



CYCLOTRON INSTITUTE
TEXAS A&M UNIVERSITY



SMP

SATURDAY MORNING PHYSICS

13-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**

*nuclear synthesis, the elements, and the age of the universe; black holes,
galaxies, and basic instruments for astronomical instrumentation;
quantum forces, the physics behind smart phones, 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),
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www.cyclotron.tamu.edu/smp

PLEASE POST



SATURDAY MORNING PHYSICS

PHYSICS: THE SCIENCE OF 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 13th 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 Registration and Welcome

10:00 Presentation

11:00 Discussion/Q&A

11:30-12:00 Quiz, Prizes, Hands-on Experiments, and Facility Tours

* **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 <http://cyclotron.tamu.edu/smp/> to register for free. If you register before Jan. 15, 2019, you are guaranteed to receive the SMP-19 equipment (kit), including backpack and "discovery folder." Also check back 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 2019 to learn about the following topics:

- nuclear synthesis and the elements
- DIY astronomical instruments and how-tos
- supermassive black holes and galaxies
- quantum forces and the early universe
- physics behind solar cells and smart phones

Saturday, January 19
Professor Greg Christian

***Sunshine and the Periodic Table:
How Nuclear Fusion Causes Stars
to Burn and Creates the Elements
Around Us***

Saturday, January 26
Professor Kevin Krisciunas

***Making Astronomical Measurements
With \$7 Instruments***

Saturday, February 2
Professor John Hardy

How Weird is the Weak Force?

Saturday, February 9
Professor Jonelle Walsh

***Supermassive Black Holes
in Nearby Galaxies***

Saturday, February 16
Professor Joe Ross

***Physics of Devices From
Solar Cells to Smart Phones***

Saturday, February 23
Professor Marlan Scully
Quantum Weirdness

Saturday, March 2
Professor Bhaskar Dutta
***The Very Early
Universe***

No prerequisites necessary (except for your curiosity)!

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