

Summary of Accomplishments – Dr. Alessandra Corsi –

Dr. Corsi's research focuses on the study of the deaths of massive stars (supernovae), gamma-ray bursts (GRBs), and mergers of neutron stars and black holes. As a member of the LIGO Scientific Collaboration, she has established herself as one of the international leaders in the newly born field of gravitational-wave astronomy. After pioneering the field with papers such as Corsi & Meszaros 2009, "Gamma-ray Burst Afterglow Plateaus and Gravitational Waves: Multi-messenger Signature of a Millisecond Magnetar?" 2009, *ApJ*, 702, 1171 (131 citations as of 9/2021), she continued working for more than a decade in this area of research bridging Gravitational Physics and Radio Astronomy. Dr. Corsi's h-index is 86 as of 9/2021. She is co-author of more than 270 peer-reviewed publications. Her research is supported via grants of the National Science Foundation (NSF) and of the National Aeronautics and Space Administration (NASA). As of 9/2021 she has secured as PI about 1.6 million USD in external research funding. This includes a prestigious NSF CAREER award.

In 2017, Dr. Corsi's scholarly work culminated in the discovery of the radio afterglow of GW170817, the first binary neutron star merger detected in both gravitational waves and light. This discovery is reported in the shared-first-authorship paper Hallinan, Corsi, et al., 2017, *Science*, 358, 1579 (310 citations as of 9/2021). In recognition of her leading role in this discovery, in Fall 2017 Dr. Corsi was invited by the National Science Foundation to present during a National Press Club Press Conference in Washington DC. In Fall 2019, she was elected Fellow of the American Physical Society (Division of Astrophysics) "For her exceptional contributions to the discovery of both gravitational waves and their electromagnetic counterparts." She is the first faculty at TTU to be awarded a TAMEST (The Academy of Medicine, Engineering & Sciences of Texas) Edith and Peter O'Donnell award for Science (2020), "For her paradigm-shifting research on the merger of stars and black holes." In 2020, she was selected as one of the "2020 SN 10: Scientists to Watch" by *Science News*. In 2022 she was among the recipients of one of the 2022 New Horizons in Physics Breakthrough Prizes, "For leadership in laying foundations for electromagnetic observations of sources of gravitational waves, and leadership in extracting rich information from the first observed collision of two neutron stars." Dr. Corsi is also a l'Oreal-UNESCO National awardee "For Women in Science", and a 2015 fellow of the Research Corporation for Science Advancement (Scialog). As part of the LIGO Collaboration she is a recipient of the Special Breakthrough Prize in Fundamental Physics, the Gruber Cosmology Prize, and the AAS Bruno Rossi Prize.

Dr. Corsi was the first faculty at TTU to establish a Memorandum of Understanding (MoU) that enabled TTU to become an institutional member of the LIGO (Laser Interferometer Gravitational Wave Observatory) Scientific Collaboration. Dr. Corsi also established an MoU that enabled TTU to become an institutional member of GROWTH - Global Relay of Observatories Watching Transients Happen - a Caltech-led international scientific collaborative project in astronomy. In 2019 Dr. Corsi established a partnership with the National Radio Astronomy Observatory (NRAO) via which TTU has become the first U.S. mainland hub for the NRAO's National and International Non-Traditional Exchange (NINE) program. In 2021 Dr. Corsi's work led to the establishment of an MoU between Associated Universities, Inc. managing the NRAO (AUI/NRAO) and TTU for collaborations on programs that utilize scientific research for positive societal impact (broader impact) including, but not limited to, STEM education.

So far Dr. Corsi has supervised 4 post-doctoral researchers, 5 graduate students, 20 undergraduate students, and 3 high-school students. At TTU, she has taught a variety of courses ranging from large introductory astronomy courses for non-science majors, to upper-level and graduate Astrophysics and Physics courses.