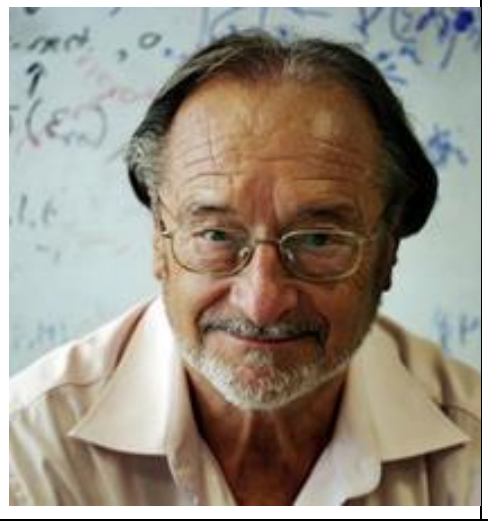
14.05.2019 MANU – Seminar- CERN DAYS IN NORTH MACEDONIA

Time	*Speaker and Affiliations*	*Title and abstract (max 150 words)*	*Short Bio (max 150 words)*
10:00 – 10:20	Greeting by the host- MANU and the Government of North Macedonia		
10:20- 10:40	**Christoph Schaefer (CERN)** 	***"CERN - Accelerating Science"*** Short introduction of CERN: The organisation, its mission and its impact on society.	Christoph Schaefer studied physics at the University of Aachen (RWTH) where he graduated in 1994 and where he also obtained his PhD in 1999. Christoph Schaefer is an experimental particle physicist. Most of his scientific work was related to the study of electron-positron collisions, development of experimental techniques, as well as construction and operating large detector systems. In 1999 he became a fellow at the European Center for Nuclear Research (CERN) in Geneva/Switzerland working for the operation of the L3 experiment at the Large Electron Positron Collider (LEP) and later for the construction and operation of the CMS experiment at the Large Hadron Collider (LHC). Since 2003 Christoph Schaefer is a staff member of CERN. He was appointed to be the group leader in matters of safety of the CMS experiment. As head of safety, Christoph Schaefer was responsible for the safety of the more than 3000 CMS collaborators as well as the CMS detector, worth several hundreds of million Swiss Francs. In 2014 Christoph Schaefer left the CMS collaboration an joined the CERN international relations office. As senior adviser, he assists the Director General and the Directorate in matters concerning international relations of the organisation, focusing on relations with CERN non-member states and associate member states in Europe and central Asia. Since 2016 Christoph Schaefer is appointed visiting professor at Vilnius University where he gives lectures on topics about experimental particle physics.

10:40- 11:00	**Ludwik Dobrzynski (CERN and LLR at Ecole polytechnique)** 	***"Unveiling Univers ORIGIN with LHC detectors"*** Starting from basic questions related to our knowledge limits about the origin of the Universe, we will list our unknowns and the constraints of the experimental tools, our LHC detectors and accelerators, to be able to bring some answers to our questions.	***Ludwik Dobrzynski, Directeur de recherche émerite au CNRS, Palaiseau, France*** After electronics engineering studies and a PhD in High Energy Physics, he participated to several generations of experiments at FNAL and CERN. He was a member of the UA1 experiment which obtained the discovery of the W and Z-bosons and provided the Nobel Prize to Prof. Carlo Rubbia. Since 1992.Dobrzynski participated to the construction of the CMS detector. Presently he is a member of the CMS LHC experiment which discover the Higgs Boson, honoured by the Nobel price of Professors Englert and Higgs, in which he provide the mass of the elementary particles. During the last years, he organized several schools and workshops of HEP in North Europe,and in several countries in the Balkans.
11:00- 11:20	**Daniel Denegri (CEA Saclay and sent to work at CERN since 1986; Directeur de Recherche au CNRS, Emerite** 	***"Elementary particle physics, some recent results and LHC plans for next 15 years"*** The talk should briefly cover the basics of the standard model, the most significant recent results, Higgs studies, hadron spectroscopy and what are the main research plans at LHC for next about 15 years and possibly beyond.	***Daniel Denegri*** was born in Split, Croatia and made his physics studies in Zagreb (PMF), then my PhD in particle physics in the USA (Johns Hopkins University). He has got a permanent appointment in France in the CNRS to work in Saclay. After some years of work on meson spectroscopy using bubble chamber techniques, in 1979 he started working on the UA1 experiment with Carlo Rubbia and was the discoverer of the W boson (December 1982) , I worked in UA1 till 1990, but since 1986 working at CERN. In 1990 alongside with Carlo Rubbia he took part in launching worldwide the LHC project, being among the "founding fathers" of the CMS experiment where along with the ATLAS experiment, the Higgs boson was discovered in 2012. Since then Denegri continued working on CMS physics, devoting a part of his time also to promote particle physics in particular in the Balkan countries.

11:20 – 11:40	**Angela Gligorova (Austrian Academy of Sciences and CERN)** 	***"Antimatter studies at AEgIS and ASACUSA experiments at CERN"*** Ultra precise tests of CPT (charge, parity, time) symmetry invariance, in view of the baryon asymmetry in the Universe is the main motivation for the experiments at the Antiproton Decelerator (AD) at CERN. The efficient laboratory production of cold antihydrogen atoms opened up the possibility to perform direct measurements of the physical properties of antimatter and to compare them with matter. This talk will present part of the work formed within two of the AD experiments. The goal of the AEgIS (Antimatter Experiment: Gravity, Interferometry, Spectroscopy) experiment is to measure Earth's gravitational acceleration on antimatter.	**Angela Gligorova, postdoctoral researcher at the Stefan Meyer Institute for subatomic physics, OeAW** She has obtained her PhD in experimental atomic physics at the University of Bergen, Norway in 2015. She was a CERN doctoral student between 2012-2015, working on the development of a detection system for measuring the gravitational acceleration of antihydrogen, within the AEgIS experiment at the Antiproton Decelerator. In 2017 she was awarded a Marie Sklodowska Curie Individual Fellowship to pursue her research in antimatter at the Austrian Academy of Sciences. She is an author of about 30 peer-reviewed publications and has given about 15 talks at international workshops and conferences. She is currently part of the AEgIS and ASACUSA Collaborations at CERN.
11:40-12:00	**Sanja Damjanovic (GSI-FAIR, CERN, SEEIIST and Gov. of Montenegro)** 	***"South East European International Institute for Sustainable Technologies (SEEIIST)"*** The states in South East Europe are joining forces to set up a large-scale competitive research infrastructure – the SEEIIST Project. The objective of this project is to foster regional cooperation in the fields of science, technology and industry in the spirit of the CERN and SESAME models 'Science for Peace'. This would greatly help to address common challenges and needs in SEE, helping in particular to develop sustainable economy and social cohesion. Capacity building and the slowing down if not reversal of the brain drain would become immediate benefits. The core of the Project is a 'Facility for Tumour Therapy and Biomedical Research with Protons and Heavier Ions'. Beyond the treatment of patients, it is planned to dedicate 50% of the beam time to research with multi-ion sources making the SEEIIST unique in the world.	**Dr. Sanja Damjanovic, Minister of Science of Montenegro** She started her PhD studies at the Faculty of Physics and Astronomy, Ruprecht-Karls University, Heidelberg, Germany in 1999. She received PhD in Physics in 2002 with the Grade 'Magna cum laude'. In 2006, she obtained an award-type position, a CERN Fellowship. Since 1999 embedded in international teams, working in two large International Organizations, CERN (Geneva) and GSI-FAIR (Darmstadt), both in basic and applied research in the field of high-energy nuclear physics. About 100 publications in refereed journals and conference proceedings. About 50 technical reports, colloquia, seminar and conference talks all around the world.

12:00- 12:20	**Mimoza Ristova (SEEIIST and UKIM)** 	***"Fundamentals of proton and heavier ion therapy and the SEEIIST research prospective"*** The use of protons and heavier ions in tumor treatment dwells on their ability (1) to be guided by electric/magnetic fields and (2) to deposit the greatest part of the energy at the end of their journey in the targeted tissue (Bragg peak). The number of tumors and conditions treatable with protons and heavier ions grows every year now. Hence, the research possibilities are limitless for multidisciplinary research activities: accelerator physics, detectors, radiobiology, oncology, IT, engineering, materials science etc. SEEIIST will not only allow treatments to our domestic patients, but will be able to foster the development of the scientific potential in the fields mentioned afore, mitigating the threatening brain-drain in the region, thereby.	**Mimoza Ristova** is a Full Professor at the Physics department at Skopje University. She has earned all the academic degrees at the Skopje University. Her field of expertise are: Photoelectrochemical Cells, Photovoltaic materials synthesis, characterisation, surface analysis, PV and PEC devices, photon detectors, forensic science (SEM/EDX analysis). The following are the highlights of her career: (1) Fulbright Visiting Scholar - 2014 at the Lawrence Berkeley National Laboratory, USA, (2) NATO Science for Peace Post-doctoral Fellow at the Texas A&M, USA, (3) Scientist of the year at the University Ss Cyril and Methodius 2016, (4) Evaluator for H2020 MSCA 2016, 2017 and 2018, (5) Member of the Steering Committee of the SEEIIST - South East European Institute for Sustainable Technologies (http://seeiist.eu), (6) USA Patent 2017, Device: „CdZnO/Si Tandem Cell for PEC Water Dissociation", US 20170076875 A1.
12:20- 12:40	Discussion		