

Vilnius University: current situation and relevant competences



Andrius Juodagalvis

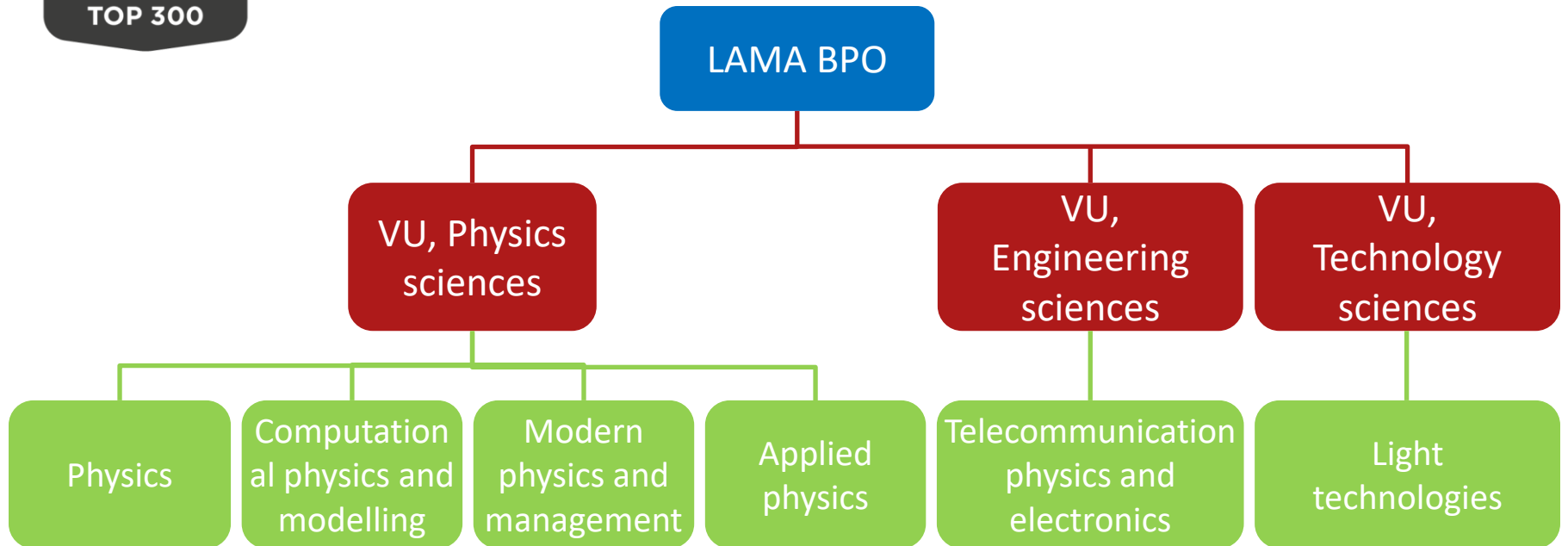
Institute of Theoretical Physics and Astronomy,
Faculty of Physics, Vilnius University, Lithuania



VU and CERN collaboration

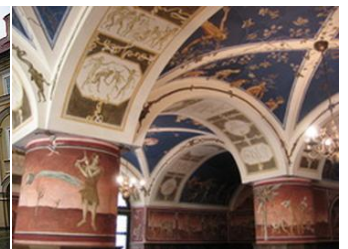
- ▶ Current VU collaboration with CERN is based on 3 pillars:
 - ▶ Materials science (Faculty of Physics)
 - ▶ radiation monitoring by semiconductor devices – RD50 (“Radiation hard semiconductor devices...”), AIDA-2020 (includes fast scintillators)
 - ▶ fast scintillators – RD18 (“Crystal clear collaboration”) and CMS Precision timing detector
 - ▶ modeling of gas properties (“ECO gas” mixture for gaseous detectors, including GEM)
 - ▶ Information technologies and computing (Institute of Mathematics and Informatics)
 - ▶ Mostly at Compact Muon Solenoid (CMS) experiment – databases (run registry, detector construction, etc.), data acquisition (DAQ), physics performance and datasets including Physics data and Monte Carlo validation (PdmV), etc.
 - ▶ CMS pp physics data analysis (Faculty of Physics)
 - ▶ Standard model physics precision analysis, EPR participation in CMS GEM subsystem
- ▶ Theoretical particle physics (mainly neutrino and multi-Higgs model physics) is not fully aligned with CERN





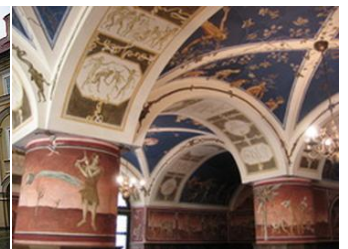
Master studies at the Faculty of Physics

- ▶ Study programmes at the Faculty of Physics at master level (**under review**):
 - ▶ Biophysics
 - ▶ Environmental and chemical physics
 - ▶ Laser physics and optical technologies
 - ▶ Laser technology
 - ▶ Materials and technology of optoelectronics
 - ▶ RD18
 - ▶ Materials science and semiconductors physics
 - ▶ RD50
 - ▶ Physical technologies and their management
 - ▶ Telecommunications physics and electronics
 - ▶ Theoretical physics and astrophysics
 - ▶ Will include experimental (statistical) particle physics in the future



Attitude towards new study program

- ▶ Current physics education has overall good rating, although popularity of some study programs has declined
 - ▶ The number of physics students is rather low
- ▶ A new study program is currently disfavored
 - ▶ Skilled people are already fully engaged
 - ▶ Strengthened particle physics at bachelor's level has started in 2017/2018
 - ▶ Expected perturbation in the area of particle physics by a new Chair of the Experimental nuclear and particle physics center
- ▶ Visiting students are welcome!





Thank you for your attention!