Alumnus Baganoff Detects the Galactic Big One

UMR Alumnus Frederick Baganoff (BS ’85) has recently led a team of astronomers in the discovery of something that has been highly anticipated yet has proved elusive - X-ray radiation from what is thought to be a supermassive black hole at the center of our galaxy.

He and his collaborators at M.I.T., Penn State, and UCLA recently detected faint X-ray emission from the direction of Sagittarius A* using NASA's orbiting Chandra X-Ray Observatory. Sagittarius A* is a point-like variable radio source at the center of our galaxy. It looks like a faint quasar and is believed to be powered by gaseous matter falling into a supermassive black hole 2.6 million times the mass of our sun.

After leaving UMR Fred received a Ph.D. in astronomy from University of California at Los Angeles where he did work on variability of quasars and active galactic nuclei in all electromagnetic bands. He is now a postdoctoral research associate at MIT and lead scientist on the "Sagittarius A* and the Galactic Center" project using the Advanced CCD Imaging Spectrometer (ACIS) of the orbiting Chandra X-Ray Observatory.

According to our alumnus, the precise positional coincidence between the new X-ray source and the radio position of the long-known source called Sagittarius A* "encourages us to believe that the two are the same." Chandra’s remarkable detection of this X-ray source has placed astronomers within a couple of years of a coveted prize: measuring the spectrum of energy produced by Sagittarius A* to determine in detail how the supermassive black hole that powers it works. Fred comments, "The race to be the first to detect X-rays from Sagittarius A* is one of the hottest and longest-running in all of X-ray astronomy. Theorists are eager to hear the results of our observation so they can test their ideas." He also added that black hole research is "heated".

But now that an X-ray source close to Sagittarius A* has been found, it has taken researchers by surprise by being much fainter than expected, Fred explained, "There must be something unusual about the environment around this black hole that affects how it is fed and how the gravitational energy released from the infalling matter is converted into the X-ray light that we see. New result provides fresh insight that will no doubt stir heated debates on these issues."

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John Park Doing Well

Last July, physics professor John Park was diagnosed as having lymphoma. In keeping with his fundamentally irrepressible nature, he continues with his administrative activities as UMR Chancellor while undergoing chemotherapy. We are pleased to report that the treatment is going well and that he is on the road to recovery.

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