Katarzyna Frankiewicz

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Education

2013 - **Doctorate of Philosophy in Physics**, *National Centre for Nuclear Research, Poland.*
(on going, expected graduation in September 2018)

Thesis title *Indirect Search for Dark Matter with the Super-Kamiokande Detector.*

Supervisors Prof. Ewa Rondio (National Centre for Nuclear Research), Dr Piotr Mijakowski (National Centre for Nuclear Research)

2011 - 2013 **Master of Science in Physics, Nuclear and Particle Physics**, *University of Warsaw, Poland*, *Summa cum laude.*

Thesis title *Search for Dark Matter Particles with the Super-Kamiokande Detector.*

Supervisors Dr Katarzyna Grzelak (University of Warsaw), Dr Piotr Mijakowski (National Centre for Nuclear Research)

2008 - 2012 **Bachelor of Science in Astronomy**, *University of Warsaw, Poland.*

Thesis title *Direct and Indirect Methods of Dark Matter Detection.*

Supervisor Prof. Michał Jaroszyński (Astronomical Observatory, University of Warsaw)

2009 - 2011 **Bachelor of Science in Physics**, *University of Warsaw, Poland.*

Thesis title *Analysis of Armenteros plot for K^0 and Λ^0 data from the Compass experiment at CERN.*

Supervisor Prof. Barbara Badełek (University of Warsaw)

Scholarships

Scholarship for Scientific Achievements funded by National Centre for Nuclear Research, awarded in 2014, 2015 and 2016.
Human Capital Programme Scholarship funded by European Social Fund in Poland, awarded in 2011 and 2012.
Rector Scholarship funded by University of Warsaw, awarded in 2009 and 2010.

Research grants

PRELUDIUM pre-doctoral grant (2015/17/N/ST2/04064) *Indirect search for dark matter with the Super-Kamiokande detector*, funded by National Science Centre in Poland - Principal Investigator
Horizon 2020, Marie Skłodowska-Curie Actions, Research and Innovation Staff Exchange (H2020-MSCA-RISE-2014) *Super-Kamiokande plus* - Investigator
HARMONIA grant (2012/04/M/ST/00775) *Neutrino properties and proton decay study with liquid argon detector ICARUS T600*, funded by National Science Centre in Poland - Investigator

Publications (selected)

K. Abe *et al.* (Hyper-Kamiokande Proto-Collaboration), *Hyper-Kamiokande Design Report*, arXiv:1805.04163 (2018).

S. N. Axani, K. Frankiewicz and J. M. Conrad, *The CosmicWatch Desktop Muon Detector: a self-contained, pocket sized particle detector*, JINST 13 (2018) no.03, P03019.

K. Abe *et al.* (Super-Kamiokande Collaboration), *Atmospheric neutrino oscillation analysis with external constraints in Super-Kamiokande I-IV*, Phys.Rev. D97 (2018) no.7, 072001.

K. Frankiewicz (for Super-Kamiokande Collaboration), *Dark matter searches with the Super-Kamiokande detector*, J.Phys.Conf.Ser. 888 (2017) no.1, 012210.

K. Abe *et al.* (Super-Kamiokande Collaboration), *Search for Neutrinos in Super Kamiokande associated with Gravitational Wave Events GW150914 and GW151226*, Astrophys.J. 830 (2016) no.1, L11.

K. Frankiewicz (for Super-Kamiokande Collaboration), *Indirect searches for dark matter particles with the Super-Kamiokande detector*, Nuovo Cim. C38 (2016) no. 4, 125.

V. Takhistov *et al.* (Super-Kamiokande Collaboration), *Search for Nucleon and Dinucleon Decays with an Invisible Particle and a Charged Lepton in the Final State at the Super-Kamiokande Experiment*, Phys.Rev.Lett. 115 (2015) no.12, 121803.

Experience

2013 - now (7 months) **Experimental activities**, *Kamioka Observatory, Institute for Cosmic Ray Research, University of Tokyo.*
Research activities at Super-Kamiokande detector, participation in collaboration meetings.

2016 - now **Outreach**.
Development of the CosmicWatch program for high-school and undergraduate students.

2017 (3 months) **Visiting scholar**, *Wisconsin IceCube Particle Astrophysics Center (WIPAC).*
R&D for CosmicWatch desktop muon detectors, mentor during WIPAC-QuarkNet internship for high school students.

2016 - 2017 (2 months) **Visiting scholar**, *Boston University*,
Supervisor: Ed Kearns (Boston University).
Working on indirect dark matter searches with BU neutrino group.

Sept. 2016 **PhyStat-nu Workshop on Statistical Issues in Experimental Neutrino Physics**, *Fermilab, Batavia.*

Aug. 2015 **SLAC Summer Institute**, *SLAC National Accelerator Laboratory, The Universe of Neutrinos.*

Jul. 2014 **PhD School**, *CNRS campus of Gif-sur-Yvette, Invisibles School 2014.*

Jun. 2014 **PhD School**, *The Niels Bohr International Academy, Neutrinos underground & in the heavens.*

2013 (12 weeks) **CERN Summer Student Programme**, *European Organization for Nuclear Research (CERN)*,
Supervisors: Mateusz Ploskon (Lawrence Berkeley National Laboratory).
Jet structure in heavy-ion collisions within ALICE experiment.

2011 (3 weeks) **Student internship**, *European Organization for Nuclear Research (CERN)*, Supervisors: Ana Sofia Nunes (Laboratório de Instrumentação e Física Experimental de Particulas).
Detector control system and data quality checks in COMPASS experiment.

2010 (4 weeks) **Student internship**, *Space Research Center of the Polish Academy of Sciences*, Supervisors: Małogorzata Królikowska-Sołtan (Space Research Center).
Stellar occultations by Kuiper Belt Objects, computer simulations and detection methods.

2010 (3 weeks) **Student internship**, *European Organization for Nuclear Research (CERN)*, Supervisors: Barbara Badełek (University of Warsaw).
Data quality checks in COMPASS experiment.

2007 - 2010 **Volunteering**, *'Almukantarat' Astronomy Club.*
Popularization of astronomy, lectures on physics and astronomy, conducting observations using telescopes.

Conferences (selected)

Jul. 31 - Aug. 4 2017 **Meeting of the American Physical Society Division of Particles and Fields (DPF2017)**, *Fermilab, talk Searches for dark matter with the Super-Kamiokande detector, poster CosmicWatch: The Desktop Muon Detectors.*

Jun. 18 - 24 2017 **The 26th International Workshop on Weak Interactions and Neutrinos (WIN2017)**, *UC Irvine, talk Dark matter searches with the Super-Kamiokande detector.*

Aug. 3 - 9 2016 **38th International Conference on High Energy Physics**, *Chicago, 1'elevator speech and poster Dark matter searches with the Super-Kamiokande detector (Distinguished Poster Award).*

Jul. 4 - 9 2016 **XXVII International Conference on Neutrino Physics and Astrophysics**, *Imperial College London, poster Dark matter searches with the Super-Kamiokande detector.*

Aug. 4 - 8 2015 **Meeting of the Division of Particles and Fields of the American Physical Society**, *University of Michigan, talk and poster Searching for Dark Matter Annihilation into Neutrinos with Super-Kamiokande (Best Astrophysics Poster award).*

Mar. 1 - 7 2015 **XXIX Rencontres de Physique de la Vallee d'Aoste**, *Istituto Nazionale di Fisica Nucleare (INFN), invited talk Indirect searches for dark matter particles with the Super-Kamiokande detector (Grant for Young Physicists).*

Languages

Polish	**Native**	
English	**Advanced**	*The Certificate of Language Proficiency B2, University of Warsaw, 2011*
French	**Basic**	

Computer skills

Software packages	Mathematica, ROOT, Matlab, IRAF, Latex, Gnuplot, Microsoft Office
Computer languages	Java, C++, Fortran, Bash, HTML
Operating systems	Linux, Windows