



Clementina Agodi – Short CV

CURRENT POSITION(S)

- 2022 Research Director Istituto Nazionale di Fisica Nucleare (INFN) - Laboratorio Nazionale del Sud (LNS), Catania, Italy.
- 2021 Elected Individual Member of the European Physical Society (EPS) Council.
- 2021 Member of the PhD Academic Board in Physics of Catania University
- 2020 Scientific expert (REPRISE register) at University and Research Italian Ministry (MIUR) for Fundamental research and Dissemination of scientific culture.
- 2019 Qualified to the role of Full Professor sector 02/A1 experimental physics of fundamental interactions.

PREVIOUS POSITIONS

- 2007 – 2022 Senior Researcher Istituto Nazionale di Fisica Nucleare (INFN) - Laboratorio Nazionale del Sud (LNS), Catania, Italy.
- 1988 – 2007 Researcher INFN- Laboratorio Nazionale del Sud (LNS), Catania Italy.
- 1984 – 1988 Collaborator as technical-professional role with fixed-term contract at INFN -LNS

MAIN RESEARCH ACTIVITIES

My main scientific interests are in the domain of Nuclear Physics and refer to Heavy Ions reactions to study nuclear structure and reaction mechanism and their connection with neutrino-less double beta ($0\nu\beta\beta$) decay. The research activity on which I am currently focused is the NUMEN Project, which aims to determine data-driven nuclear matrix elements for $0\nu\beta\beta$ decay. The idea we had in this project is to use an innovative technique to access the nuclear matrix elements, entering the expression of the lifetime of the $0\nu\beta\beta$ decay, based on relevant cross sections of double charge exchange reactions. The NUMEN ambitious goal demand beam intensities much higher than those manageable with the present facility and consequently an upgrade of the entire facility. This upgrade was funded in 2019 among a selection by an Italian competitive National Program, named PON, in the frame of ESFRI plan with POTLNS project, in which I have the Scientific Responsibility, related to MAGNEX magnetic spectrometer upgrade. Other original studies I performed, with MAGNEX spectrometer at LNS, ranging from nuclear Rainbow to "alpha clustering", from nuclear break-up to pairing correlations, from "ab-initio" to single and double charge exchange reactions, from studies on nuclei light exotics with giant monopole resonance. Complementary to NUMEN, is the prestigious collaboration I have with colleagues of the RCNP of Osaka on single charge exchange reactions based on ($^3\text{He},t$) measurements to identify the role of the 2^- states. I have given also original contribution to a research activity related to the study of nuclear projectile fragmentation cross-sections, with the aim to study fragmentation for applications in adrontherapy and space safety. In this frame the experimental campaign I promoted, as FRAG Spokesperson, lead to the publication of the results obtained in two prestigious databases: Nuclear Energy Agency Data Bank (NEADB) and Experimental Nuclear Reaction Data (EXFOR). I have actively participated since the early stages in the design and construction of the 4π detection system, MEDEA apparatus, dedicated to the detection of photons and light charged particles and I participated at the experimental campaigns at GANIL and LNS laboratories. I have been Spokesperson of several experiments and member of many International and National Committees.

ORGANISATION OF SCIENTIFIC MEETINGS (SELECTION)

- 2023 **Member of the Program Committee** of the second **EPS FORUM** (Berlin, Germany, March 25 - 27, 2024)
- 2022 **Member of Local Organization Committee** of the MAYORANA School&Workshop and **Chair** of the Workshop (Modica -Italy, July 4th – 14th, 2023)
- 2021 **Member of the Program Committee** of the **EPS FORUM** (Sorbonne University, 2-4 June 2022)
- 2020 **Member of the International Advisory Committee** (IAC) of the *Conference on Neutrino and Nuclear Physics, CNNP2020 Cape Town, South Africa* (93 participants).
- 2017 **Chair** of the *International Conference on Neutrino and Nuclear Physics*, Catania IT (210 participants).
- 2016 **Member of Local Organization Committee** (LOC) of *International Workshop Neutrino Nuclear Responses RCNP Osaka Japan* (100 participants).
- 2015 **Member of the Program Committee** of the prestigious *12th International Conference on Nucleus Nucleus Collisions Catania*, Italy (360 participants).
- 2015 **Chair** of the *International Workshop NUMEN 2015* Catania, Italy (50 participant).
- 2014 **Chair of Structure/Reaction session** in *LEA-COLLEGA Workshop, Paris, France* (50 participants).
- **Among the founders and Member of the Scientific Committee and LOC Committee of three editions** of “*Incontro Nazionale di Fisica Nucleare*” in Frascati (2016), Padua (2014), Catania (2012) Italy, supported by INFN CSN3, CSN4, CSN5.
- 2009 **Conveener** of the “Multidisciplinary” working group at *LEA-COLLEGA Workshop*, Parigi.

INSTITUTIONAL AND SCIENTIFIC RESPONSIBILITIES (SELECTION)

- 2019 –2020 **Member of the Marie-Curie evaluation board** Cofund "FELLINI" of HORIZON2020
- 2018 to present **Scientific Coordinator** of the task MAGNEX in “POTLNS” in the PON, (MIUR-PNIR 2014-2020), for projects funded in ESFRI areas (about 19 M€)
- 2017-2019 **Chair of the Research Grants** Committee of the LNS
- 2016 to present **Spokesperson** of the NUMEN_GR3 experiment of INFN Nuclear Physics Board CSN3 (about 3M€, about 30 researchers).
- 2014 – 2016 Member of the **Steering Committee** of the SPES Project of INFN LNL (Padua)
- 2015 – to present **Spokesperson** NUMEN International Project (3M€, 100 researcher, 40 Institutions, 15 Countries)
- 2013-2017 Member of the **Scientific Coordination Group** of the MOU between INFN–LNS and IN2P3-IPN-Orsay (France) (26 researchers)
- 2012 - 2015 **Spokesperson** of DREAMS experiment of INFN (about 100k€/year, about 15 researchers)
- 2010 - 2015 **Referee** of the CSN3 internal line 2: “**Phase Transitions of Nuclear and Hadronic Matter**”
- 2010 to present **Referee of ALICE** INFN CSN3 experiment at **LHC, CERN**
- 2007-2015 **Coordinator of the LNS Nuclear Physics** group (about 50 researcher) as Delegate in the INFN Nuclear Physics Board (**CSN3**)
- 2006 – 2013 Member of the **INFN CPO (Equal Opportunities Committee)**
- 2008 **Member** of the **examining board** for the National **INFN Award** “Claudio Villi”
- 2008 Member of **INFN-MED Committee** for the CSN3
- 2007-2010 **Referee of LUNA** experiment approved by CSN3 INFN
- 2007 – 2009 **Referee of FINUDA** experiment approved by CSN3 INFN
- 2007-2011 **Spokesperson** of FRAG experiment of INFN (about 100k€/y, circa 10 researchers).
- 2000 – 2007 **Research delegate** for LNS at INFN –Researcher Committee

REVIEWING ACTIVITIES

Review Editor of Nuclear Physics Frontiers in Physics; **Reviewer** of Nuclear Instruments and Methods in

Physics Research; **Reviewer** of Physics in Medicine and Biology (2013); **In charged as expert by MIUR for projects evaluation “PRIN/Futuro in Ricerca” 2013**; **Editor** of Conference on Neutrino and Nuclear Physics 2017 Proceedings; **Editor** of UNIVERSE **Special Issue:**” Nuclear *Issues for Neutrino Physics*” 2020

MAJOR COLLABORATIONS

- Prof.H.Ejiri, prof. H. Akimune (RCNP di Osaka) on single charge exchange (3He,t) reactions.
- **Coordinator of the International NUMEN Project with 40 Institutions from 15 Countries.**
- **Collaboration for HADES spectrometer at GSI (Germany) to study nuclear high temperature and density in collisions between heavy ions of 1-2 AGeV.**
- Member of the **Scientific Coordination Group** in MoU between INFN–LNS and IN2P3-IPN-Orsay.
- Collaboration with **GSI, IN2P3, ESA and CNRS**, in the frame of FIRST project to study projectile fragmentation for applications in adrotherapy and space safety
- MEDEA collaboration at **GANIL (Caen, France). Invited by Prof. P. Chomaz at “Nuclear Chemistry GORDON CONFERENCE, 2002 New London, NH.**

CAREER (MATERNITY) BREAKS: 23/04/90/-23/12/90; 12/11/91-12/04/92; 21/05/93-21/12/93.

SCIENTIFIC OUTPUT: coauthor of about **300 publications** in refereed international journals *with about 4000 citations (ISI, SCOPUS)*, a lot of publications in refereed conf. proceedings and activity reports, over **than 35 talks, selected by advisory committees at well-established national and international conferences. H-index 35 (ISI, SCOPUS).**

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Author of more than a dozen of scientific communication articles, published in Italian newspaper, and involved in several **outreach activities**. Author of: “Frammenti Nucleari” n.9 of “Asimmetrie” (INFN review) and author of “NUMEN project” on the review Research Outreach “Connecting Science with society” ISSUE 107.