

## **Curriculum Vitae** di Stefania Canella

### *Dati Anagrafici*

Nome e Cognome: Stefania Canella

Luogo e data di nascita:

Nazionalità: Italiana

Sede di lavoro: Viale dell'Università, 2 – LNL-INFN, 35020 Legnaro (PD)

### *Istruzione e Formazione*

Laurea in Ingegneria Elettronica all'Università degli Studi di Padova – 1982

Corso di perfezionamento in Matematica Applicata e Programmazione annesso alla Facoltà di Ingegneria dell'Università degli Studi di Padova - 1984

Abilitazione all'esercizio della professione di ingegnere – 1984

Buona conoscenza della lingua inglese, parlata e scritta

### *Esperienze professionali*

1983-1985: analista nella Divisione Informatica Distribuita e Automazione dell'Ufficio (DIDAU) presso OLIVETTI S.p.A. - Ivrea (TO)

1985-1990: tecnologo specialista in Matematica Applicata e Programmazione nella società di ingegneria Tecnomare S.p.A. (gruppo ENI) - Venezia

Dal 1990: tecnologo in INFN-LNL (Istituto Nazionale di Fisica Nucleare - Laboratori Nazionali di Legnaro)

### *Attività professionale in INFN-LNL*

1990-1997: realizzazione del sistema di controllo dell'acceleratore superconduttivo ALPI di LNL

1997-1998: partecipazione alla collaborazione EUROBALL

2000-2009; supporto all'analisi di dati con tecniche statistiche bayesiane in esperimenti di micro-dosimetria

2000-2010: realizzazione del sistema di controllo dell'iniettore superconduttivo PIAVE di LNL collaborazione alla predisposizione del controllo della sorgente ECR dello stesso iniettore

1995-2014: supporto al mantenimento in esercizio degli acceleratori superconduttivi di LNL

2001-2014: collaborazione nel progetto SPES di LNL

1995-2018: collaborazione in esperimenti di CSN5

2013-2020: membro o presidente in commissioni di selezione per borse di studio, assegni di ricerca, contratti INFN per tecnici o tecnologi

2015-2020: responsabile di servizio nelle attività di fisica interdisciplinare con gli acceleratori LNL

2015-2019: editor di Annual Report LNL

### *Attività didattica*

1982: docenza in corsi di elettronica per tecnici (centro di formazione SIP a Mestre-Venezia).

1997: docenza in corsi organizzati dal consorzio Padova Ricerche

1997 e 1998: docenza in lezioni ed esercitazioni nel corso di CONTROLLI AUTOMATICI per elettrici, al Dipartimento di Ingegneria Elettrica dell'Università degli Studi di Padova;

2008 e 2017: tutor in stage estivo, convenzione INFN-DOE

2005-2013: docenza in corsi di formazione sui controlli degli acceleratori superconduttivi di LNL per il personale LNL

2001-2019: tutor in stage estivi LNL per studenti delle scuole superiori

2012 e 2018: docenza in corsi di elettronica programmazione per personale LNL

2020 corsi nazionali in modalità webinar per INFN e CODIGER (Conferenza permanente dei Direttori Generali degli Enti Pubblici di Ricerca Italiani)

Legnaro 29/09/2020

Stefania Canella



## Andreas C. Best

---

CONTACT INFORMATION	Department of Physics and INFN (National Institute for Nuclear Physics) <b>University of Naples "Federico II"</b> Complesso Universitario di Monte Sant'Angelo, via Cintia 80126 Napoli Italy	Phone: +39 081676497 E-mail: <a href="mailto:best@na.infn.it">best@na.infn.it</a>
CITIZENSHIP	Germany	
LANGUAGE SKILLS	German: native language English: fluent Italian: good proficiency (B1)	
RESEARCH INTERESTS	Experimental nuclear astrophysics, neutron and gamma-ray detection, detector simulation, low background environments	
POSITIONS	<b>University of Naples "Federico II"</b> , Naples, Italy <ul style="list-style-type: none"><li>• Associate Professor <b>February 2020 to present</b></li><li>• Assistant Professor (RTD-A) <b>January 2016 to February 2020</b></li></ul> <b>University of Notre Dame</b> , Notre Dame, Indiana USA <ul style="list-style-type: none"><li>• Postdoctoral Researcher <b>October 2015 to January 2016</b></li></ul> <b>Laboratori Nazionali del Gran Sasso</b> , Assergi, Italy <ul style="list-style-type: none"><li>• Affiliated Scientist <b>October 2015 to January 2016</b></li><li>• Postdoctoral Fellow <b>July 2013 to July 2015</b></li></ul> <b>University of Notre Dame</b> , Notre Dame, Indiana USA <ul style="list-style-type: none"><li>• Postdoctoral Researcher <b>January 2012 to July 2013</b></li></ul> <b>Lawrence Berkeley National Laboratory</b> , Berkeley, California USA <ul style="list-style-type: none"><li>• Visiting Scientist <b>January 2012 to July 2013</b></li><li>• Visiting Scientist <b>June 2011 to September 2011</b></li></ul>	
EDUCATION	<b>University of Notre Dame</b> , Notre Dame, Indiana USA Ph.D., <b>Experimental Nuclear Physics</b> (January 2012) <ul style="list-style-type: none"><li>• Thesis Topic: <i>Measurement of alpha capture reactions on <math>^{17}\text{O}</math> and <math>^{18}\text{O}</math> for the s process</i></li><li>• Adviser: <b>Professor Michael C.F. Wiescher</b></li><li>• Area of Study: Low Energy Nuclear Astrophysics</li></ul> M.Sc., <b>Experimental Nuclear Physics</b> (January 2011) <ul style="list-style-type: none"><li>• Adviser: <b>Professor Michael C.F. Wiescher</b></li><li>• Area of Study: Low Energy Nuclear Astrophysics</li></ul> <b>Ruhr-Universität Bochum</b> , Bochum, Germany Dipl.-Phys., <b>Experimental Nuclear Physics</b> (January 2007) <ul style="list-style-type: none"><li>• Thesis Topic: <i>Measurement of Low-Energy Resonances in <math>^{25}\text{Mg}(p,\gamma)^{26}\text{Al}</math> with a <math>4\pi</math> Summing Detector</i> (in German)</li><li>• Adviser: Professor Claus Rolfs</li><li>• Area of Study: Low Energy Nuclear Astrophysics</li><li>• Minor: Philosophy</li></ul>	
SCIENTIFIC REVIEW ACTIVITIES	Reviewer for Physical Review C, Physics Letters B, Astroparticle Physics, Monthly Notices of the Royal Astronomical Society, Nuclear Instruments and Methods in Physics Research Section A, Nuclear Science and Techniques	

TECHNICAL SKILLS AND RESEARCH EXPERIENCE	<p>Habilitation for associate professor rank (ASN 2nda fascia, 2018)</p> <p>Performed experiments in underground physics laboratories at <a href="#">LNGS</a> (IT), <a href="#">KURF</a> (VA), the <a href="#">Soudan Underground Laboratory</a> (MN), <a href="#">SURF</a> (SD), and <a href="#">WIPP</a> (NM).</p> <p>LUNA working group leader (PI) for the <math>^{13}\text{C}(\alpha, n)^{16}\text{O}</math>, <math>^{18}\text{O}(p, \gamma)^{19}\text{F}</math> and <math>^{23}\text{Na}(p, \gamma)^{24}\text{Mg}</math> measurement campaigns.</p> <p>Co-author of Preliminary Design Report for NSF-funded DIANA project.</p> <p>Technical lead for neutron detector development for the DIANA project.</p> <p>Extensive hardware and software experience in data acquisition and analysis as well as direct hands-on experience in setting up and running nuclear physics experiments. Experience with digital data acquisition systems.</p> <p>Broad experience in performing Geant4 simulations.</p> <p>Operation of electrostatic accelerators at various laboratories.</p> <p>Performed neutron shielding simulations for the cavity of the proposed DIANA underground accelerator facility.</p> <p>Participated in experiments with intense <math>\gamma</math>-ray beams at the <a href="#">HI<math>\gamma</math>S</a> facility at Duke University.</p>				
BIBLIOMETRICS	<p>H index: 16</p> <p>Number of citations: 674</p>				
GRANTS AND AWARDS	<table border="0" style="width: 100%;"> <tr> <td style="padding-bottom: 10px;"><b>ERC Starting Grant 2019 #852016</b> Project SHADES: Scintillator-He3 Array for Deep-underground Experiments on the S-process</td> <td style="text-align: right; vertical-align: top; padding-left: 20px;">August 2019  1.35 Million Euro</td> </tr> <tr> <td style="padding-bottom: 10px;"><b>Junior Principal Investigator Grant (Programma STAR 2016)</b> 2-year grant on development of neutron detectors for experiments in nuclear astrophysics</td> <td style="text-align: right; vertical-align: top; padding-left: 20px;">December 2016  EUR 92000</td> </tr> </table>	<b>ERC Starting Grant 2019 #852016</b> Project SHADES: Scintillator-He3 Array for Deep-underground Experiments on the S-process	August 2019  1.35 Million Euro	<b>Junior Principal Investigator Grant (Programma STAR 2016)</b> 2-year grant on development of neutron detectors for experiments in nuclear astrophysics	December 2016  EUR 92000
<b>ERC Starting Grant 2019 #852016</b> Project SHADES: Scintillator-He3 Array for Deep-underground Experiments on the S-process	August 2019  1.35 Million Euro				
<b>Junior Principal Investigator Grant (Programma STAR 2016)</b> 2-year grant on development of neutron detectors for experiments in nuclear astrophysics	December 2016  EUR 92000				

## Curriculum Vitae

Dr. Matthias Junker

### CURRENT POSITION

2002 – Staff Technologist at INFN – Laboratori Nazionali del Gran Sasso, L'Aquila, Italy

### PREVIOUS POSITIONS

1998 – 2002 Technologist (fixed term) at INFN – Laboratori Nazionali del Gran Sasso, L'Aquila, Italy

### EDUCATION

1996 PhD at Fakultät für Astronomie und Physik, Ruhr-Universität Bochum, Germany, Nuclear Astrophysics, Title of Thesis: "Aufbau und Optimierung einer unterirdischen Beschleunigeranlage" (Setup and optimization of an underground accelerator facility)

1992 Master in Physics at Fakultät für Physik, Westfälische Wilhelmsuniversität Münster, Germany  
Supervisor : Prof. C. Rolfs , Co-Supervisor: Priv. Doz. H.P. Trautvetter

### TRAINING

12/2015 Vacuum technology course (advanced), Milano, LASA, INFN Milan

2016 – 2017 Project management according to UNI ISO 21500:2013, Association of Engineers province of Teramo, Italy

### FELLOWSHIPS

1996 – 1998 INFN Fellowship for foreign researchers at Laboratori Nazionali del Gran Sasso

1994 – 1995 ECC Grant "Human Capital and Mobility" Contract Nr. ERBCHBGCT920183 Proposal Nr ERB4050PL920217"

### INSTITUTIONAL RESPONSIBILITIES

2018 – Head of Service for Vacuum and Cryogenics at Laboratori Nazionali del Gran Sasso

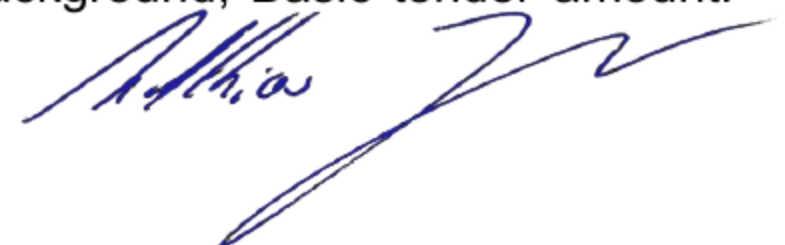
2017 – Site Manager of the LUNA-400 Facility at LNGS

2016 – Responsible for production and installation of the LUNA-MV accelerator in the frame work of the contract assigned by INFN to High Voltage Engineering Europe, The Netherlands, Contract amount:

- €2.805.000,00 plus VAT.
- 2015 L2 responsible in the LUNA-MV project. Area of responsibility: "Scientific Instrumentation for LUNA-MV: Accelerator, beam lines, targets, detectors, DAQ".
- 2014 – 2015 Responsible designer (Progettista) of the accelerator LUNA-MV (Tender amount: €3.500.000,00)
- 2013 – Representative of the Technologist in the Laboratory Council of LNGS.
- 2012 – 2014 Technical coordinator, GLIMOS and RAE of the Premium Project "LUNA-MV".
- 2009 – Group Leader of the LUNA group at LNGS
- 2004 – 2015 Group leader of the GERDA group at LNGS  
Member of the Collaboration Board and of the Program Management Group of the GERDA Collaboration
- 2004 – Responsible for the "Common Funds" of the GERDA Collaboration.  
Coordinator of the Task Group "TG 8 Infrastrutture e Logistica" of the GERDA Collaboration  
Member of the Collaboration Board of the LUNA Collaboration.
- 2004 – 2009 Coordinator of the design, engineering and construction and acceptance test of the GERDA Super structure at LNGS  
Coordinator of the seismic analysis of the full GERDA installation of LNGS (building, water vessel, cryostat)
- 2001 – Technical responsible and coordinator of data taking at the accelerator LUNA-400  
Group Leader in Matter of Safety (GLIMOS) of the LUNA Collaboration.  
Reference person in matter of environment (RAE) of the LUNA Collaboration
- 2000 Supervision of the construction and acceptance of the accelerator LUNA-- 400 in collaboration with the responsible for radio-protection at LNGS and with the Prevention and Protection service of LNGS
- 1999 Coordination of the construction of the general infrastructure need for the installation of the accelerator LUNA – 400
- 1994 – 1999 Coordination of data taking and analysis of the measurements of the reaction  $3\text{He}(3\text{He},2p)4\text{He}$  at solar energies

#### **ADMINISTRATIVE RESPONSIBILITIES / RESPONSABILITÀ AMMINISTRATIVE**

- 2018 - 2019 Project Manager for tender for the supply of Cryogenic Pump for use in Liquid Xenon with ultra low intrinsic background, Basic tender amount:



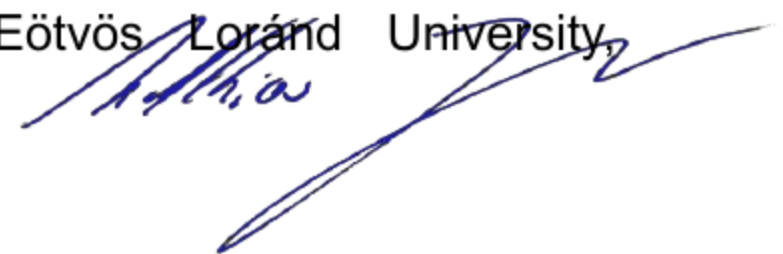
- €70.000, Contracting Authority: Laboratori Nazionali del Gran Sasso of INFN.
- 2016 President of Commission for assignment of Tender for Executive Engineering of the Technical and Safety Plants to support the Project LUNA-MV, Basic Tender Amount: € 32.516,25, Contracting Authority: Laboratori Nazionali del Gran Sasso of INFN.
- 2016 - 2017 Project Manager for tender for the supply of 16 He-3 proportional counters with low intrinsic background for thermal neutron detection, Basic tender amount: € 102,989,00, Contracting Authority: Laboratori Nazionali del Gran Sasso of INFN.
- 2015 - Buyer's production responsible (Direttore Esecuzione Contratto) of the of the accelerator LUNA-MV, a 3.5 MV single ended electrostatic accelerator to be installed inside the underground laboratories of LNGS, Contract value: 2.8 M€, Contracting Authority: Laboratori Nazionali del Gran Sasso of INFN
- 2009 – 2016 Project Manager (RUP) for the Incarico di Responsabile Unico di Procedimento (RUP) for “acquisizioni in economia di beni e servizi per GERDA\_CF, LUNA e LUNA\_MV, Contracting Authority: Laboratori Nazionali del Gran Sasso of INFN.

#### **COMMISSIONS OF TRUST**

- 2015 – Member of the Scientific Committee of “PREMIO ASIMOV PER L'EDITORIA SCIENTIFICA DIVULGATIVA”, GSSI, L'Aquila, Italy
- 2014 – Member of the International Advisory Comity (IAC) of the Jinping Underground Nuclear Astrophysics project JUNA.
- 2012 – 2013 DIANA NSF Proposal Read Committee, University of Notre Dame, IN, USA.
- 2011 Member of SNO+ Review Committee of the Natural Sciences and Engineering Research Council of Canada

#### **SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

- 2013 – Phd Student, Gran Sasso Science Institute (GSSI), Physics Research Area
- 2013 – 2015 Post Doc Fellow, INFN, Laboratori Nazionali del Gran Sasso
- 2014 – 2015 Co-tutoring of Civil Engineering fellow in the context of the POR Abruzzo
- 2014 Tutor of two Erasmus students from Eötvös Loránd University, Budapest.



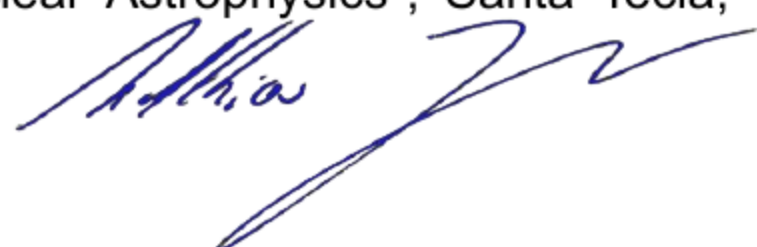
2000 – 2001 1 Master student, Facoltà di Scienze Matematiche, Fisiche e Naturali, Università degli Studi di Milano,

#### INVITED CONFERENCE TALKS

- 2001 “Nuclear astrophysics at the underground accelerator LUNA”, 2001 Spring meeting of Fachverband Physik der Hadronen und Kerne (HK) of Deutsche Physikalische Gesellschaft e.V. (DGP) with physics and book exhibition; rühjahrstagung 2001 des Fachverbandes Physik der Hadronen u Kerne, Erlangen (Germany) 19-23 Mar. 2001
- 2016 Sundial

#### SEMINARS AND COLLOQUIUM

- 2017 “Nuclear Astrophysics”, Seminar on Nuclear Astrophysics at Gran Sasso Science Institute, L’Aquila, IT, 09 January 2017
- 2016 “The Gran Sasso National Laboratories”, Seminar at South Dakota School of Mines and Technology, Rapid City (SD, USA), 05 November 2016.
- 2015 Seminar on Nuclear Astrophysics at Gran Sasso Science Institute, 03 November 2015
- 2013 “Recent results of LUNA at Gran Sasso”, Genter Colloquium, Max Planck Institut fuer Kernphysik, Heidelberg, Germany, 16 December 2013
- Lecture on 7th European Summer School on Experimental Nuclear Astrophysics”, Santa Tecla, Catania, Italy 16 Settember 2013
- 2012 “LUNA: Laboratory for Underground Nuclear Astrophysics at the Gran Sasso National Laboratories”, Seminar at the Triangle University Nuclear Laboratory (TUNL), Durham (North Carolina, USA), 14 December 2012
- “What can be leared from 20 years of Underground Nuclear Astrophysics”, Seminar at ATOMKI, Debrecen (Hungary), 14 September 2012
- Lecture on 24th Carpathian Summer School of Physics, Sinaia, Romania, 28 Juni 2012
- 2007 “Underground Nuclear Astrophysics at LUNA”, Invited Lecture on 22nd Carpathian Summer School of Physics, Sinaia, Romania, 28 June 2016
- 2003 “Underground Nuclear Astrophysics at LUNA” Lecture on 2nd European Summer School on Experimental Nuclear Astrophysics”, Santa Tecla, Catania, Italy, 1 October 2003



- 2002 Lecture on International School of Physics Enrico Fermi on Neutrino Physics, Società di Fisica Italiana (SIF) Varenna, Italy 31 Luglio 2002
- 2000 – Introduction to low energy accelerator physics and operations, hands on lectures devoted to 30 Master and PhD Students operating the LUNA 400 Accelerator at LNGS
- 1995 Presentation in Physik Kolloquium, Physik Department, Technische Universität München (TUM), Germany 9 November 1995

#### **ORGANIZATION OF SCIENTIFIC MEETINGS AND CONFERENCES**

- 2018 Co-Chair of the International Symposium of Nuclei in the Cosmos XV, organized at LNGS from June 24 – 29, 2018 with a participation of 197 researchers from 29 countries
- 2014 Gran Sasso Summer Institute 2014, Hands-On Experimental Underground Physics at LNGS, September 22 – October 03, 2014, Assergi (Italy), 26 participants - 6 Italy, 6 USA, 4 Spain, 2 China, 1 Sweden, 1 Switzerland, 1 Germany, 2 India, 1 Poland, 1 Japan, 1 Korea – selected out of 82 applications, Member of Local Organizing Committee
- 2013 Workshop “Starting up the LUNA MV Collaboration”, February 6-8, 2013, Assergi, Italy, 60 participants, Member of Local Organizing Committee
- 2011 Round Table “LUNA-MV at LNGS”, February, 10-11 2011, Assergi (Italy), 35 participants, Member of Local Organizing Committee
- 2010 "International Student Workshop on Neutrinoless Double Beta Decay", 56 participants, November 11 – 13, 2010, Assergi, (Italy), Member of Local Organizing Committee
- 2010 “Claro”, Event to celebrate the Hans A. Bethe Prize assigned to Claus Rolfs by the American Physical Society (APS), June 9, 2010, Assergi (Italy), 50 participants, Member of Local Organizing Committee
- 2009 "Nuclear Physics in Astrophysics IV", XXII International Physics Divisional Conference of the European Physical Society, June 8-12, 2009, Frascati (Italy), 100 participants, Member of Local Organizing Committee, Responsibility on budget,

#### **OUTREACH ACTIVITIES**

- 2014 Seminar on Underground Astroparticle Physics, Castel Del Monte, Italy
- 2014 Sharper, European Researchers' night, September 26, 2014, L'Aquila, 13.000 participants, Coordinator of the initiative “Across the Border” proposing video connection in public viewing between L'Aquila and five





- different research centers worldwide
- 2010 Inauguration of the GERDA experiment, November 9, 2010, Assergi, Italy, 30 international journalists participating, Member of the local organizing committee
- 1999 – Collaboration to the LNGS outreach department for production of radio and TV features on research at LNGS,

#### **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

Deutsche Physikalische Gesellschaft (DPG)

#### **MAJOR COLLABORATIONS**

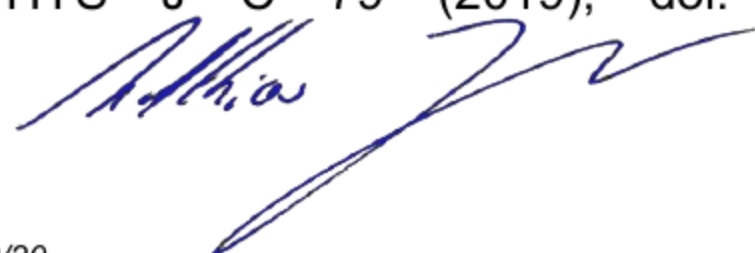
- LUNA Collaboration (Laboratory for Underground Nuclear Astrophysics), Nuclear Astrophysics at the underground accelerator facility at Laboratory Nazionali del Gran Sasso
- GERDA Collaboration (Germanium Detector Array), Research on Neutrinoless Double Beta Decay with  $^{76}\text{Ge}$  Detectors

#### **EDITOR**

1. Nuclei in the Cosmos XV, Springer Nature Proceedings.
2. NUCLEAR PHYSICS IN ASTROPHYSICS IV (NPAIV 2009) Book Series: Journal of Physics Conference Series Volume: 202, Edited by: Formicola, A; Gustavino, C; Junker, M

#### **PEER REVIEWED PUBLICATIONS**

1. Modeling of GERDA Phase II data, M. Agostini et al, (GERDA collaboration) J. of High Energy Physics 139 (2020), doi: 10.1007/JHEP03(2020)139
2. G. F. Ciani et al, A new approach to monitor  $^{13}\text{C}$ -targets degradation in situ for  $^{13}\text{C}(\alpha,n)^{16}\text{O}$  cross-section measurements at LUNA, Eur Phys J A 75 (2020), doi: 10.1140/epja/s10050-020-00077-0
3. M. Agostini et al. (GERDA Collaboration), First Search for Bosonic Superweakly Interacting Massive Particles with Masses up to 1 MeV/c<sup>2</sup> with GERDA Phys. Rev. Lett. 125 (2020), 011801, doi 10.1103/PhysRevLett.125.011801
4. M. Agostini, et al. Characterization of 30 Ge-76 enriched Broad Energy Ge detectors for GERDA Phase II, EUR PHYS J C 79 (2019), doi:



- 10.1140/epjc/s10052-019-7353-8
5. M. Agostini et al. Probing Majorana neutrinos with double-beta decay, SCIENCE 365 (2019) 1445 , doi: 10.1126/science.aav8613
  6. A. Sen et al .A high intensity, high stability 3.5 MV Singletron (TM) accelerator, NUCL INSTRUM METH B 450 (2019) 390, doi: 10.1016/j.nimb.2018.09.016
  7. A. Best et al. Improved astrophysical rate for the O-18(p,alpha)N-15 reaction by underground measurements, PHYS LETT B 790 (2019) 237. doi 10.1016/j.physletb.2019.01.017
  8. F. Ferraro et al. Direct Capture Cross Section and the E-p=71 and 105 keV Resonances in the Ne-22(p,gamma)Na-23 Reaction. 121 PHYS REV LETT (2018), doi: 10.1103/PhysRevLett.121.172701
  9. M. Agostini et al. Improved Limit on Neutrinoless Double-ss Decay of Ge-76 from GERDA Phase II, PHYS REV LETT 120 (2018), doi: 10.1103/PhysRevLett.120.132503, doi 10.1140/epja/i2018-12476-7
  - 10.A. Boeltzig et al, Improved background suppression for radiative capture reactions at LUNA with HPGe and BGO detectors, J PHYS G NUCL PARTIC 45 (2018), doi 10.1088/1361-6471/aaa163
  11. F. Ferraro et al. A high-efficiency gas target setup for underground experiments, and redetermination of the branching ratio of the 189.5 keV Ne-22(p, gamma)Na-23 resonance, EUR PHYS J A 54(2018)
  12. M. Agostini et al. Searching Neutrinoless Double Beta Decay with Gerda Phase II INT J MOD PHYS 46 (2018), doi: 10.1142/S2010194518600406
  13. M. Agostini, et al, Double beta decay; Radiopurity; Uranium and thorium bulk content, Astroparticle Physics, 91 (2017) 15, doi: 10.1016/j.astropartphys.2017.03.003
  14. M. Agostini, et al. for The GERDA, Collaboration Background-free search for neutrinoless double- $\beta$  decay of  $^{76}\text{Ge}$  with GERDA , Nature 544, (2017) 47 doi:10.1038/nature21717
  15. A Best et al, Ne-22 and Na-23 ejecta from intermediate-mass stars: the impact of the new LUNA rate for Ne-22(p, gamma) Na-23, Mon Not R Astro Soc 465 (2017) 4817
  16. O. Straniero et al. (LUNA Collaboration), The impact of the revised  $^{17}\text{O}(p,\alpha)^{15}\text{N}$  reaction rate on the  $^{17}\text{O}$  stellar abundances and yields, Astronomy and Astrophysics 598 (2017) A128
  17. M. Lugaro et al. (LUNA Collaboration), Origin of meteoritic stardust unveiled by new proton-capture rate on oxygen-17, Nature Astronomy 1 (2017) 0027
  18. D. Trezzi, et al. Big Bang 6-Lithium Nucleosynthesis studied deep underground,

Astroparticle Physics 89 (2017) 57

19. A. Slemer et al. (LUNA Collaboration), Neon and Sodium ejecta from intermediate-mass stars: The impact of the new LUNA rate for  $^{22}\text{Ne}(p,\gamma)^{23}\text{Na}$ , Monthly Notices of the Royal Astronomical Society 465 (2017) 4817-4837
20. M. Agostini et al, Flux modulations seen by the muon veto of the GERDA experiment, Astro Part Phys 84 (2016) 29 doi: 10.1016/j.astropartphys.2016.08.002
21. M. Agostini et al, Limit on the radiative neutrinoless double electron capture of Ar-36 from GERDA Phase I, Eur. Phys. J. C 76 (2016) 652 doi: 10.1140/epjc/s10052-016-4454-5
22. C.G. Bruno, et al. (LUNA Collaboration), Improved Direct Measurement of the 64.5 keV Resonance in the  $^{17}\text{O}(p,\alpha)^{14}\text{N}$  Reaction at LUNA, Physical Review Letters 117 (2016) 142502
23. G. Gervino, Ultra-sensitive gamma-ray spectroscopy set-up for investigating primordial lithium problem, Nucl. Inst. Meth. in Phys. Res. A 824 (2016)
24. Aliotta M, Junker M, Prati P, Straniero O, Strieder F Helium burning and neutron sources in the stars, EPJ A 52 (2016) 79 doi 10.1140/epja/i2016-16076-3
25. M. Agostini et al, Search of Neutrinoless Double Beta Decay with the GERDA Experiment, Nuclear and Particle Physics Proceedings 273 (2016) 1876 doi 10.1016/j.nuclphysbps.2015.09.303
26. A. Best et al. Low energy neutron background in deep underground laboratories, Nucl. Inst. Meth. in Phys. Res. A 812 (2016) 1 doi 10.1016/j.nima.2015.12.034
27. M. Junker Experiences and Prospects of Nuclear Astrophysics in Underground Laboratories, J Phys. Conf. Ser. 665 (2016) 012029 doi 10.1088/1742-6596/665/1/012029
28. Boeltzig A, Pantaleo F, Best A, Imbriani G, Junker M, Status of the direct measurements of  $^{18}\text{O}(p,\gamma)^{19}\text{F}$  and  $^{23}\text{Na}(p,\gamma)^{24}\text{Mg}$  cross sections at astrophysical energies at LUNA, J PHYS CONF SER 703 (2016) 012014 doi 0.1088/1742-6596/703/1/012014
29. R. Depalo, et al. (LUNA Collaboration), Direct measurement of the low-energy  $^{22}\text{Ne}(p,\gamma)^{23}\text{Na}$  resonances, Physical Review C 94 (2016) 055804
30. F. Cavanna, et al. (LUNA Collaboration), Three New Low-Energy Resonances in the  $^{22}\text{Ne}(p,\gamma)^{23}\text{Na}$  Reaction Phys. Rev. Lett. 115:252501 (2015)
31. M. Agostini, et al.  $2\nu\beta\beta$  decay of Ge-76 into excited states with GERDA phase I, J. Phys. G Nucl. Part. 42:15201 (2015)
32. M. Agostini et al. LArGe: active background suppression using argon scintillation for the GERDA  $0\nu\beta\beta$ -experiment, Eur. Phys. J. C 75:605 (2015)
33. M. Agostini et al. Results on beta beta decay with emission of two neutrinos or

- Majorons in Ge-76 from GERDA Phase I, Eur. Phys. J. C 75: 416 (2015)
34. C.G. Bruno et al. (LUNA Collaboration), Resonance strengths in the O-17, O-18(p, alpha)N-14, N-15 reactions and background suppression underground Commissioning of a new setup for charged-particle detection at LUNA, Eur. Phys. J. A 51:94 (2015)
  35. M. Agostini et al. (GERDA Collaboration), Improvement of the energy resolution via an optimized digital signal processing in GERDA Phase I, Eur. Phys. J. C, 75:255 (2015)
  36. C.G. Bruno, D.A. Scott, A. Formicola et al. (LUNA Collaboration), Resonance strengths in the 17,18O(p, alpha)14,15N reactions and background suppression underground – Commissioning of a new setup for charged-particle detection at LUNA, Eur. Phys. J. A, 51:94 (2015)
  37. M. Agostini et al. (GERDA Collaboration), Production, characterization and operation of 76 Ge enriched BEGe detectors in GERDA, Eur. Phys. J. A, 75:39 (2015)
  38. Anders, M., Trezzi, D., Menegazzo, R., et al., First direct measurement of the 2H(alpha, gamma)6Li cross section at big bang energies and the primordial lithium problem, Physical Review Letters, 113 (4), 042501 (2014)
  39. Formicola, A., Bruno, C.G., Caciolli, et al., Cross-section measurements at astrophysically relevant energies: The LUNA experiment, Nuclear Instruments and Methods in Physics Research A, 742, 258 (2014)
  40. Di Leva, A., Scott, D.A., Caciolli, et al., Underground study of the 17O(p, gamma) 18F reaction relevant for explosive hydrogen burning, Physical Review C, 89 (1) 015803 (2014)  
Erratum: Physical Review C, 90 (1), 019902 (2014)
  41. Agostini, M. et al., The background in the 0nu beta beta experiment Gerda, European Physical Journal C, 74 (4), 1-25 (2014)
  42. Junker, M. Experiences and prospects of nuclear astrophysics in underground laboratories, AIP Conference Proceedings, 1595, 138-143 (2014)
  43. Agostini, M. et al., Pulse shape discrimination for Gerda Phase I data, European Physical Journal C, 73 (10), 1-17 (2013)
  44. Agostini, M. et al., Results on neutrinoless double-beta decay of Ge76 from phase I of the GERDA experiment, Physical Review Letters, 111(12), 122503 (2013)
  45. Anders, M., Trezzi, D., Bellini et al., Neutron-induced background by an alpha-beam incident on a deuterium gas target and its implications for the study of the 2H(alpha, gamma)6Li reaction at LUNA, European Physical Journal A, 49 (2), 1-13 (2013)
  46. Ackermann, K.-H. et al., The Gerda experiment for the search of 0nu beta beta decay in

- 76Ge, European Physical Journal C, 73 (3), 1-29 (2013) .
47. Agostini, M. et al., Measurement of the half-life of the two-neutrino double beta decay of 76Ge with the GERDA experiment, Journal of Physics G, 40 (3), 035110, (2013)
  48. Scott, D.A., Caciolli, A., Di Leva, A. et al., First direct measurement of the  $^{17}\text{O}(p,\gamma)^{18}\text{F}$  reaction cross section at Gamow energies for classical novae, Physical Review Letters, 109 (20), 202501, (2012)
  49. Agostini, M. et al., LArGe R&D for active background suppression in Gerda, Journal of Physics: Conference Series, 375, 042009, (2012)
  50. D'Andragora, et al., Spectroscopic performances of the GERDA cryogenic charge sensitive amplifier based on JFET-CMOS ASIC, coupled to germanium detector, IEEE Nuclear Science Symposium Conference Record, 5401678, 396-400, (2009)
  51. Dawson, J.V. et al., Experimental study of double- decay modes using a CdZnTe detector array  
Physical Review C, 80 (2), 025502 (2009)
  52. Dawson, J.V., et al., An investigation into the  $^{113}\text{Cd}$  beta decay spectrum using a CdZnTe array Nuclear Physics A, 818 (3-4), 264-278 (2009)
  53. Junker, M. Underground nuclear astrophysics at LUNA, AIP Conference Proceedings, 972, 249-257 (2008)
  54. Bloxham, T. et al., First results on double  $\beta$ -decay modes of Cd, Te, and Zn Isotopes, Physical Review C, 76 (2), 025501 (2007)
  55. Cattadori, C. et al., The GERmanium Detector Array read-out: Status and developments, Nuclear Instruments and Methods in Physics Research, Section A: 479-480 (2007)
  56. Schönert, S. et al., Status of the Germanium Detector Array (GERDA) in the search of neutrinoless  $\beta\beta$  decays of 76Ge at LNGS, Physics of Atomic Nuclei, 69 (12), 2101-2108. (2006)
  57. Goessling, C. et al., Experimental study of  $^{113}\text{Cd}$   $\beta$  decay using CdZnTe detectors, Physical Review C, 72 (6), 064328 (2005)
  58. Schönert, S. et al., The GERmanium Detector Array (Gerda) for the search of neutrinoless  $\beta\beta$  decays of 76Ge at LNGS, Nuclear Physics B - Proceedings Supplements, 145, 242-245. (2005)
  59. Junker, M., Advances in cross-section measurements with underground accelerators, Nuclear Physics B - Proceedings Supplements, 110, 247-253 (2002)
  60. Junker, M., Present status and future prospects of underground nuclear astrophysics, Nuovo Cimento della Societa Italiana di Fisica A, 111 (8-9), 1061-1066 (1998)

*Melissa Barbara Junker*