

UTRGV Physics team in the spotlight since discovery

BY STEVE CLARK | STAFF WRITER | Posted: Tuesday, March 15, 2016 9:11 pm

The University of Texas Rio Grande Valley's Center for Gravitational Wave Astronomy played an integral role in an historic scientific discovery announced just last month.



That's a big deal for the center, the physics department, UTRGV and the Valley as a whole, according to Dr. Soma Mukherjee, professor of physics and the department's interim chair.

UTRGV logo

The discovery of gravitational waves, announced at a National Science Foundation press conference in Washington D.C. on Feb. 11, proves Einstein's century-old gravitational wave theory and promises to revolutionize the field of astronomy.

With the news still fresh, Mukherjee thinks now is a good time to shine a light on something few Valley residents know exists right in their own backyard: one of the nation's top physics programs — which is already attracting new students thanks to its part in the recent discovery.

Mukherjee said UTRGV's gravitational wave team is the largest in the state and among the biggest in the country.

"The discovery, it's an historical event," she said. "But at the same time, the community needs to know that the people who directly contributed to this, they are right here."

In fact, the algorithm that enabled the first gravitational-wave detection — at the Laser Interferometer Gravitational Wave Observatory (LIGO) in Livingston, Louisiana, in September — grew out of a master's thesis by William Robert Johnston, a former physics graduate student at Brownsville.

UTRGV professor of physics Dr. Soumya Mohanty and associate professor of physics Dr. Malik Rakhmanov collaborated on developing the algorithm with two Florida professors. Before coming to Brownsville, Rakhmanov was part of the team that built the LIGO facility in Louisiana and another one like it Hanford, Washington — the only two such facilities in the United States.

Mohanty, Mukherjee and Rakhmanov have a close bond, having worked together early in their careers.

"When we were post-docs, before we became professors — even after we joined as young assistant professors — we were working at the Livingston observatory, even on New Year's Eve and New Year's Day," Mukherjee said. "Because you have to constantly sit there and monitor, right there in the control room."

Rakhmanov said talented scientists are drawn to work together, which is how UTRGV wound up with its crack physics department, including the gravitational wave center's roughly dozen core faculty members.

"That's what happened here in the Valley," he said. "In some ways, it makes UTRGV a very special

campus of the UT System. Of course, Austin is so much bigger and more powerful, but in this particular aspect we're unique to the system.”

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