

AstroCeNT

Discovering the Invisible Universe



The centre is implementing a project entitled: „Particle Astrophysics Science and Technology Centre.” AstroCeNT conducts R&D work into the development of technologies, e.g., for research on detecting gravitational waves and dark matter, and detecting signals and hidden information from the universe. These issues are fundamental and, at the same time, the most exciting areas of particle physics and astrophysics, and over the last few decades there has been an unprecedented advancement in knowledge about them, and in applying the technologies developed during their study.



AstroCeNT – Particle Astrophysics Science and Technology Centre



Prof. Leszek Roszkowski and Prof. Tomasz Bulik



Silicon photo multipliers, seismic sensors, data mining, information technology



Creating and developing technologies for detecting weak signals and hidden information in physics, to apply these in universe research and in many other fields



AstroCeNT is really doing some amazing things. I am glad that it joined the international scientific community whose goal is to detect first dark matter particles. I have accepted an invitation to the international conference on particle astrophysics, organised in Poland by AstroCeNT already for the fourth time. I just had to be here - **Prof. Arthur B. McDonald.***

From „The scent of matter”, an interview for Polityka (Issue 25/2019) by Przemysław Berg.

*Prof. Arthur B. McDonald, Canadian physicist, 2015 Nobel Prize laureate in Physics, studies neutrinos, i.e. elementary particles, attended AstroCeNT conference in May 2019.

The universe is continuously sending us some very interesting information. But to be able to read it, we need to create some extremely sensitive equipment, and to develop methods for capturing the signals we are looking for from the vast sea of all sorts of background noise and data – **Prof. Leszek Roszkowski.**



Prof. Tomasz Bulik, PhD Hab. – astronomer, graduated in Physics from the University of Warsaw, received PhD in Astrophysics from the Penn State University, and did his post-graduate studies at the Nicolaus Copernicus Astronomical Center of the Polish Academy of Sciences (PAN), and also worked at the University of Chicago. Deputy head for science affairs of the Astronomical Observatory, University of Warsaw. Member of VIRGO-POLGRAW, a team searching for gravitational waves as part of LIGO and VIRGO experiments, also involved in the HESS/CTA observatory projects. Together with LIGO and VIRGO groups, he received the 2016 Breakthrough Prize; an active promoter of astronomy.



Prof. Tomasz Bulik, PhD Hab. – physicist, graduated in Physics from the University of Warsaw, received his PhD from the University of California, Davis, and did his post-graduate studies at the Jagiellonian University. He returned to Poland in 2011 as the laureate of FNP's Welcome programme. He had previously worked, e.g., at the Department of Physics and Astronomy, University of Sheffield, UK. Initiator and head of the international conference series COSMO, member of international advisory boards for COSMO, IDM, and DARK, and member of the editorial team for the scientific journal *Reports on Progress in Physics*. Chairman of the National Board for Particle Astrophysics. Representative of Poland to APPEC.



Breakthrough Prize, of which Professor Tomasz Bulik, one of AstroCeNT founders, is a laureate, is renowned as the „Oscars of Science.” The Prize has been awarded since 2012. Its founders include Sergey Brin, co-founder of Google, Mark Zuckerberg, founder of Facebook, and Chinese investors, such as Jack Ma, CEO of Alibaba Group, and Pony Ma, founder of Tencent.



Interesting facts



International Strategic Partner:
Astroparticle and Cosmology Laboratory (APC), Paris, France

Other foreign partners:
DarkSide group at the Princeton University, USA, Gran Sasso Science Institute, Italy, SNOLab, and the McDonald Institute, Canada

Polish Partners:
National Centre for Nuclear Research, Warsaw University of Technology



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