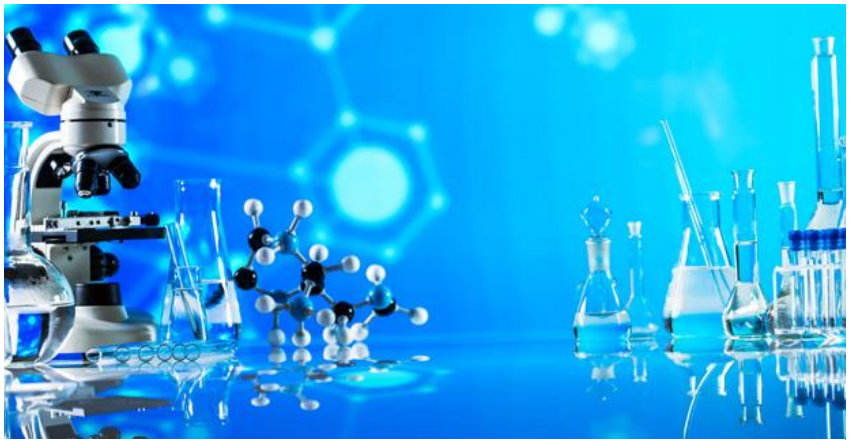

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Training Future Teachers

By Megan McDrew
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The Ohio State University and Aligarh Muslim University have joined hands to prepare Indian students to excel in STEM fields, as well as become teachers at the country's higher education institutions.

With the world's largest youth population, India is increasingly focusing on establishing new colleges and institutions of higher education to serve the needs of present and future students. One of the priority areas, thus, is training the next generation of faculty in these institutions. To address this, U.S. and Indian universities are coming together in innovative ways. For instance, The Ohio State University (OSU) and the Aligarh Muslim University (AMU) in Uttar Pradesh have formed a partnership to train graduate students as world-class faculty in STEM (science, technology, engineering and mathematics) subjects.

pilot project, titled The STEM Faculty Project: Training the Next eration of STEM Faculty at Higher Education Institutions in India, was itted to the U.S.-India Educational Foundation (USIEF) by the ersities. It received the U.S.-India 21st Century Knowledge Initiative d from the U.S. Department of State and University Grants Commission, ernment of India, to establish a joint center of excellence in STEM ation and research; initiate a two-year dual-degree graduate program ializing in teaching STEM subjects and state-of-the-art research; organize

For more information

Sultana Nahar

The Ohio State University

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21st Century Knowledge Initiative

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mediated by current and newly-trained STEM faculty at the center; and expand the project by forming an Indo-U.S. consortium of universities similarly dedicated to STEM education and research and national capacity building in faculty training.

The associate director and chief liaison officer for the project is Sultana Nurun Nahar. She is a research professor at The Ohio State University's Department of Astronomy. She is also an adjunct professor at the Department of Physics, Aligarh Muslim University.

Excerpts from an interview.

Please tell us a bit about yourself and your educational background.

I am a research professor in the Department of Astronomy of The Ohio State University. My field is atomic astrophysics. With my colleague Anil Pradhan, I have co-authored the textbook "Atomic Astrophysics and Spectroscopy." We proposed a method for precise X-ray spectroscopy for cancer treatment and co-led the multidisciplinary program for it at OSU.

I was born in Bangladesh and went to Dhaka University for bachelor's and master's degrees in physics. I moved to the U.S. in 1979 and received a Master of Arts degree and Ph.D. from Wayne State University in Detroit.

I have also founded the International Society of Muslim Women in Science, with members from 28 countries and a network of scientists from 23 developing countries.

Please tell us more about the project.

Rapidly-emerging economies like India have an unparalleled need for higher education. However, they lack educational infrastructure. The main objective of the current program is to train those who would teach. In India, the current need is to train at least 300,000 faculty members for existing and upcoming institutions of higher education for about 150 million students.

For the dual degree, the students spend the first year at OSU for taking classes in education and carrying out research, under the supervision of OSU advisors, on new but related topics in their fields.

The students spend the second year in the home institution for a field experience course, for which they teach undergraduate students using the methodology they learned at OSU. They also register for credits for a thesis
ect on education and for completion of a research project in their STEM
s. In the end, they make the final presentations of both the education and
M research projects to the OSU advisors at AMU. They receive the M.Ed.
ster in Education] in STEM degree certificates at the spring
mencement. The research at OSU goes to their Ph.D. thesis when the
. degree is granted by AMU.

ld you tell us about any innovative research that has been a

Our students from AMU performed outstandingly. Their field teaching field experience course received very positive response from the students they taught. And, they wrote innovative education projects.

The students were trained to set up and lead research projects in STEM disciplines in Indian institutions. Three students have made potential discoveries in cancer and protein research, one has opened up one area of mathematical Voltera operators and four have obtained important results from cutting-edge research in physics, chemistry and radiology.

What does the future of the OSU-AMU initiative look like?

We have completed the project very successfully. Our immediate future plan is to have all the OSU-trained students take faculty positions at AMU. We are confident that these students will contribute enormously to the education system of India.

Megan McDrew *is a professor of sociology at Hartnell College. She is based in Monterey, California.*

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