

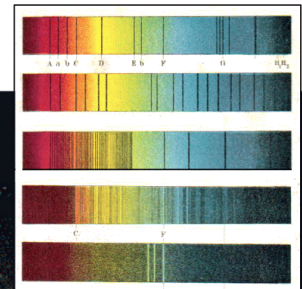
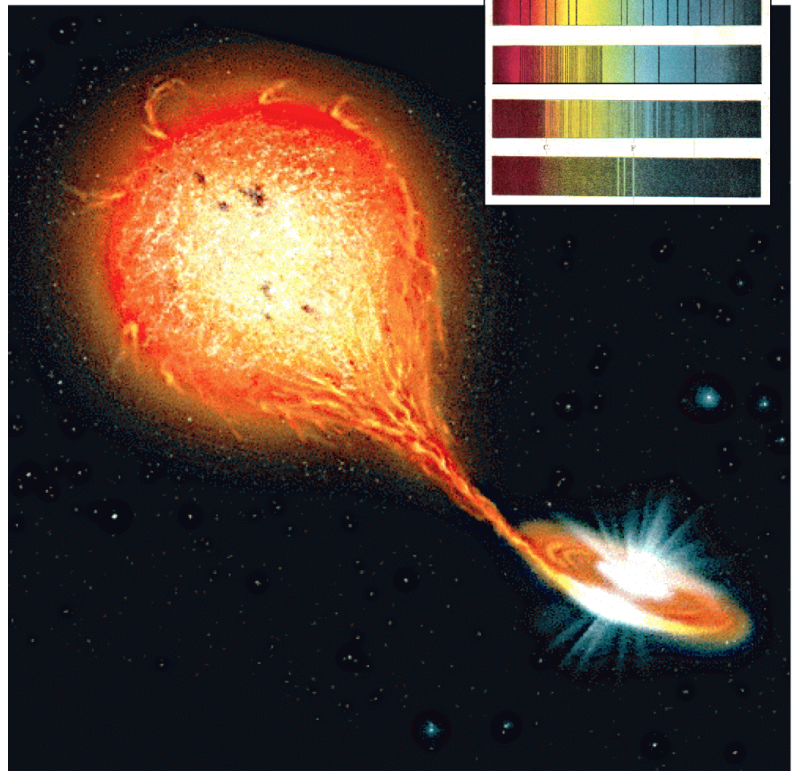
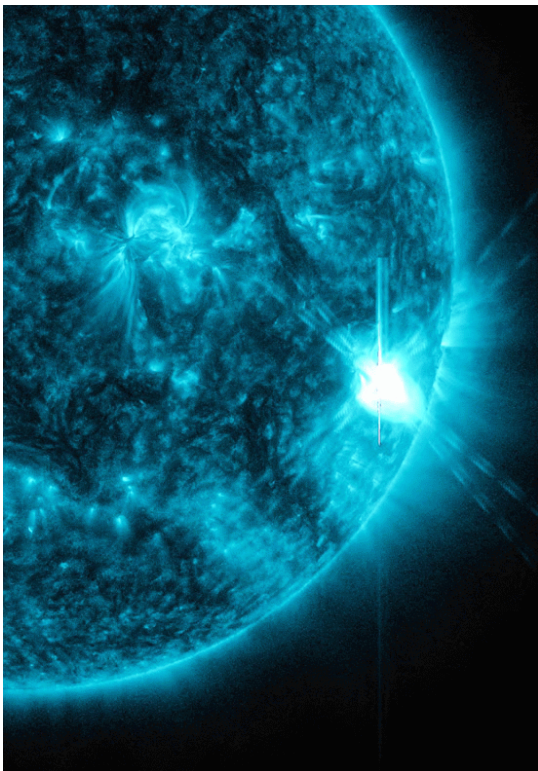
# ASTR-5700: STELLAR ASTROPHYSICS

**Instructor:** Prof. Steven R. Cranmer (steven.cranmer@colorado.edu)

**Time & Place:** Spring 2018, Mon/Wed/Fri, 9:00-9:50 am, Duane Physics E-126

**Web page:** [http://lasp.colorado.edu/~cranmer/ASTR\\_5700\\_2018/](http://lasp.colorado.edu/~cranmer/ASTR_5700_2018/)

Stars are the basic building blocks of the universe, and they are responsible for the production of most elements via nucleosynthesis. In this course, we will explore the physical principles that govern stellar interiors, evolution, and atmospheres, with the Sun and its heliosphere often being used as the closest and best-studied example of a star. The course will cover energy generation and transport in stars, principles of stellar structure, stellar rotation, pulsation, and evolution up to the supernova and compact object stages. The course will also include radiation transport in stellar photospheres, chromospheres, coronas, and winds. We will occasionally touch on topics in planetary astrophysics, especially in areas where the boundary lines between stars, brown dwarfs, and planets become somewhat ambiguous.



This course is an elective for APS graduate students. A definite pre-requisite is senior-level undergraduate physics. The catalog says that a recommended pre-requisite or co-requisite is Radiative and Dynamical Processes (ASTR-5120), but I won't assume that students have taken it.