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TEXAS A&M UNIVERSITY

Physics & Astronomy



SMP

SATURDAY MORNING PHYSICS

16-YEAR ANNIVERSARY

DISCOVER HOW
PHYSICS
HELPS US
UNDERSTAND NATURE!

AN EVENT SERIES FOR TEXAS HIGH SCHOOL STUDENTS TO
LEARN ABOUT THE NEWEST DEVELOPMENTS IN MODERN PHYSICS

*particle physics, cosmology, black holes, nuclear astrophysics,
emergent topology, quantum optical atomic clocks, and much more!**

*** WIN PRIZES (AND EARN A CERTIFICATE!)**

ORGANIZERS & CONTACT: Prof. Ralf Rapp (rapp@comp.tamu.edu), Prof. Rainer Fries (rjfries@comp.tamu.edu),
Prof. Jeremy Holt (holt@comp.tamu.edu), Cyclotron Institute and Department of Physics & Astronomy at Texas A&M University

<https://cyclotron.tamu.edu/smp/>

PLEASE SHARE



TEXAS A&M UNIVERSITY

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SATURDAY MORNING PHYSICS

PHYSICS: THE SCIENCE OF MATTER AND ENERGY AND THEIR INTERACTIONS

WHY?

Physics is a fundamental science to unravel the laws of nature so that we improve our understanding and appreciation of the world around us, from the smallest to the largest scales. For the 16th year running, you are cordially invited to attend and have fun while finding out how scientists are pushing the frontiers of our knowledge of fundamental particles, the phases of matter, the universe, and applications to address outstanding challenges of our future. Listen to and discuss with world-renowned scientists working at Texas A&M University who have agreed to share their newest insights and knowledge first-hand in an entertaining and understandable way.

HOW?

The format of each Saturday Morning Physics (SMP) event is as follows:

9:30 Check-In and Registration
10:00 Presentation
11:00 Discussion/Q&A

* **CERTIFICATE & PRIZES:** To be awarded a final "diploma" certificate, you need to complete at least 5 out of 7 events. Because there is a common thread through the event sequence, regular attendance is most beneficial. Prizes are given out at each event (except the first) based on the quizzes of the previous event.

WHERE?

📍 **PRE-REGISTRATION:** Please visit <https://cyclotron.tamu.edu/smp/> to register for free. When registering, make sure to take care of the liability waiver and acknowledge your parent's/guardian's consent by checking the appropriate box. Also remember to check back regularly for possible schedule updates or modifications.

LOCATION: Hawking Auditorium, Mitchell Institute for Fundamental Physics and Astronomy, Texas A&M University, College Station, TX 77843-4242
Tel. 979-845-1411
(Ask for Ralf Rapp, Rainer Fries or Jeremy Holt)

WHAT & WHEN?

Join us in 2023 to learn about the following topics:

- particle physics + black holes
- cosmic timescales + galaxy evolution
- high-precision experiments + data analysis
- topology in complex systems + quantum optics
- nuclear astrophysics + fundamental universe properties

Saturday, January 28
Professor Kevin Kelly

A deep dive into particle physics

Saturday, February 4
Professor Justin Spilker

Taking pictures of black holes

Saturday, February 11
Professor Casey Papovich

Seeing back in time with the Hubble and James Webb Space Telescopes

Saturday, February 18
Professor Grigory Rogachev

The origin of elements

Saturday, February 25
Professor Dan Melconian

Using the nucleus to probe fundamental properties of our universe

Saturday, March 4
Professor Joaquin Rodriguez-Nieva

Pattern formation in complex systems

Saturday, March 11
Professor Olga Kocharovskaya

Nuclear clock and quantum optics

No prerequisites necessary (except for your curiosity)!

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CREDIT: NASA, ESA, AND THE HUBBLE HERITAGE TEAM (STSCI/AURA)