousstf.org

For application guidelines refer to:  
[www.indousstf.org](http://www.indousstf.org)

2009



2011



# For Non-biological Sciences

2013



## S.N. Bose SCHOLARS PROGRAM



To nurture future innovators and thought leaders, the **Science & Engineering Board (SERB)**, **Department of Science and Technology (DST)**, **Govt. of India**, the **Indo-U.S. Science and Technology Forum (IUSSTF)** and the **University of Wisconsin-Madison (UW)** are partnering to develop a dynamic and transformative student exchange program between premier institutions in India and the United States. The program is named in honor of **Satyendra Nath Bose** (1894 - 1974), a visionary Indian physicist best known for his work on quantum mechanics in the early 1920s. The class of particles that obey Bose-Einstein statistics, **Bosons**, was named after him.

### ELIGIBILITY:

- Indian citizens currently pursuing a Bachelors or Masters' degree at a recognized institution of higher education and learning in India.
- Open to students of Atmospheric and Earth Sciences; Chemical Sciences; Engineering Sciences; Mathematical and Computational Sciences; and, Physical Sciences

**Note:** Students with a biology background should consider applying to the **Khorana Program for Scholars**.

### THE PROGRAM IS ENVISAGED TO:

- provide an opportunity to Indian students to experience world-class research facilities in leading U.S. institutions;
- encourage and motivate students to take up research as a career;
  - pave the way for the next generation of pioneers and innovators in science and technology to interact with each other, and;
- build long-term R&D linkages and collaborations cutting across boundaries around the globe.

**Submission Deadline:  
15 February 2013**

For program information contact:  
**Dr. Nishritha Bopana**  
Indo-US Science and  
Technology Forum



## KHORANA Program for SCHOLARS

The Department of Biotechnology, Govt. of India, University of Wisconsin-Madison (UW) (and partner universities) and the Indo-US Science and Technology Forum (IUSSTF) are partnering to support the prestigious **Khorana Program for Scholars** named in honor of Dr. Har Gobind Khorana, who won the Nobel Prize in 1968 for his work at the interface of Chemistry and Biology while a member of the UW faculty. The **Khorana Program** will provide opportunities to Indian students to undertake research at University of Wisconsin-Madison and partner universities in Summer 2013 for a period of 10 weeks. A list of UW partner universities is available at [https://www.biochem.wisc.edu/faculty/ansari/khorana\\_program/](https://www.biochem.wisc.edu/faculty/ansari/khorana_program/)

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New Delhi- 110 001  
E-mail: scholar@indousstf.org

For application guidelines refer to:  
[www.indousstf.org](http://www.indousstf.org)

# 2016 Khorana-Bose Scholars



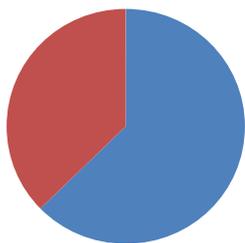
सत्यमेव जयते

Consulate General  
of India

## Scholar statistics:

0.3% of Student Pool

Gender Distribution

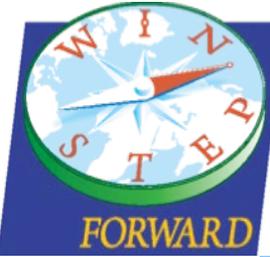


■ Females (65%)

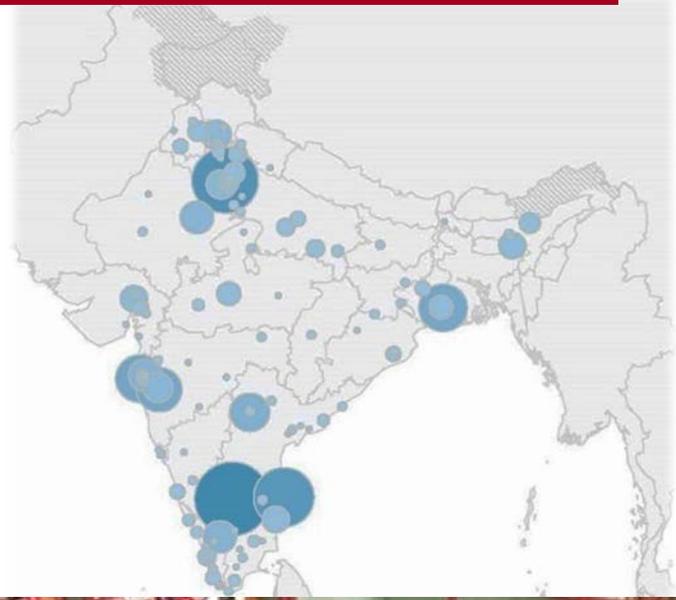
■ Males (35%)







# *US/UW Bose scholars to India*





# *The Khorana Program*

## Goals

1. *Provide students with a transformative experience*
2. *Rural development & Global Food Security*
3. *Increase partnerships between academia and the private sector to benefit society*



# *Rural Development*



- \$1 million USAID grant benefitted over 30,000 women's self help groups and farmers over three years



- 2-fold increase in milk and cereal production
- ~250,000 individuals benefitted





# *Establishing Soil Testing Labs*

- Rural Development through Public-Private Partnership with *Mahindra & Mahindra* and USAID
- Placed faculty (John Peters) in India for two years
- Established 100 soil testing labs throughout India





# *The Khorana Program*

## Goals

1. *Provide students with a transformative experience*
2. *Rural development & Global Food Security*
3. *Increase partnerships between academia and the private sector to benefit society*



# Training Science Entrepreneurs

*Two-week intensive  
Khorana Tech Transfer Course  
for Indian Policy Makers*



Senior Indian Council for Medical Research (ICMR) delegate discussing India's patent law with WARF's **Howard Bremmer** co-developer of the Bayh-Dole act



Tech Transfer Delegates at **Sector 67**  
Hacker workshop



# Progress Report

1. Khorana and Bose alumni have been selected for Fulbright, Rhoades & HHMI awards
2. Student exchange expanding to include senior scientists and policy makers in Technology Transfer
3. Rural Development projects initiated with three major organizations
4. Engaging Industrial partners in rural development
5. Young Investigators' Organization (Sci-ROI)



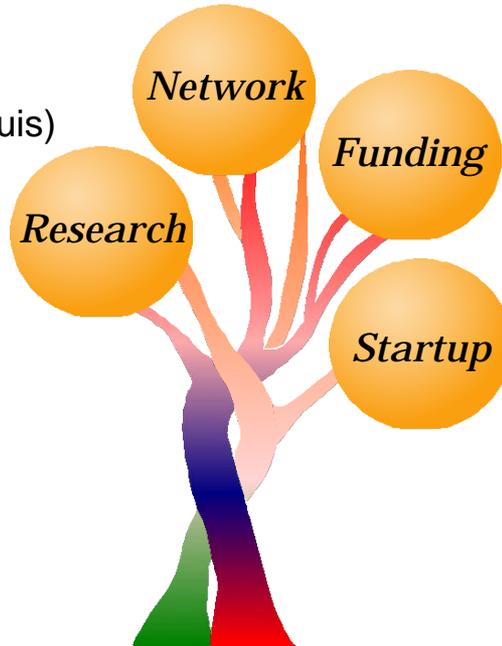
**Venue**  
**October 21:**  
*Consulate General of India, Chicago*  
**October 22-23:**  
*University of Chicago*

**Registration**  
[www.sciroi.org](http://www.sciroi.org)



**Sci-ROI Leadership Team:**

- Nidhi Kakkar (UIUC)
- Piyush Lal Behari (UW-Madison)
- Ashwin Mohan (Wash Univ. St. Louis)
- Arindam Mondal (IIT-Kharagpur)
- Sumitha Nallu (Univ. Chicago)
- Naveeda Qadir (Winstep Forward)
- Megha Rajendram (Purdue)
- Jaspal Singh (UT-Houston)
- Renu Singh (Univ. Minnesota)
- Anshuman Srivastava (MIT)
- Sri Ram (Azim Premji Univ.)



**150 participants only**

**Organized by**





# Winstep Forward

## **WSF Board :**

*Suresh Chandra*

*Ellen Foley*

*Jeff Bartzen*

*Mark Krebsbach*

*Aseem Ansari*

**WINStep Forward**

[info@winstepforward.org](mailto:info@winstepforward.org)



**Naveeda Qadir**



**Eric Horn**



**Lexi Freriks**