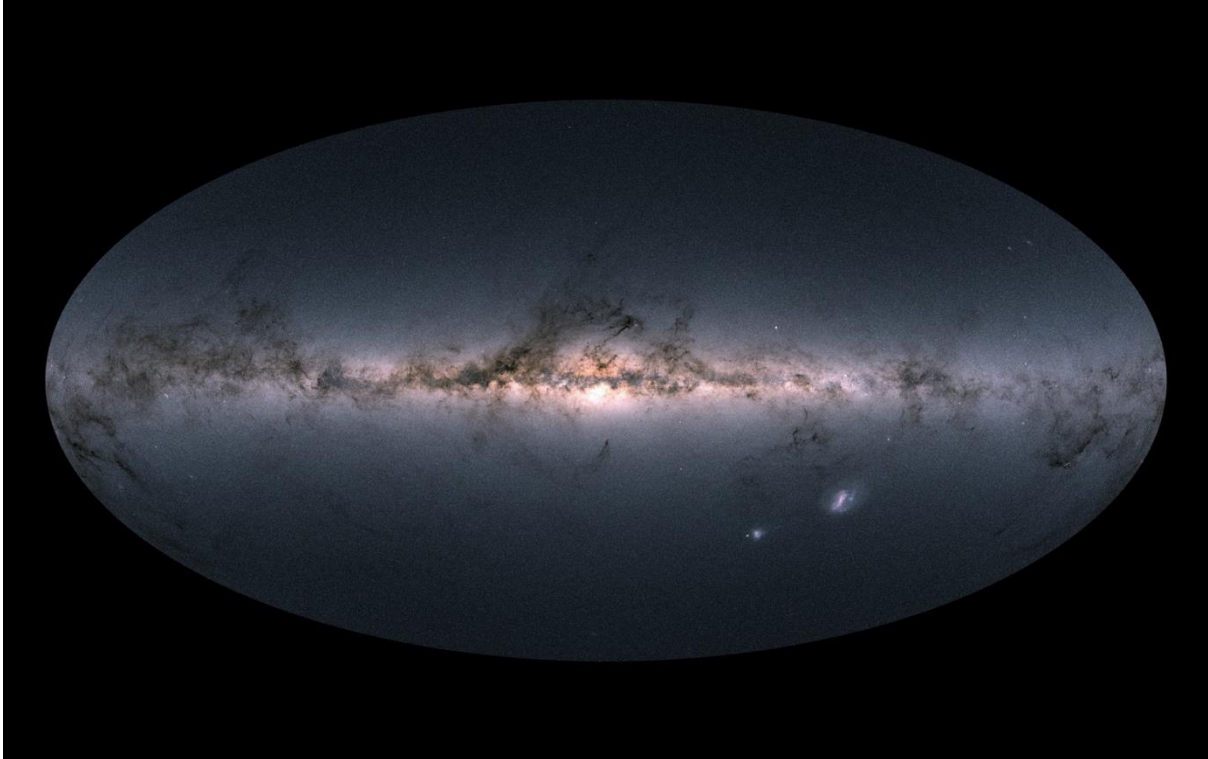


PC-320, Block 5: Topics in Physics: Astronomy and Data Analysis with the Gaia Space Telescope



Description: This course explores the Milky Way through the eyes of the Gaia Space Telescope, which has catalogued some 2 billion stars in the solar neighborhood. The spatial distributions, velocities, and chemistries of these stars tell a story about the history of the Milky Way – a story that astronomers and astrophysicists are still unravelling. We will connect astronomy concepts to real life data, learning a bit of programming (python), database interaction, and data visualization along the way.

Pre-reqs: PC-251 (Modern Physics)

What You'll Be Doing: You might be interested in this course if you like data or astronomy, or if you'd like to learn some programming basics using real, astrophysical data. No prior programming or astronomy experience is required! A few of the projects that students will work on include: (1) mapping the stars close to the Sun, (2) finding and determining the ages of and distances to certain star clusters, and (3) determining how stars are distributed vertically in our Galaxy. This course will have a final project in lieu of an exam, and students are encouraged to formulate their own project ideas from the material learned in class (for example: building a static, computational model of the Milky Way, or measuring the bending of our Galaxy's disk.)