

Curriculum Vitae for András LÁSZLÓ

Personal data

Name: András LÁSZLÓ
Nationality: Hungarian
Present status: Senior research staff at Wigner RCP, Budapest.
Workplace mail address: Wigner Research Centre for Physics of the Hungarian Academy of Sciences, H-1525 P.O.Box 49, Budapest, Hungary.
E-mail: laszlo.andras@wigner.hu

Language skills

Hungarian	English	Turkish	French	German
Native language	Fluent	Fluent	Basic	Basic

Qualifications

Ph.D. in Physics: Eötvös University (Part. Phys. and Astro. Program), 2008.
M.Sc. in Physics: Eötvös University, 2004.

Participation in international research activities

Since 2013: Member of the Innovative Detector Development Group in the Wigner RCP.
2012-2013: 1 year grant at the NA61 experiment, development of reconstruction and calibration software.
2009-2012: CERN Research Fellow, mainly working at the NA61 experiment. The DAQ and online expert of the NA61 experiment during data taking. Participation in the development and commissioning of the LMPD detector for centrality measurement in proton-nucleus collisions, and integration of it into NA61 data acquisition, reconstruction and calibration chain. Initiation and key contributions to the NA61 software upgrade project (Shine), mainly concerning reconstruction chain. Proved convergence criterium and error propagation formulae for a robust linear iterative spectrum unfolding method for signal processing.
2008-2009: Key participant in building of the new readout system for NA61. The author of the NA61 central Data AcQuisition.
2004-2008: PhD studies in topic of high transverse momentum particle spectra in p+p, p+A and A+A collisions at CERN-NA49.
October 2007: Participation in the first data taking of the NA61 experiment. The testing of the new readout prototype.
Since 2007: Collaboration with the General Relativity group in KFKI Research Institute for Particle and Nuclear Physics, in numerical relativity.
Summer 2006: Participation in building and testing of the first non-planar GEM detector with the CERN detector development group, for application in the NA61 experiment.
2006-2007: Participation in the proposal process of the CERN-NA61 experiment. Initiated the high transverse momentum p+p and p+A program of NA61.
Since 2004: Member of the NA49 Collaboration. Participation in data analysis, initiated the high transverse momentum analysis program in NA49.
October 2003: 1 month grant at the CERN-CMS experiment, and the building and testing of the LGC calorimeter of CERN-NA49.
Summer 2003: CERN, Summer Student program (3 months at the CERN-CMS experiment).

Fields of research interest

Experimental particle physics, detector development, data acquisition systems, mathematical physics.

Awards, prizes, grants

- 2014: Bolyai Research Grant of the Hungarian Academy of Sciences.
2011: Jánosy prize of the Eötvös Physical Society for achievements in experimental and theoretical physics.
2008: Géza Györgyi prize of KFKI Research Institute for Particle and Nuclear Physics for young researchers.

Selected 10 publications

- [1] A.László, Z.Tarcsay: *On the running and the UV limit of Wilsonian renormalization group flows*; Class.Quant.Grav. **41** (2024) 125009.
- [2] A.László: *On generally covariant mathematical formulation of Feynman integral in Lorentz signature*; Class.Quant.Grav. **39** (2022) 185004.
- [3] L.Andersson, A.László, B.Ruba: *Nilpotent symmetries as a mechanism for Grand Unification*; JHEP **05** (2021) 240.
- [4] A.László, Z.Zimborás: *Quantification of GR effects in muon $g-2$, EDM and other spin precession experiments*; Class.Quant.Grav. **35** (2018) 175003.
- [5] A.László, G.Hamar, G.Kiss, D.Varga: *Single electron multiplication distribution in GEM avalanches*; JINST **11** (2016) P10017.
- [6] A.László *et al*: *Design and performance of the data acquisition system for the NA61/SHINE experiment at CERN*; Nucl.Instr.Meth **A798** (2015) 1.
- [7] K.Márton, G.Kiss, A.László, D.Varga: *Low momentum particle detector for the NA61 experiment at CERN*; Nucl.Instr.Meth **A763** (2014) 372.
- [8] P.Csizmadia, A.László, I.Rácz: *On the Use of Multipole Expansion in Time Evolution of Non-linear Dynamical Systems and Some Surprises Related to Superradiance*; Class.Quant.Grav. **30** (2013) 015010.
- [9] N.Abgrall, . . . , A.László *et al* (the NA61 Collaboration): *Measurement of Cross Sections and Charged Pion Spectra in Proton-Carbon Interactions at 31 GeV/c*; Phys.Rev. **C84** (2011) 034604.
- [10] C.Alt, . . . , A.László *et al* (the NA49 Collaboration): *High Transverse Momentum Hadron Spectra at $\sqrt{s_{NN}} = 17.3$ GeV, in Pb+Pb and p+p Collisions*; Phys.Rev. **C77** (2008) 034906.