

CURRICULUM VITAE

Anatoli Romaniouk (born 03.06.1953)

Present status:

Senior Research Physicist

Department of Astro and Particle physics of
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Professor, Leading Physicist and Group Leader

High Energy Physics Department,
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EDUCATION:

1982 Ph.D. in Experimental Physics, Moscow Engineering and Physics Institute (MEPhI), Moscow.

1976 M.S. in Experimental Nuclear Physics, MEPhI, Moscow.

PROFESSIONAL CAREER:

10.2012 – present Senior Research Physicist, Department of Astro and Particle physics of Innsbruck University, Austria,
Visiting Research Physicist CERN, PH-div.,

01.2014 – present Professor, Leading Physicist, Department of High Energy Physics, MEPhI, Moscow. ATLAS MEPhI group leader.

01.2003 - 2014 Senior Physicist, Department of High Energy Physics, MEPhI, Moscow.
Visiting Research Physicist CERN, PH-div.

01/2001-12.2003 Research Physicist at CERN, EP-div.

01/98-01.2001 Project Associate at CERN, PPE-div.

Senior Physicist, Department of High Energy Physics, MEPhI, Moscow.

10/95-10/96 Scientific Associate at CERN, PPE-div.

02/89-10/95 Visiting Research Physicist at CERN, PPE-div.

Senior Physicist, Department of High Energy Physics, MEPhI.

02/87-02/89 Senior Physicist, Department of High Energy Electrons,
Lebedev Institute, Moscow.

02/81-02/87 Research Associate, High Energy Astrophysics Department, MEPhI, Moscow.

05/78-04/81 PhD Student at High Energy Astrophysics Department, MEPhI, Moscow.

04/76-04/78 Research Assistant, High Energy Physics Department, MEPhI, Moscow.

RESEARCH EXPERIENCE:

Activities within the ATLAS collaboration and beyond:

- ATLAS TRT Operation group convener 2019- now.
- ATLAS TRT Project Leader 2013-2019.
- Advisory board member of the ATLAS collaboration chair (2020-2021)
- MEPhI group leader in the ATLAS experiment 2010-now.

- Group leader of the Moscow institute cluster for the ATLAS Muon system upgrade 2014-present).
- Member of Review Committee for the ATLAS Muon system upgrade (2011-now).
- Expert for Russian Scientific Foundation program 2017-now.
- Referee for projects of European Research Council (ERC) «Horizon 2020».
- Expert of the PEPRISE project of the Ministry of Education, University and Research (MIUR) (from 2015)
- Reviewer of the R&D projects at Ministry of Sciences of Italy (2010-2015)
- Peer Reviewer of the Research Quality Evaluation Agency of Universities and research Institutes of Italy (2011-2015)
- Reviewer of journal IEEE Nuclear Science (2003-present).
- Reviewer of journal Nucl. Instr. Meth (2010-present).
- Reviewer of journal JINST (2006-present).
- Reviewer of Physical Review journal (2016-present).
- Member of the Particle Data Group collaboration (PDG) (2007-present)
- Principal investigator of a new project SAS@LHC for particle identification part (2015-2023).
- Member of organizing committee of conference series “International Conference on Particle Physics and Astrophysics”, 2015, 2016, 2017, 2018, 2020, 2022, Moscow, Russia,
- Member of International Advising Committee for conferences “TRTs for the 3rd Millennium” in 2001, 2003, 2005, 2011.
- Member of the multiple ATLAS project reviews (2007-present)
- Readiness Review for the gas system of the ALICE TRD project (2003).
- Member of the Design Review for the ALICE TRD project (2002)
- Member of the ATLAS Editorial Board (1999-2002).

ATLAS physics studies.

Coordination of the physics analysis within MEPHI ATLAS group:

- Photon identification studies using a final state irradiation in the Z-boson decay
- W boson measurements and lepton (non)-universality in W decays in ATLAS.
- Standard Model tests with Zgamma production processes.
- Search for multi-charge long-living particles as candidates to a composite dark matter.
- Search of Higgs production with decay into the Z boson and a photon.
- CP-violation effects and anomalous interactions in the Higgs sector.
- Particle multiplicity in a Heavy Ion collisions at LHC.
- RhoPrime photoproduction in ultra-peripheral heavy ion collisions at $\sqrt{s}=5.02$ TeV.
- TRT performance studies at extreme conditions.

Other Research topics

2024 – now: Leader of DRD-4 project related to a development of new type of the detectors combining precision tracker and particle identification properties on the basis of GaAs sensors.

2014 – now: Leader of R&D project “New detector developments for present and future experiments on particle accelerators”.

2014 –2018: “ATLAS Muon system upgrade (New Small Wheel project): leader of the Moscow institute cluster for a development and production of a X-ray scanner for muon chamber quality control.

2007-2014: Leader of R&D project “The GasPixel tracker for the collider experiments as a possible option of the ATLAS ID upgrade for SLHC”

2003-2004: Development of the Transition Radiation detector based on heavy scintillators

1996-1997 R&D of Transition Radiation Detector for AMS space experiment.

1993-1996 R&D of Transition Radiation Detector for high occupancy region for HERA-B experiment

1989-1993 1989-1993 CERN RD-6 project: Research/ Development for the Transition Radiation Tracker (TRT) for LHC

1987 - 1989:

- R&D project leader for an experiment for a search of the resonance in a $\text{He}^3 + \text{He}^3$ reaction at low energies (Solar neutrino problem).
- R&D project leader for a fine-grained electro-magnetic calorimeter based on pressurised gas for a fixed-target experiment at UNK (Multi-Particle Spectrometer project at UNK).

1978 - 1987:

Leader of the project on research and development of the gamma-ray spectrometers for gamma-ray astronomy based on pressurised Xe.

1976 - 1978:

Research and development of the detectors for High Energy Physics.

- High-pressure drift chamber study
- High-pressure transition radiation detector study
- High-pressure gas electro-magnetic calorimeter study
- Development of the liquid Xe electromagnetic calorimeter

TEACHING EXPERIENCE:

- Supervision of numerous students and PhD students from MEPHI and from other universities.
- Thesis defended under my supervision:
 - E. Soldatov, “Associated production of Z boson and a photon in proton-proton collisions in ATLAS experiment”. Defended in 2016.
 - Yu. Smornov, “Search results of the long-leaving multi-charged particles at the ATLAS experiment at LHC”. Defended in 2017.
 - D. Krasnopevtsev, “Measurements of $Z(\nu\nu)\gamma\gamma$ production with the ATLAS Detector and limits on anomalous quartic neutral gauge couplings”. Defended in 2017.
 - E. Shulga, “Charged particle spectra and nuclear modification factors in proton-nucleus ($p+^{208}\text{Pb}$) interactions at an energy of 5.02 TeV per pair of nucleons in the ATLAS experiment at the LHC”, Defended in 2018.
 - N. Proklova, “Search of Higgs production with decay into the Z boson and a photon in PP collisions with the ATLAS detector at the LHC”, Defended in 2019.
 - D. Ponomarenko, “The W boson production at ATLAS experiment. Drell-Yan angular distributions for probing hard QDC”, Defence in 2024.