

Name: Michael Corcoran

Code: 662

Home institution: The Catholic University of America

Name of task: The HEASARC and NICER

What do you do for CRESST:

I work for the High Energy Astrophysics Science Archive Research Center as manager of the HEASARC's calibration database and as archive scientist for the Fermi Gamma-Ray Space Telescope and for ROSAT (an older X-ray satellite observatory which produced the first X-ray all sky map by an imaging instrument, a precursor to eROSITA). The HEASARC is NASA's archive of high energy astrophysics data, the place where scientists come to obtain and analyze data from X-ray and Gamma-ray satellite missions like Swift, NuSTAR, XMM, Chandra, Fermi, INTEGRAL and lots of other missions. My role is to help data access, and provide help with data analysis, and, as manager of the calibration database, ensure that up-to-date instrument calibration information is available. I also write and publish the "High Energy Astrophysics Picture of the Week", which highlights recent results from high energy astrophysics. In addition to my work with the HEASARC, I also work with the NICER Guest Observer Facility. NICER is a relatively new observatory devoted to timing and spectrum analysis of X-ray sources, berthed on the International Space Station. NICER's prime science mission is to study rapidly spinning neutron stars which pulse in X-rays, and, from the time profile of the X-ray pulsations, determine the neutron star mass-radius relation.



What is your background:

I'm originally from a town called Little Neck (renowned for its clams) in Queens, NY. I received a BA in physics from Cornell University and a PhD in astrophysics from the University of Pennsylvania, where I studied massive binary star systems under R. H. Koch. I was first hired at Goddard by Sally Heap to work on analysis of UV spectra of massive binary stars using data from the IUE satellite. When that position ended, I became a National Science Foundation Research Associate (the forerunner of the NPP) working with Jean Swank on X-ray spectrometry of massive stars and their environments. It was at this time that my fanatic devotion to the star eta Carinae began, and, working with Jean, Rob Petre and Gayle Rawley, we discovered the X-ray variability of that star, which proved a key to unlocking eta Car's duplicity. At the end of my NRC I was hired by Nick White to join the newly-formed HEASARC under contract with the Universities Space Research Association. While I was with USRA, I served as associate director of the original CRESST, and also served in a number of other administrative capacities. Since 2016, I've served the high energy community as the executive secretary for the High Energy Astrophysics Division of the American Astronomical Union. I like to golf and play the guitar in my off-time.

Favorite part of being a CRESST Scientist:

Undoubtedly the people you get to work with, both scientists and the excellent CRESST administrative staff.

Highlight of research as a CRESST Scientist:

If I limit myself to CRESST2, my research highlight is being part of the NICER science team (and getting to view the launch of NICER on a SpaceX Falcon 9 from Cape Canaveral).

Publications:

See <https://science.gsfc.nasa.gov/sed/bio/michael.f.corcoran> for details.

Awards won:

2019 - NASA Special ACT - Team Award for execution of the NICER Observing Program 2018 - NASA Special ACT - Team Award for contributions to the NICER Team

2015 - NASA Group Achievement Award

2005 - CPSS Community/Educational Outreach Award

2001 - CPSS University Collaboration Award

1992 - NASA Group Achievement Award

1989 - National Research Council Resident Research Associate Award

To Contact Michael to learn more about his work or collaboration, he can be reached at:

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