CURRICULUM VITAE

PERSONAL DATA

First name:	**Jaroslav**
Last name:	**ZALESAK**
Date of Birth:	December 5, 1971
Place of Birth:	Hranice na Moravě, Czech Republic
Nationality:	Czech
Address:	Podkovářská 933/1, Praha 9, Czech Republic
E-mail, phone:	zalesak@fzu.cz, office: 266 052 707, mobile: 737 387 873
Marital status:	Married
Family:	wife Michaela, sons Matěj (2009) and Jonáš (2011)

EDUCATION

1990 - 1995: Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic
Degree: Mgr.
Nuclear Physics - Diploma thesis: Measurement of the Deep Inelastic Scattering of Electrons on Protons with the H1 SpaCal calorimeter.

1995 - 2002: Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic
Degree: Ph.D., RNDr.
Subnuclear Physics - Dissertation thesis: Measurement of the Proton Structure Function $F_2(x,Q^2)$ using the H1-detector at the HERA Collider in DESY

EMPLOYMENT EXPERIENCES

2003 - now: Institute of Physics, Prague
Address: Institute of Physics of the Academy of Sciences of the Czech Republic, v.v.i. 182 21 Prague 8, Na Slovance 2, Czech Republic
Positions: Postdoctoral fellow (2003), Associate scientist (2006), Scientist (2008), Deputy Head in the Department of Detector Development and Data Processing (2018)

2015-2016: Application Physicist I at Fermilab National Laboratory, Batavia, IL, USA; the one-year term position (Oct 2015 – Oct 2016)

2012-2015: Guest Scientist in Fermilab's International Fellowship Program at Fermilab National Laboratory, Batavia, IL, USA, working on the NOvA experiment.

2009- 2010: 18 months stay within the Framework of the Agreement between Institute of Physics, Prague and DESY, Hamburg as an international postdoctoral researcher (FLC group).

2002 - 2003: Civil Army Service

1996 - 2002: Faculty of Mathematics and Physics, Charles University
Institute of Particle and Nuclear Physics, 180 00 Prague 8,
V Holesovickach 2, Czech Republic
Position: Research scientist
Many several months' stays (about 2 years in total) in the laboratory DESY, Hamburg within the H1 collaboration.

RESEARCH INTEREST

Since 2015: DUNE experiment

- Participation in the DUNE Far Detector Photodetection System consortium.
- Photosensors characteristics measuring in Prague laboratory, QA/QC test analysis.

- CERN ProtoDUNE installation, testing and integration, operating detector during beam tests, analysis data with the Photon detection systems, phase I (SP) & phase II (HD, VD)

Since 2011: NOvA experiment:
- Testing and studying of characteristics of APDs used in the NOvA experiment in the newly built laboratory in Prague (2012-2013).
- Data Acquisition System (DAQ) expert, DAQ software release manager at Fermilab, IL, USA (2012-2016).
- Experiment Run Coordinator (Mar 2014-Sep 2016)

Since 2002: Activities in the CALICE collaboration at the future linear collider projects:
- Measurements of properties of APDs and multianode photomultipliers (2002-5);
- Measurement of the calorimeter energy resolution with the prototype (MiniCal) at DESY positron beam 1 - 6 GeV (2004-5);
- Calibration and monitoring systems for the analogue HCAL physics prototype, UV LED quality tests (2005-7);
- Analysis of data from the Physics prototype of the hadronic calorimeter (AHCAL): beam tests at CERN, Fermilab (2006-2013);
- R&D of the calibration systems with optical fibers for calorimeters at future linear collider experiments (2007-2013).

1997 - 2002: Experimental high energy physics: Precise measurement of the inclusive deep-inelastic $e^{\pm}p$ scattering with the H1 detector at the HERA collider; Extraction of the proton structure functions F_2, F_L.

1995 - 2000: Energetic calibration of the backward calorimeter SpaCal and 'On-call' service at this calorimeter at the H1-experiment in DESY Hamburg.

GRANTS

2018 – 2022: Inter-excellence LTT18001 (MEYS) 'Collaboration on experiments in Fermi National Accelerator Laboratory, USA' – main investigator.

2023 – 2026: Large Research Infrastructure LM2023061 (MEYS) 'Research Infrastructure for Fermilab Experiments' – main investigator.

OTHERS (Organization posts, Membership)

Since 2017: DUNE experiment
- Institutional Board member for the Institute of Physics, CAS.
- Consortium Project Management Board in DUNE Photodetection System (PDS) – Czech representative member (2019)

2016 – 2021: NOvA experiment
- Member of the NOvA Speaker Committee (NOSC).

2014 – 2015: NOvA experiment
- Run Coordinator (staying at Fermi National Laboratory, USA)
  - Charged with optimizing the use of the near and far detectors to meet the physics goals of the experiment.
  - Directing and deciding the priority and scheduling of detector systems development and maintenance.
  - Responsible for reports to the weekly All Experimenters' Meeting.
- Ex officio member of the Institutional Board and Executive Committee at NOvA experiment.

2015 – 2016: Operation Support Group member in the Neutrino Division at Fermilab.
- Technical support several old or new experiments under the Neutrino Division (Minerva, Minos+, and NOvA).

Since 2014: Other scientific activities:
- Czech Republic representative in the European Committee on Future Accelerators (ECFA) and member of the committee for Cooperation of the Czech Republic with CERN (since 2022)
- Member of the Expert Body of Evaluators for VVI (Metodika 17+, since 2022)
- DRD Czech national contact in the R&D ECFA roadmap, IB representative for DRD2, DRD4 and DRD6. (since 2024)
- Supervisor of MSCA-CZ fellowship (Viktor Pec): Combination of Charge and Light to Measure Energy in Large Liquid-argon TPC
- Supervisor of Bachelor thesis: Supernova neutrino detection in NOvA and DUNE experiments, 2024
- Supervisor of Bachelor thesis: Physics of neutrinos detected by the NOvA and DUNE experiments.
- Supervisor-specialist of the doctoral thesis: Searching for Lightweight Dark Matter in the NOvA Near Detector (Filip Jediný), 2021
- Supervisor of the Diploma thesis in the CALICE project
- Supervisor-consultant of Bachelor thesis: Measurement of SiPM characteristics for DUNE experiment, 2021
- Opponent of 5 Doctoral, 5 Diploma and 3 Bachelor theses in projects Atlas, CALICE, Daya Bay, NOvA, T2K, FAIR
- Reviewer of the NIM-A journal paper (in the Calorimeter field)
- Reviewer of the GAUK grant proposal (JUNO neutrino experiment)
- Opponent's evaluation of the Inter-excellence grant (Reactor neutrino experiments DayBay and JUNO, 2018 & 2022)
- Committee member for the evaluation of the Inter-excellence grant (Collaboration of Czech institutions with the Dubna laboratory, 2019 & 2023)
- Co-organizer of the ICHEP 2020 conference in Prague
- Mentoring program at FZU CAS

PRESENTATION AT CONFERENCES

- **RECFA meeting in Prague, CZ, 2023*:*** *Neutrino Experiments: Involvement of Czech Research Institutions.*
- **ICRI 2022 satellite event, (**Prague): *Fermilab-CZ, Day with Particle and Astroparticle Research Infrastructures.*
- **DUNE-Canada Expertise Sharing Workshop, 2020 (**On-line/Canada): *DUNE Photo-Detection System.*
- **58th International Winter Meeting on Nuclear Physics, 2020** (Bormio, Italy): *Deep Underground Neutrino Experiment.*
- **19th Lomonosov 2019** (Moscow): *Results from the NOvA Experiment.*
- **Neutrino Geoscience 2019** (Prague): *Neutrino Research in the Czech Republic.*
- **18th Lomonosov 2017** (Moscow): *Recent Results from the NOvA Experiment.*
- **IEEE 2016** (Strasbourg): *Instrumentation of the Detectors and DAQ Performance in the NOvA Experiment.*
- **CHEP 2013** (Amsterdam): *The NOvA Far Detector Data Acquisition System*.

- **IEEE 2011** (Valencia): *Calibration System with Optical Fibres for Calorimeters at Future Linear Collider Experiments* (poster).
- **LCWS 2012** (Granada): *Calibration issues for scintillator tile AHCAL prototypes*.
- **ALCPG 2011** (Eugene, OR): *Calibration issues for the CALICE 1m3 AHCAL prototype*.
- **IWLC 2010** (Geneva): *Calibration issues for the CALICE 1m3 AHCAL prototype*.
- **Spin 2009** (Prague): *Calibration of the Hadron Calorimeter Prototype for the ILC* (poster).
- **ILCW 2008** (Chicago): *ECAL and HCAL EUDET Prototypes*.
- **ECFA 2008** (Warsaw): *Optical part of the CMB for AHCAL-CALICE*.

PUBLICATIONS

I (co)authored a total of 269 journal articles and conference proceedings**, h-index of 85** according to Inspire HEP database, as of Mar 24, 2023:

- 26 publications within the **NOvA** collaboration (2014),
- 37 publications within the **DUNE/LBNF** collaboration (2015),
- 31 publications within the **CALICE** collaboration (since 2005),
- 6 publication within the **ILC** project (since 2005),
- 3 publications under **EUDET** program (since 2006)
- 3 published **proceedings** from the conferences (LCWS 2012 and IEEE 2012).
- 158 publications within **H1** (+ HERA) experiment collaboration at DESY, Hamburg (since 1997).

Most related topics:

- M. Andreotti, J. Zalesak *et al., Cryogenic characterization of Hamamatsu HWB MPPCs for the DUNE photon detection system,* **JINST 19 (2024) 01, T01007.**
- *First measurement of the total inelastic cross section of positively charged kaons on argon at energies between 5.0 and 7.5 GeV,* ***Phys.Rev.D*** **110 (2024) 9, 092011.**
- C. Brizzolari, J. Zalesak *et al., Cryogenic front-end amplifier design for large SiPM arrays in the DUNE FD1-HD photon detection system,* **JINST 17 (2022) P11017.**
- Jaroslav Zálešák for the NOvA collaboration, *Recent results from the NOνA experiment,* **DOI: 10.1142/9789811202339_0008**
- *First results on ProtoDUNE-SP liquid argon time projection chamber performance from a beam test at the CERN Neutrino Platform*, DUNE Collaboration, **JINST 15 (2020) 12, P12004**
- *Long-baseline neutrino oscillation physics potential of the DUNE experiment*, DUNE Collaboration, **Eur.Phys.J.C 80 (2020) 10, 978.**
- *First Measurement of Neutrino Oscillation Parameters using Neutrinos and Antineutrinos by NOvA,* NOvA Collaboration, **Phys.Rev.Lett. 123 (2019) no.15, 151803.**
- *Observation of seasonal variation of atmospheric multiple-muon events in the NOvA Near Detector*, NOvA Collaboration, **Phys.Rev. D99 (2019) no.12, 122004**.
- *New constraints on oscillation parameters from ν_e appearance and ν_μ disappearance in the NOvA experiment*, NOvA Collaboration, **Phys.Rev. D98 (2018) 032012**.
- Jaroslav Zalesak et al., *The NOvA Far Detector Data Acquisition System*, **J.Phys.Conf.Ser. 513 (2014) 012041.**
- P. Adamson *et al.* [NOvA Collaboration], *Constraints on Oscillation Parameters from νe Appearance and νμ Disappearance in NOvA*, **FERMILAB-PUB-17-065-ND**.
- P. Adamson *et al.* [NOvA Collaboration], *First measurement of muon-neutrino disappearance in NOvA,* **Phys. Rev. D 93 (2016) no.5**.
- P. Adamson *et al* [NOvA Collaboration], *First measurement of electron neutrino appearance in NOvA,* **Phys. Rev. Lett. 116 (2016) no.15.**

- C. Adloff *et al* [CALICE Collaboration], *Electromagnetic response of a highly granular hadronic calorimeter*, JINST **6** (2011) P04003 [arXiv:1012.4343].
- C. Adloff *et al* [CALICE Collaboration], *Construction and Commissioning of the CALICE Analog Hadron Calorimeter Prototype*, JINST **5** (2010) P05004 [arXiv:1003.2662].