



OBAMA-SINGH 21st CENTURY KNOWLEDGE INITIATIVE AWARD (USIEF, 2013-2016):

”THE STEM-FACULTY PROJECT: Training the Next Generation of STEM Faculty at Higher Educational Institutions in India”

Partners: OSU & Aligarh Muslim University

OSU Project Leaders: Anil K. Pradhan (D),

Karen Irving (AD-Education),

Sultana N. Nahar (AD-Research)



OFFICE OF INTERNATIONAL AFFAIRS

India Gateway Fall Meeting, September 30, 2015

INITIATION: OBAMA-SINGH STEM ER PROJECT AT AMU, September 2013



- Project grew interest in many: Presentations
 - Two public events with educators in Delhi
 - Universities Delhi, Kashmir, Jammu, Mata Vishnu
 - Research Institutes: TIFR, IIA, Science and Technology- Pune. Central Institute of Fisheries Education
 - Jain Univ, Indraprastha Institute of Information Technology, Thakur's College of Engineering
 - Odisha Higher Education Symposium
 - Aligarh Alumni conference, Association
 - OSU Alumni Associations in Delhi, Mumbai
- India Gateway participated in most of them

MOA BETWEEN OSU AND AMU

- Signed at AMU, 2013 (OSU: William Brustein, Pat Osmer, David Williams, AMU: Pro-VC, VC)

- **Dual Degree Program:**

MEd-STEM at OSU (2 years) & Ph.D. at AMU

- OSU: Tuition, research facilities (4 students)
- AMU: OSU-AMU Center of Excellence: Smart Class-rooms, other facilities



- **Websites with detailed information:**

- <http://www.astronomy.ohio-state.edu/~pradhan/Stem/main.html>

- <http://www.astronomy.ohio-state.edu/~nahar/obama-singh.html>

STEM Faculty Training Program



- Developed a new curriculum for MEd-STEM - K. Irving, A. Rodgers, A.K. Pradhan, S.N. Nahar
- Students register for equal number of credits for education classes and research in STEM
- Students are trained for world-class teaching skill and lead cutting edge research
- CAA approved the curriculum in December 2013



AMU FELLOWS WITH OSU ADVISORS



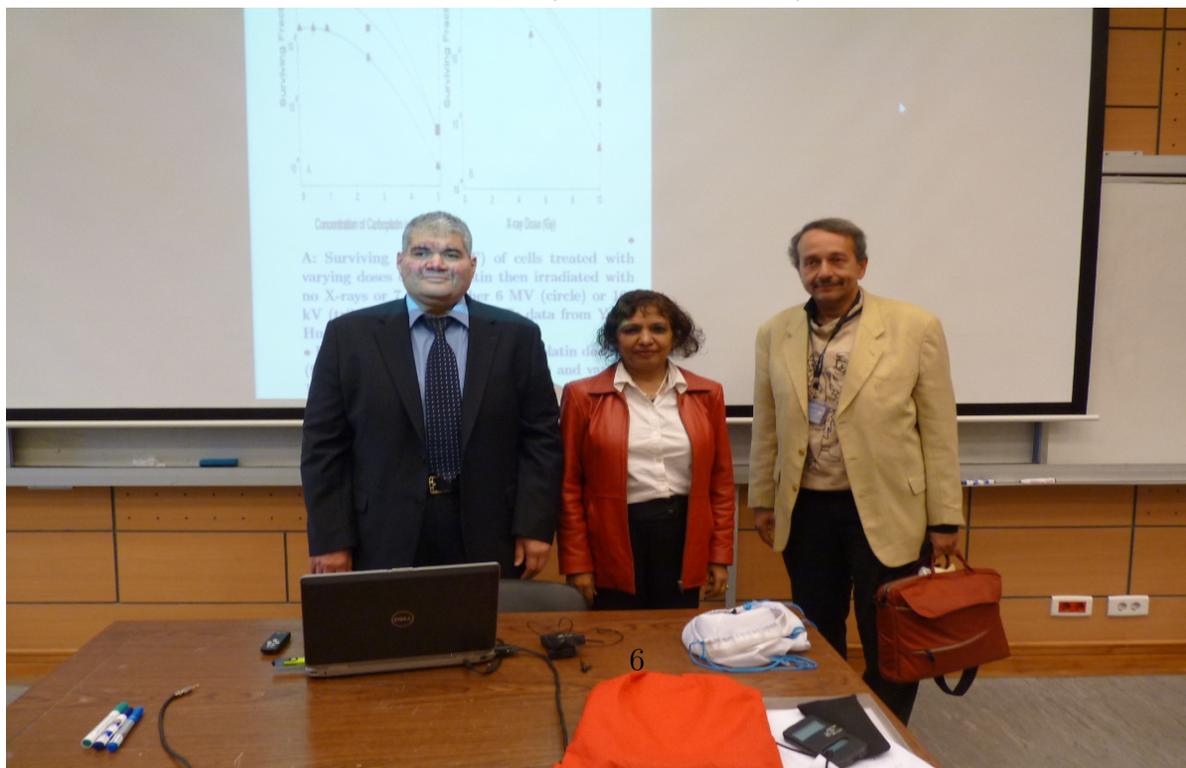
- Four AMU Ph.D. students, 2 males and 2 females, were selected as Fellows
 - Asim Rizvi
 - Hala
 - Malik Azeem
 - Nida Rehmani
- Started OSU classes via distance learning June 2014
- Arrived OSU in August 2014, completed first Phase I of education classes and research in their discipline with high proficiency in June 2015
- Back at AMU for Phase II - field experience in teaching and completion of research projects
- OSU MEd-STEM degree in Spring 2016
- In process: 4 AMU research students, Fall 2016

Saudi Arabia: MOHE Consideration

- Appreciation of Minister of Higher Education, Dr. Khaled Al-Anqari, Deputy Minister: "Super super good" program



Egypt: Vice Chair, Zewail City of Science and Technology (In plan)



Future: International STEM Education and Research Conference, Feb 24-27, 2016



The Aligarh Muslim University, Aligarh, India

announces

International Conference

On

**Nanotechnology (ALIGARH NANO-V) and STEM-Education and Research (STEM CON-16)
(February 24-27, 2016)**



THE OHIO STATE UNIVERSITY

In partnership with The Ohio State University (OSU) in Ohio, USA and CEERI Pilani, the Aligarh Muslim University (AMU) is organizing an International Conference on Nanotechnology and STEM-ER (Science, Technology, Engineering and Mathematics-Education and Research) during February 24-27, 2016. More than fifty foreign delegates are expected to attend. The first two days (February 24 & 25, 2016) would be devoted to Nanotechnology and its applications, the next two days (February 26 & 27, 2016) to on recent advances and methods to improve the teaching and research standards in STEM subjects in universities in India and other developing countries.

In a pilot project (STEM-ER) funded by the US-India Education Foundation (USIEF) under the title '21st Century Knowledge Initiative', OSU and AMU have started a two-year dual PhD and Masters of Education (Med-STEM) degree programs. Four AMU PhD research students, selected under a very strict criteria have already completed courses of the first academic year at OSU and returned to AMU to continue the second year for the dual PhD+Med (STEM) degrees. The aim of the project is to create world class faculty for teaching and research at Indian Universities.

The Centre of Excellence in Nanotechnology at AMU supported by Council of Science and Technology (CST) Uttar Pradesh is a leading national centre for Nanotechnology research with several patents and awards to its credit. The Centre successfully organized four conferences in past with active participation of foreign and national experts on Nanotechnology.

Under Patronage

Lt. Gen. Zameer Uddin Shah
Vice Chancellor, AMU

Brigd. S. Ahmed Ali
Pro-Vice Chancellor, AMU

Conference Themes

NANOTECHNOLOGY

- ✓ Nanotechnology for defence applications
- ✓ Synthesis and characterization techniques of nanomaterials
- ✓ Nanotechnology for harnessing energy
- ✓ Nanomaterials in food, agriculture and water purification
- ✓ Nanoparticles for engineering materials
- ✓ Magnetic nanoparticles and applications
- ✓ Nanoparticles based drug targeting
- ✓ Nanomedicine and health-care
- ✓ Nanoelectronics and nanosensors
- ✓ Bionanotechnology
- ✓ Nanocosmetics and house hold products
- ✓ Graphene and its nanocomposites
- ✓ Organic and inorganic nanocomposites

STEM-ER

- ✓ US-India STEM Faculty Training Project
- ✓ STEM Teaching at Indian Universities
- ✓ Indo-US Universities Consortium for STEM-ER
- ✓ International STEM-ER Initiatives
- ✓ Digital STEM education

For more details please visit:

Websites:

www.aligarhnano.com

www.astronomy.ohio-state.edu/~pradhan/Stem/main.html

Contact us at: aligarhnano@gmail.com

Support: "US-India Education Foundation, AMU"

Prizes: Best Oral and Best Poster presentations"

Conference Chairs

Nanotechnology (ALIGARH NANO-V)

1. Prof. Alim H. Naqvi (Convener)
E-mail: alimhnaqvi@yahoo.com, Mobile No.: +91-9219505388
2. Prof. Ameer Azam (Convener and Chairman Applied Physics Deptt.)
E-mail: azam2288@gmail.com, Mobile No.: +91- 93197887423
3. Prof. Jamil Akhtar (Co-convener)
E-mail: jamil@ceeri.ernet.in, Mobile No.: +91-9829075297
4. Dr. Shakeel Khan (Co-convener)
E-mail: skhanapd@gmail.com, Mobile No.: +91-9358210751
5. Dr. M. Wasi Khan (Organizing Secretary)
E-mail: wasiamu@gmail.com, Mobile No.: +91-9897532717
6. Dr. S.S.Z. Ashraf (Joint Organizing Secretary)
E-mail: ssz_ashraf@rediffmail.com, Mobile No.: +91-8171289819
7. Dr. Braj Raj Singh (Joint Organizing Secretary)
E-mail: brajviro@gmail.com, MobileNo.: +91-7417311153
8. Dr. Azra Parveen (Joint Organizing Secretary)
E-mail: azrap2001@gmail.com
9. Dr. S. Asad Ali (Joint Organizing Secretary)
E-mail: asadsyyed@gmail.com, Mobile No.: +91-9412537464
10. Dr. Zafrul Hasan (Joint Organizing Secretary)
E-mail: zafaramu@gmail.com, Mobile No.: +91-9456096093

STEM-ER (STEMCON-16)

1. Prof. Anil Pradhan, Ohio State University, USA (Convener)
E-mail: pradhan.1@osu.edu, Mobile No.: 1-614-292-5850
2. Prof. Nesar Ahmad, AMU, Aligarh (Convener)
E-mail: nesar.ahmad@gmail.com, Mobile No.: +91- 9411878942
3. Prof. Sultana N. Nahar, Ohio State University, USA (Co-convener)
E-mail: nahar.1@osu.edu, Mobile No.: 1-614-292-1888
4. Prof. Karen Irving, Ohio State University, USA (Co-convener)
E-mail: irving.8@osu.edu, Mobile.: 1-614-292- 1229
5. Prof. Rahimullah Khan, AMU, Aligarh (Co-convener)
E-mail: rahimullah@rediffmail.com, Mobile No.: +91-09319683858
6. Prof. Altaf Wani, Ohio State University, USA (Co-convener)
E-mail: wani.2@osu.edu, Mobile No: 1-614-292-9015
7. Prof. Asad Ullah Khan, AMU, Aligarh (Organizing Secretary)
E-mail: asad.k@rediffmail.com, Mobile No.: +91- 9837021912
8. Mr. Hasan Kamal, USA (Joint Organizing Secretary)
E-mail: hasankamalusa@gmail.com,
9. Dr. P. Tripathi, AMU, Aligarh (Joint Organizing Secretary)
E-mail: ptrip71@yahoo.com, Mobile No.: +91-8791472602
10. Dr. M. Mohsin Khan, AMU, Aligarh (Joint Organizing Secretary)
E-mail: khanmohsinin@gmail.com, Mobile No.: +91-963436742



Future plans:

- **STEM Education and Research Conference (STEMCon16)**

Topics:

- **US-India STEM Faculty Training Project**
- **STEM Teaching at Indian Universities**
- **Indo-US Universities Consortium for STEM-ER**
- **International STEM-ER Initiatives**
- **Digital STEM education**
- **received response from a number of Indian universities**
- **received response from several international universities**
- **Writing and working on proposals for continuation of the project**
- **Expansion through Indo-US consortium effort under the Global Gateway Office of International affairs**
- **Expansion for global implementation**