
Curriculum Vitae

Professor Dr. Elisa Resconi

Personal Data

Name Elisa Resconi
Born 1.12.1971 Brescia, Italy
Citizenship Italian
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h-index (Google Scholar) 85

Employment

2019 – present Full Professor, Liesel Beckmann Distinguished Professorships, Technische Universität München.
2016 – 2018 Associate Professor, Heisenberg Program (DFG), Technische Universität München.
2013 – 2016 Assistant Professor, Heisenberg Program (DFG), Technische Universität München.
2012 Assistant Scientist, Excellence Cluster *Universe* (DFG), Technische Universität München.
2011 Guest Professor, Universität Erlangen-Nürnberg, Germany.
2005 – 2011 Emmy-Noether Junior Research Group (DFG), MPIK, Heidelberg, Germany.
2002 – 2005 Marie Curie Postdoctoral Fellow (EU), DESY-Zeuthen, Germany.

Education

1997 – 2001 Ph.D. in Physics, University of Genoa and Laboratori Nazionali del Gran Sasso, L'Aquila, Italy.
1996 – 1997 INFN Fellowship for undergraduate students, LNGS, L'Aquila, Italy.
1995 Summer research internship, Princeton University, USA.
1994 – 1995 INFN Fellowship for master students, LNGS, L'Aquila, Italy.
1991 – 1995 M.Sc. in Physics at the University of Milano, Italy.

Research Responsibilities

- Elected member for the DFG Review Boards, since 2020.
- Founder and co-spokesperson of the Pacific Ocean Neutrino Experiment (P-ONE), since 2018.
- Max-Planck Fellow, Max-Planck-Institut für Physik (MPP), since 2017.
- TUM-IAS, Focus group *Multi-Messenger astrophysics and the United Nations Open Universe initiative*, since 2017.
- Spokesperson of SFB 1258 *Neutrinos and Dark Matter in Astro- and Particle Physics*, since 2016.
- INFN board of evaluation for associated professors (national competition), 2015.
- Associated Editor, *Europhysics Journal C* (EPJC), since 2014.
- Member of the Advisory board of Reviews in Physics, since 2014.
- Member of the Scientific Advisory Committee of KM3NeT, since 2013.
- Elected representative of the Committee for Astroparticle Physics in Germany (KAT), area high-energy neutrinos, since 2013.

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- Coordinator of the ASPERA (EU) network, *A Concerted R&D Program for Low Energy Neutrino Detectors (LOWE)*, 2012-2015.
 - Head of the research area *Experimental Physics with Cosmic Particles*, TUM, since 2011.
 - The IceCube South Pole Neutrino Telescope, institutional board representative for MPIK-Heidelberg 2005-2010; institutional board representative for TUM since 2011; data analysis coordinator (2008-2011); chair of the Speakers Committee since 2015; member of the Executive Committee, since 2017.

Prizes / Awards

- Heinz Maier-Leibnitz-Medaille, 2017.
- Max-Planck Fellow, 2017.
- Heisenberg Professorship, 2012.
- Emmy-Noether Junior Research Group, 2005.
- Marie Curie Individual Fellowship, 2002.

Publication summary

- Complete list of publication available from:
https://inspirehep.net/search?ln=en&ln=en&p=find+a+resconi%2C+e&of=hb&action_search=Search&sf=earliestdate&so=d&rm=&rg=25&sc=0
- Total number of papers: 284
- Total number of citations: 24,465
- Average citation per paper: 86.1
- h-index: 85 (Google Scholars)

Books

- T. K. Gaisser, R. Engel, E. Resconi, *Cosmic Rays and Particle Physics*, Cambridge University Press, 2016.
- E. Resconi, F. A. Aharonian, *High-Energy Gamma-rays and Neutrinos from Extra-Galactic Sources*. International Journal of Modern Physics D, Vol 18, Nr 10, October 2009.

Reviewing and editorial work

- Editor for The European Physical Journal C (EPJ C), Experimental Physics II: Astroparticle Physics
- Referee for journal: Nature, MNRAS, JCAP, Phys. Rev. D., Astroparticle Physics Journal.
- Referee for funding agencies: Agence Nationale de la Recherche, Swiss National Science Foundation, Ministero dell'Istruzione, dell'Università della Ricerca Italiana, Danish Council for Independent Research Natural Sciences, Deutsche Forschungsgemeinschaft (DFG), German-Israeli Foundation for Scientific Research and Development.
- Referee for Alexander von Humboldt-Stiftung.

Student Supervision

Overview: 13 Bachelor, 14 Diploma/Master, and 8 Ph.D students completed and 9 Ph.D on going. From the Ph.D students one is professor (Prof. Dr. Anna Bernhard, THI Business School), two are research scientists, one is a co-founder of a start-up company, one is a school teacher, and the remaining students joined industry mainly in the area of data science.

Organization of International Conferences and Workshops (since 2015)

- International Cosmic Ray Conference, Berlin 2021.
- ESA/ESO SCIOPS 2019, "Cross Facilities Collaboration in the multi-messenger era" Spain 2019.
- Perspectives in Astroparticle physics from high energy neutrinos (PAHEN), Napoli 2018.
- Topical workshop, The High Energy Universe: Gamma Ray, Neutrino, and Cosmic Ray Astronomy, Munich Institute for Astro and Particle Physics, Garching 2018.
- TAUP 2017 – XV International Conference on Topics in Astroparticle and Underground Physics, SNO Lab (Canada) 2017.
- Atmospheric Neutrino Workshop (ANW'16), Garching 2016.
- Interdisciplinary Workshop, Evaluation of likelihood functions on GPUs, Garching 2014.
- Topical workshop, Neutrinos in Astro- and Particle Physics, Munich Institute for Astro and Particle Physics, Garching, 2014.
- Wilhelm and Else Heraeus Seminar, Exploring the neutrino sky and fundamental particle physics on the Megaton scale, Bad Honnef, 2013.
- 13th International Conference on Topics in Astroparticle and Underground Physics 2013, Co-convenor of the session Atmospheric neutrinos, Asilomar, California USA, 2013.
- IceCube Particle Astrophysics (IPA) Symposium, 2013, Madison, USA.
- Mediterranean and Antarctica Neutrino Telescope Symposium (MANTS), Garching, 2013.
- TeV Particle Astrophysics 2010, Paris, France, 2010.
- High-Energy Gamma-rays and Neutrinos from Extra-Galactic Sources, 2nd Heidelberg, Workshop, MPIK, 2009.
- Non Thermal Hadronic Processes in Galactic Sources, 1st Heidelberg Workshop. Max-Planck-Institute for Nuclear Physics, 2008.

Scientific plenary talks (since 2015)

- 30th Texas Symposium on Relativistic Astrophysics Portsmouth, UK, 2019.
- XVIII International Workshop on Neutrino Telescopes, Venice, Italy, 2019.
- Lake Louise Winter Institute 2019, University of Alberta, Perimeter Institute, Canada, 2019.
- eXtreme19 conference, Padua, Italy, 2019.
- 25th Rencontres du Vietnam, Quy Nhon, Vietnam, 2018.
- Fifteenth Marcel Grossmann Meeting - MG15, Rome Italy, 2018.
- AMS DAYS at La Palma - The Future of Cosmic Rays, La Palma, Spain, 2018.
- Perspectives in Astroparticle physics from High Energy Neutrinos, Napoli, Italy, 2017.
- 35th International Cosmic Ray Conference 2017 (ICRC2017), Busan, Korea, 2017.
- Invisibles17 Workshop, Zurich (Switzerland), 2017.
- The Lake Baikal Three Messenger Conference, Listvyanka at Lake Baikal, Russia, 2016.
- Gamma 2016 international conference, Heidelberg, Germany, 2016.
- Active Galactic Nuclei: what's in a name?, ESO, Garching, Germany, 2016.
- DPG'16, Hamburg, Germany, 2016.
- Symmetries and Phases in the Universe, Irsee, Germany, 2015.
- International Conference on Massive Neutrinos, Nanyang Technology University, Singapore, 2015.
- XLV International Symposium on Multiparticle Dynamics, Wildbad Kreuth, Germany, 2015.

Colloquia (since 2015)

- Max-Planck-Institut für Kernphysik (Germany), 2019.
- Università degli Studi di Pisa (Italy), 2018.
- University of Copenhagen, Niels Bohr Institute, Copenhagen (DK), 2017.
- TRIUMF particle accelerator centre, Vancouver (Canada), 2017.
- Bad Honnef, 2016.
- TUM-IAS Garching, 2016.
- Universität Heidelberg, Physics Colloquium, 2015.
- Nicolaus Copernicus Planetarium Nürnberg, 2015.
- Max Planck for Particle Physics, Physics Colloquium, Munich, 2015.

Teaching and supervision

- Lecture in “Applied Multi-messenger astronomy”, “Cosmic Rays and Particle Physics”, “Experimental physics I, II for teachers”, “Data analysis tools in particle and astroparticle physics”, “Neutrino Astronomy”, and Mentoring Program since 2012.
- Lecture at the ISAPP 2017 International School on Astroparticle, 2017.
- Lecture at the 14th Russbach School on Nuclear Astrophysics, 2017.
- Lecture at VI Pontecorvo neutrino physics school, High Tatra Mountains, Slovakia, 2015.
- Lecture at International School of AstroParticle Physics, APC, Paris, 2012.
- Lecture in “Neutrino Astronomy”, Universität Erlangen-Nürnberg, 2011.
- Lecture at “Schule für Astroteilchenphysik”, Universität Erlangen-Nürnberg, 2009.
- Special lecture on “Particle Astrophysics”, Universität Heidelberg, 2008.
- Lectures at the Joint Dutch Belgian German Graduate School, Bad Honnef, 2006.
- Supervisor of PhD students since 2006, 5 PhD students ongoing, 5 PhD students completed.
- Supervisor of master and bachelor students since 2006.

List of the 10 most important papers

- P. Padovani, P. Giommi, E. Resconi et al., *Dissecting the region around IceCube-170922A : the blazar TXS 0506+056 as the first cosmic neutrino source*, Mon.Not.Roy.Astron.Soc., 480 (2018) 192.
- IceCube Collaboration (M.G. Aartsen et al.), *Neutrino emission from the direction of the blazar TXS 0506+056 prior to the IceCube-170922A alert*, Science 361 (2018) no.6398, 147-151.
- E. Resconi, et al., *Connecting blazars with ultra high energy cosmic rays and astrophysical neutrinos*, Mon.Not.Roy.Astron.Soc., 468 (2017) 1, 11.
- E. Resconi, *Fundamental Physics with Cosmic Particles*, Annalen der Physik (Berlin), 2015.
- IceCube Collaboration (M.G. Aartsen et al.), *Searches for small-scale anisotropies from neutrino point sources with three years of IceCube data*, Astropart.Phys. 66 (2015) 39-52.
- P. Padovani, E. Resconi, *Are both BL Lacs and pulsar wind nebulae the astrophysical counterparts of IceCube neutrino events?*, Mon.Not.Roy.Astron.Soc. 443 (2014) 1, 474- 484.
- IceCube Collaboration (M.G. Aartsen et al.), *Observation of High-Energy Astrophysical Neutrinos in Three Years of IceCube Data*, Phys.Rev.Lett. 113 (2014) 101101.
- IceCube Collaboration (M.G. Aartsen et al.), *Measurement of Atmospheric Neutrino Oscillations with IceCube*, Phys.Rev.Lett. 111 (2013) 8, 081801.
- IceCube Collaboration (M.G. Aartsen et al.), *Evidence for High-Energy Extraterrestrial Neutrinos at the IceCube Detector*, Science 342 (2013) 1242856.
- S. Schönert, T. K. Gaisser, E. Resconi, O. Schulz, *Vetoing atmospheric neutrinos in a high energy neutrino telescope*, Phys.Rev. D79 (2009) 043009.

Granted patents

PCT/EP2005/003200, Owner: DESY, Inventor: E. Resconi; Title of the patent: *Wavelength shifter, method for its production and photomultiplier incorporating a wavelength shifter*. April 2008, Granted from European Patent Office.

Major Academic Achievements

- Co-founder of the ContacTUM task force for the development of non-pharmaceutical interventions to contain the COVID-19 pandemic.
- Founder of the Pacific Ocean Neutrino Experiment (P-ONE), a new initiative for the development of a new large volume neutrino telescope to be installed within the world's largest and most advanced oceanographic infrastructure.
- Published the first significant observation of high energy neutrinos from an extragalactic source, a blazar.
- Published the first association between extreme blazars, high energy neutrinos, and ultra-high energy cosmic rays based on novel methods as the neutrino-filter technique.
- Contributed to the discovery of high-energy astrophysical neutrinos with the IceCube Neutrino Telescope through the development of novel methods as the self-vetoing neutrino technique.
- Published state of the art astronomical source searches with the IceCube South Pole neutrino telescope based on likelihood and stacking approaches.
- Co-authored a book on cosmic rays physics.
- Developed a novel calibration device for the in-situ evaluation of the optical properties of the deep Antarctic ice and ocean's water sites.
- Published the first observation of atmospheric neutrino oscillation at high energy in a large volume neutrino telescope (DeepCore).
- Designed new neutrino telescope concepts for the atmospheric neutrino oscillation (DeepCore), the measurement of the neutrino mass hierarchy (PINGU), and for high energy neutrino astronomy (IceCube-Gen2).
- Patented a wavelength shifter foil production technique for optical sensors.