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K07 - Astronomy as the Leader of Inter- and Multi-Disciplinary Sciences

Wednesday, 25 November 2026 09:00 (20 minutes)

The importance of Astronomy grows up with new discoveries related not only to Astronomy itself, but also Physics, Chemistry, Biology, Geology and many other natural sciences, as well as Computer Science. Astronomy becomes a science providing Big Data from the Universe to enrich our knowledge in many fields. Many interdisciplinary sciences have appeared and developed based and/or related to Astronomy: Astrophysics (since the end of the XIX century, one of the first ever Interdisciplinary Sciences), Astrochemistry, Astrobiology (or Bioastronomy), Planetary Science ("Astrogeology"), Astroinformatics, Archaeoastronomy, etc. Each interdisciplinary science will be presented and discussed in short. In addition, Astronomy is always present in multidisciplinary fields, such as the Search for Extraterrestrial Intelligence (SETI), Big Data, Data Science, Space Sciences and Technologies, etc., as well as transdisciplinary approach in science. Among the IAU Divisions coordinating the Astronomy by areas, one half have pure astronomical/astrophysical subjects and another half have interdisciplinary nature (ex. Division B: Facilities, Technologies and Data Science, Division D: High Energy Phenomena and Fundamental Physics, Division F: Planetary Systems and Astrobiology). IAU Strategic Plans 2011-2020 and then 2021-2030 also have a special emphasis on Astronomy for the development of interdisciplinary sciences and this is one of the main goals for the IAU Regional Offices of Astronomy for Development (ROADs). Armenia hosts one of the ROADs (South West and Central Asia, SWCA) and is heavily involved in interdisciplinary and multidisciplinary activities as well. Collaboration between two ROADs, SWCA and South East Asia (SEA), in this area may be rather efficient.

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