



Faces of Physics Presents:
Prof. Aldo Humberto Romero

**Can we really design
materials from scratch?**

February 27th @ 7:00 PM EST (USA)

Presented Live on YouTube, Link Below:

<https://www.youtube.com/watch?v=AKCF2NX38u8>

Abstract: Materials design aims to develop methodologies to obtain, grow, and "measure" materials that do not exist previously. It starts by defining or searching for a hypothetical material's chemical composition and crystal structure, which provide the basic information for performing electronic, magnetic, elastic, thermal, and optical characterization. In this talk, I will describe the recent efforts in the condensed matter community to develop methods that help us to design materials. I will cover applications from the primary use of electronic structure methods to structural search methods, machine learning approaches, and even publication text extraction to provide an understanding of the state of the field.

Bio: Prof. Aldo Humberto Romero is an Eberly family distinguished professor in Physics at West Virginia University. He obtained Ph.D. in Physics and Chemistry from the University of California, San Diego. After a postdoctoral experience at the Max Planck Institute in Germany, Prof. Romero was faculty in different Latin American countries before joining WVU in 2013. He is a co-author of more than 250 publications in different fields and high-impact journals, mainly on computational materials science. He is also a fellow of the American Physical Society and a Mexican Academy of Science member.

The Faces of Physics Speakers Series highlights the work of researchers from underrepresented groups to promote inclusion and inspire the next generation of scientists to see a place for themselves in the exciting field of physics. The Series is hosted and developed by the Marshall University Chapter of the Society of Physics Students (SPS) and has been funded over the years by the MU SPS Chapter through fundraising, the Endowed Society of Physics Fund, the American Institute of Physics, and the NASA West Virginia Space Grant Consortium. For 2023, the NASA West Virginia Space Grant Consortium and the Endowed Society of Physics Fund are supporting the speaker Series. The Series has run at a pace of one talk per month during the academic years since fall 2020. To stay up to date on information pertaining to the Series, like upcoming speakers, sign up for the mailing list: <https://forms.gle/3tjMMBo81sHjwmTb7>

