

## **Giovanni Batignani - Curriculum scientifico**

### **Carriera**

- 1978 Laurea in fisica con lode presso l'Università di Pisa e diploma di licenza della Scuola Normale Superiore.
- 1979-1980 Servizio militare obbligatorio.
- 1980-1983 Borsista presso la SISSA di Trieste, nel 1982 conseguimento del titolo di "Magister". Associato alla sezione INFN di Trieste.
- 1984-1992 Ricercatore INFN a Pisa.
- 1992-2002 Professore Associato del Dipartimento di Fisica dell'Università di Pisa, incaricato di ricerca INFN presso la sezione di Pisa.
- 2002-oggi Professore Ordinario del Dipartimento di Fisica dell'Università di Pisa, incaricato di ricerca INFN presso la sezione di Pisa.

### **Incarichi di responsabilità**

- 1993-1998 Responsabile di Pisa di attività INFN di ricerca e sviluppo di rivelatori a semiconduttore (esperimenti CREST e LAST)
- 2002-2008 Responsabile del gruppo di Pisa dell'esperimento BaBar
- 2006-2008 Coordinatore del gruppo I (fisica delle particelle alle macchine acceleratrici) dell'INFN di Pisa.
- 2007-2010 Membro dello Scrutiny Group del RRB-LHC del CERN.
- 2008-2015 Direttore della sezione di Pisa dell'INFN e membro del Consiglio Direttivo dell'INFN.
- 2015-2017 Responsabile del gruppo di Pisa dell'esperimento DarkSide
- 2016-oggi Chair dell'Institutional Board dell'esperimento DarkSide
- 2015-oggi Componente del Consiglio di Amministrazione del "Museo Storico della Fisica e Centro Studi e Ricerche Enrico Fermi" - Roma

### **Riassunto attività scientifica**

- 1977-1986: Nelle collaborazioni NA1 ed NA7 per la misura della vita media dei mesoni charmati e del fattore di forma elettromagnetico del pione carico. Principali compiti personali: progetto delle misure di vita media, delle targhette attive su silicio, turni di presa dati, manutenzione dell'apparato, analisi dati della vita media del D, gestione del programma di ricostruzione.
- 1985-1996: Nella collaborazione ALEPH per la misura della fisica elettrodebole al LEP di Ginevra. Principali compiti personali: responsabilità nella costruzione ed installazione del calorimetro adronico; partecipazione alla progettazione, R&D, costruzione e messa a punto del rivelatore di vertice (costituito dai primi rivelatori a strip al silicio con lettura bidimensionale mai realizzati), presa dati, analisi dei dati.
- 1988-1998 Partecipazioni ad iniziative INFN di gruppo V (fisica applicata e interdisciplinare) per lo sviluppo di rivelatori a strip con lettura

bidimensionale, poi utilizzati in vari esperimenti, fra cui ALEPH e BaBar. Principali compiti personali: CAD design, gestione di strumentazione, design di nuovi rivelatori, test di prototipi.

1994-oggi: Nella collaborazione BaBar ) per lo studio della fisica fondamentale (simmetria materia-antimateria, flavor physics) al collisore elettrone-positrone PEP-II (Stanford, CA). Principali compiti personali: responsabilità della progettazione e produzione dei sensori al silicio del rivelatore di vertice, gestione di gare ed acquisti, system manager del rivelatore di vertice nel 2002-3, analisi e relatore di tesi di dottorato inerenti misure dell'angolo gamma del triangolo di unitarietà.

1999-oggi: Varie partecipazioni a progetti per lo sviluppo di elettronica integrata a sensori al silicio. In particolare: realizzazione di un sensore con amplificazione intrinseca basato sull'effetto transistor-BJT .

2006-2012 Fra i proponenti di SuperB, per realizzare una macchina e+e- ad altissima luminosità in Italia (progetto terminato nel 2013).

2013-oggi: Partecipazione all'esperimento Belle2 a KEK (Giappone) per la fisica e+e- ad altissima luminosità'.

2015-oggi Partecipazione all'esperimento Darkside, per la ricerca della materia oscura ai Laboratori Nazionali INFN del Grans Sasso. Responsabilità organizzative e di coordinamento ai massimi livelli.

La partecipazione ai progetti sopra descritti ha prodotto oltre 600 pubblicazioni su rivista.

Data: 6 agosto 2018

*Fiorucci Bahigueli*

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**Fabiana Gramegna**

**Legnaro, August 5<sup>th</sup> 2018**

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Name **Fabiana GRAMEGNA,**  
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E-mail [gramegna@lnl.infn.it](mailto:gramegna@lnl.infn.it)  
Citizenship Italian  
Birth date October 3<sup>rd</sup>, 1956  
Birth Place Rovereto (TN)  
Civil status Married (with 2 sons)

## EDUCATION

- ❖ **1979 - Master Degree in Physics** at PADOVA University, discussing the thesis *Study and realization of a neutron detector for cross section measurements of Astrophysical interest* (110/110); the results have been published on *Lettere al Nuovo Cimento* (1980) and *Nuclear Instruments and Methods* (1981).
- ❖ **1975 - High School Diploma** at the Liceo Scientifico "Galileo Galilei" in TRENTO (60/60).

## CAREER

- ❖ **2006** January - I level Permanent position as **Research Director (*Dirigente di Ricerca*)**
- ❖ **2004** - Winner in Public Competition n. 10324/2004 for the Position of **Dirigente di Ricerca** (Research Director) - I level INFN;
- ❖ **1996** April - II level Permanent position as **First Researcher (*I Ricercatore*)**
- ❖ **1995** - Winner in Public Competition n. 5445/95 for a Position of **I Ricercatore**, II level INFN
- ❖ **1983** Feb, 1st - Permanent position as **INFN Resercher** at the Legnaro National Laboratory
- ❖ **1982**: top winner (18.6/20) in the call for 3 new INFN researcher position at LNL for Heavy Ion Physics
- ❖ **1978 - 1983**: association to INFN at LNL; research program FUFU-DEEP (3<sup>rd</sup> National Committee), devoted to the study of fusion-evaporation, fusion-fission and deep inelastic reaction mechanisms at the TANDEM accelerator of LNL.

## ❖ SCIENTIFIC COORDINATION & MANAGEMENT

### ❖ RESPONSIBILITY at LNL

- **Since 2017** – Member of the LNL **SPES Project Board**
- **Since 2015** – **Responsible** of the **Research Division** (under Prof. Fiorentini and Dr. D. Bettoni Directors)
- **Since 2015** – Member of the **LNL Council (CdL)**
- **2003 -2006** – Member of the **LNL Council (CdL)**
- **1996-2004** – **Responsible** of the **User Service** (under Prof. M. Nigro Director of L.N.L. in the period 1996-1998 and G. Fortuna Director in the period 1998-2004);

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- 1992 – 1996 **LNL Representative of Researchers**
- 1992 - 1996 **Member** of the **LNL Council (CdL)**;
- Have been **Scientific Coordinator** of the Committee for the LNL Library (under Prof. Dal Piaz Directorate)

## ❖ INFN Experiments

### ➤ National Responsibilities

- 2013 -2015 **National Responsible** NUCL-EX Collaboration
- 2003 – 2005 **National Referent** (3<sup>rd</sup> National Committee) **THERMO** scientific line within the NUCL-EX experiment for the study of nuclear dynamics and thermodynamics
- 2000 – 2002 **National Responsible STREGA** (3<sup>rd</sup> National Committee of INFN)- *Studio della Termodinamica e delle Reazioni Nucleari con Garfield*) experiment to study the dynamics of heavy ion induced reactions at the energies of the LINAC ALPI at L.N.L.
- 1995 – 1999 **National Responsible GARFIELD** experiment (3<sup>rd</sup> National Committee of INFN) for the *design and realization* of a complex apparatus mainly made by two drift chambers, where gas micro-strip detectors are used in the multiplication region; the apparatus was built to be used for reaction mechanisms studies in Heavy Ion Collisions at low-medium;
- Since 1995 - **Responsible** for the **GARFIELD apparatus**
- 1994 **National Responsible GARFIELD** experiment (3<sup>rd</sup> National Committee of INFN) for a *feasibility study* of a complex apparatus to be used at the Linac ALPI di Legnaro;

### ➤ Local Responsibilities

- 2003–2010 **Local Responsible** esp. NUCL-EX LNL, and **R.U.P.** (Unique Responsible for equipments tenders)
- 1986 – 2010 **LNL Responsible** for experimental activities within the Nuclear Physics Group of INFN:
  - 1986-1987 FUF1-DEEP,
  - 1988 PRELIN;
  - 1989-1991 HRN and MULTICS;
  - 1992-1994 HRN2 and MULTICS;
  - 1994-1999 OUVERTURE;
  - 1994-2003 (GARFIELD, STREGA)

### ➤ Memberships

- 2000–2012 – **member** of the International collaboration **n-TOF** (within the 3<sup>rd</sup> National Committee) @ CERN
- 2003–2012 – **member** coll. **ASTHICO** - coll. **ORIONE**, coll. **HYDE** within the 5<sup>th</sup> National Committee of INFN for scintillation detector development; **R.U.P.** within these experiments

### ➤ Coordination

- 2003 – 2006 **LNL Scientific Coordinator** within the 3<sup>rd</sup> National Committee of INFN and **Member** of the **Laboratory Council** (CDL)

## ❖ MIUR Projects

- 2013–2016 **Responsible of the LNL Resarch Unit - PRIN 2010-2011:** *Developments of new detectors and analysis techniques for experiments with*

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*radioactive beams at the National Laboratories of INFN, with special reference to the SPES project – proj. n. 2010TPSCSP*

## ❖ INTERNATIONAL RESPONSIBILITIES

- Since 2016 - **deputy leader** for the **GDS ENSAR2** network
- Since 2016 - **Coordinator of WP 4 (ancillary detectors) for the “Gas-filled Detectors and Systems” (GDS) Ensar2 network proposal.**
- since 2015 to nowadays– **Italian Scientific Coordinator** within the **LEA-COLL\_AGAIN Steering Committee** (European Associated Laboratory -Italian-French Agreement INFN-CNRS/IN2P3);
- since 2014 to nowadays– **Italian Scientific Coordinator** within the **LEA-POLITA Steering Committee** (European Associated Laboratory -Italian-Polish Agreement INFN-COPIN); Partner in the HARMONIA6 project.
- since 2007 to 2015– **Italian Scientific Coordinator** within the **LEA-COLLIGA Steering Committee** (European Associated Laboratory -Italian-French Agreement INFN-CNRS/IN2P3);
- 2009-2014 – **Member of the International Program Advisory Committee** for the **INFN-LNS** scientific accelerator program
- 2006 – 2011 **Italian representative** - Member of the **Program Management Board** of **FAZIA** (R&D program for the study and construction of a new generation 4p apparatus);
- 2011–2013 **member NUPNET European project Nedensaa**
- 2009–2011 **member** of the **European Project SPIRAL2PP** - TASK Instrumentation
- 2004–2012 – **member User Group Eurisol** (Instrumentation) – UE
- 1990 – 1991 **"porte-parole"** at GANIL (France) for the MULTICS experiment;

## ❖ RESPONSIBILITIES within the SPES PROJECT

- Since 2010 to nowadays - **WPB01 manager** (*Scientific Support*)
- Since 2008 to nowadays – **SPES Management Board member**
- 2015 -2016 **Coordinator** of the *Working Group 1+ transport line* for SPES
- 2008-2009 - **TASK1 leader** (*Safety*) within the SPES Project

## ❖ REFEREE

- Has been **Referee** within the 3<sup>rd</sup> National Committee of INFN
- Has been **Referee** for the **Calls** within the 5<sup>th</sup> National Committee of INFN
- since 2004 to nowadays - **Referee of IEEE MIC**
- since 2009 to nowadays - **Referee of IEEE NSS**
- **Referee of International Journals** (*Nucl. Instr. Meth., Eur. Phys. Journ., Annals of Nuclear Energy, Radiation Physics and Chemistry*)
- **Editor** of the **Workshop Conference Proceedings** published in the SIF Conference proceedings *n.92* (2008)

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## NATIONAL & INTERNATIONAL WORKSHOP & CONFERENCE COMMITTEES

Among them in the last period:

- ❖ 2018 - **EMIS2018 Intern. Advisory Committee – CERN** - Oct 2018
- ❖ 2017 – **XXXV Mazurian Lakes Conference on Physics IAC** – Piaski – Sept. 2017
- ❖ 2017 - **LASNPA & WONP-NURT 2017 – IAC** – L'Havana - Cuba
- ❖ 2016 – **Organizing Committee III SPES International Workshop** – Oct. 2016
- ❖ 2016 – **Organizing Committee SNRI V Edizione** – Padova/LNL – Oct. 2016
- ❖ 2008-2016 - As LEA Scientific Coordinator → **Organization of five LEA-COLLIGA Workshops** in
  - Catania October 13-16 2008,
  - Parigi November 23-24 2009,
  - Laboratori Nazionali di Legnaro November 18-19 2010,
  - Orsay (Paris) from November 14 to 16 2011;
  - Paris - the first Joint LEA **COLLIGA-COPIGAL** workshop (Paris 7-10 January 2014);
  - LNS - the second *Joint LIA COLL\_AGAIN-POLITA-COPIGAL* workshop (Catania 26-29 April 2016);
- ❖ 2016 - **Advisory Committee Bormio2016** – Bormio February 2016
- ❖ 2015 - **XXXIV Mazurian Lakes Conference on Physics IAC** – Piaski – Sept. 2015
- ❖ 2014 – **Local Organizing Committee II SPES Intern. Workshop** – May 2014
- ❖ 2013 - **Program Committee NN2015** - Catania June 2015
- ❖ 2013 - **Program Committee INPC2013** - Florence June 2013
- ❖ 2012 - **Organizing Committee DREB 2012 - Direct Reaction with Exotic Beams** - Pisa, March 26,29 2012
- ❖ 2012 - **ECOS Intern. Advisory Committee** - 18-21 June 2012 Villa Vigoni (Como Lake), Italy
- ❖ 2012- **EMIS2012 Intern. Advisory Committee** – Matsue (Japan) Dec. 2-7 2012
- ❖ 2010 - **Organizing Committee** of the Workshop **SPES2010** Laboratori Nazionali di Legnaro November 15 to 17 2010;
- ❖ 2010 - **Co-organization** with Prof. C. Majorana of the **Mini-Symposium Computational methods for radiation shielding on nuclear facilities** - IV European Conference on Computational Mechanics”.
- ❖ 2009 - **Organizing Committee Eurisol Town meeting** Pisa March 30 April 2 2009.
- ❖ 2007 - **Organizing Committee Workshop in Honour of the 80th Birthday of Renato Angelo Ricci, The Nuclear Physics from the f7/2 to the Quark -Gluon Plasma**, Legnaro, May 17-18
- ❖ 2004 - Collaboration in the **organization** of the **IEEE International Conference “Rome 2004”**
- ❖ 2003 - Member of the **Organizing Committee** 10th *International Conference on Nuclear Reaction Mechanisms* Varenna June, 9 – 13
- ❖ 1994 - Member of the **Organizing Committee** *International Workshop on Micro-strip Gas Chambers* Laboratori di Legnaro, ottobre 1994
- ❖ 1992 - Organization of the **First Meeting** for an **European Forum** on Nuclear Reaction Mechanisms, Laboratori Nazionali di Legnaro December 16-18.
  
- ❖ 2016 -2018 - **President of the Jury** for “Assegni di Ricerca” at LNL
- ❖ 2013 - **Member of Jury** for 16 Post-doc INFN positions for foreigner;
- ❖ 2008 - 2010 **President of the Jury** for “Assegni di Ricerca” at LNL;
- ❖ 2008 - **Member of the Jury** for 29 positions as II level INFN researcher (I Ricercatore)

## JURIES AND COMMITTEES

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- ❖ **Member** of several **Juries** for researchers' and engineers' open positions at INFN;
- ❖ **Member** of several **Juries** for technical Staff open positions at INFN; in some of them as **President** of the **Committee**.
- ❖ **President** of several **Juries** for INFN Fellowships, temporary positions for technicians etc.

## TEACHING ACTIVITY

- ❖ **Supervisor of Bachelor & Master Thesis** at Padova, Bologna, and Ferrara Universities
- ❖ Collaborating for **Bachelor & Master Thesis** at Milano, LNS and Trieste Universities
- ❖ **Supervisor of PhD Thesis** at Padova and Bologna Universities
- ❖ **Collaborating for PhD Thesis** at Trieste University
- ❖ **Supervisor of DOE students** in the framework of the DOE-INFN (Summer Students Exchange Program).
  
- ❖ **2016 Director** of the *International School of Physics Enrico Fermi- 2017* on “**Nuclear Physics with stable and radioactive ions beams**” – VARENNA
- ❖ **2014 Organization** *Summer School on Neutron Detectors* and Related Applications (NDRA2014)
- ❖ **2010 – Lessons** on *Nuclear Dynamics* – PhD program @ Padua University
- ❖ **2001- Organization** of the *Nuclear Physics School* for PhD students: “*Ciclo di Lezioni sulla Fisica Nucleare con gli Ioni Pesanti*” Laboratori di Legnaro, January
- ❖ **2002-2003 – Lessons** on the *Theory of Errors in Physics* - Engineering Faculty of the TRENTO University
- ❖ **1988** - Organization **IAEA lessons: Course on Basic and Applied Nuclear Physics** - March, 21 -25, Laboratori Nazionali di Legnaro

## III MISSION

- ❖ **Supervisor** in the “**STAGE**” program of LNL for High School students: Advanced training courses for High School students recognized in the context of the School-Work Alternation →titles of the Stages “Introduction to the charged particle detection” and “Study and set-up of scintillation detectors for medical diagnostic, radiation monitoring and detection system in nuclear physics.” - “Characterizing a radiation source”.
  
- ❖ **2018 - Supervisor** “Stage Mille e una Lode” – Fellowship Program dedicated to the best Students in physics of the second year of University to perform a stage @LNL – 2 students
  
- ❖ Coauthor of more than **350 publications** on **Referred International Journals** and **Conference Proceedings** with referees;
- ❖ Several oral presentations to National and International Workshop and Conferences with **contributions** and **invited talks**;
- ❖ The scientific activity was also published on **internal reports** and reported as **seminars**;



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## SCIENTIFIC ACTIVITY & PRODUCTION

### Activity Summary

❖ The research activity was mainly devoted to the study of the reaction mechanisms in **Heavy ion induced collisions**, at different energy intervals (**Tandem XTU-Linac ALPI LNL**, coupled Cyclotron system at **GANIL-France**, **Grenoble-France**, **Superconducting Cyclotron Texas A&M University-U.S.A.**, **Tandem + Cyclotron in Oak Ridge - U.S.A.**, **Superconducting Cyclotron (NSCL)** at the Michigan State University - U.S.A., **Superconducting Cyclotron** at LNS - Catania).

➤ Active participation to the design and realization of the **research programs** relative to:

- the **deep inelastic collisions induced by heavy ions**,
- the study of the **nuclear structure at high excitation energy and high angular momentum**,
- **Fusion-Fission** processes,
- **Pre-equilibrium** and **Clustering** in nuclei,
- the study of **hot rotating nuclei at intermediate energies**,
- the **multi-fragmentation process**, related to the **critical behavior of nuclear matter (Nuclear Equation of State)** and the possible evidence of a **liquid-gas phase transition**

➤ **Study and design of detectors** related to the upper physics programs:

- **Ionization chambers for the Bragg Curve Spectroscopy**,
- **Parallel Plate Avalanche Counters**,
- **Scintillation detectors** with photodiode read-out,
- **silicon detectors**, even of great area and position sensitive.
- Collaboration to the development of **detectors for charged particles** within the Detector Group for the Superconducting Cyclotron of Catania. Activity with the **MULTICS** array.

➤ Participation to the **antiproton on Nuclei** activity at **CERN** (ANTI-NUC; initial phase of the OBELIX experiment for the study and design of a vertex detector (drift chamber) to be inserted in the OBELIX spectrometer;

➤ Co-founder of the n-TOF Italian collaboration. Collaboration within the **n-ToF program** for **cross section measurement** of **neutron induced** reaction for astrophysical interest and for application (ADS).

Within the GARFIELD experiment, since 1994, **Responsible for the study and the design of the multi-detector GARFIELD**. I have coordinated the activity as **National Responsible**, both in the development phase (**GARFIELD** experiment), and in the data taking (experiments **STREGA – NUCL-EX**). The activity was based on:

- realization of a **drift chamber prototype where gaseous micro-strip**, etched on glass, were used in the multiplication region;
- realization of a **complex apparatus** based on the above mentioned technology to study the nuclear dynamics in heavy ion collisions at the Linac ALPI energies. The micro-strip detectors are coupled to **CsI(Tl) crystals**, working in the same gas volume for a total of about 400 detectors.
- Some ancillary detectors have been from time to time coupled to the drift chambers, depending on the measurement:
  - in the forward part the **Ring Counter**, an annular three stage detector (8

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- Ionization chambers, 8 silicon detectors, 16 CsI(Tl) scintillators,
  - a system made by 4 Parallel Plate Position Sensitive for Time of Flight measurements.
  - a system made by a wall of phoswich detectors (three stage scintillato detectors
  - a system of large BaF2 scintillator detector for high energy gamma ray detection
- Many **seminars** and **international invited talks** have been personally presented on this subjects.
- ❖ Personally developed and studied **novel scintillator detectors** for fast and thermal neutrons, based on polysiloxane materials (**ORIONE, HYDE** Experiments, **PRIN 2011**); this activity was related to the development of detectors to be used both in **Nuclear Physics** and for **Applications** (Monitoring purposes in high radiation field environments and/or portal monitoring).
- ❖ **Member** of the **Management Board** of the **SPES project** for the realization of a facility devoted to the **exotic nuclei production** at LNL and for **applications**: collaboration in the design of the new project with a direct proton beam (200  $\mu$ A) on UCx sliced target configuration to produce  $10^{13}$  fiss/s.
- ❖ **WPB01 Coordinator** (Scientific Support); under **my coordination**:
  - Definition of **Evaluated beam production**:  
(<https://web.infn.it/spes/index.php/news/spes-beam-tables>)
  - Evaluation on the **Radioactivity along the beam line** of SPES  
[DOC\\_0000020 Rev\\_21\\_5\\_2105](#)
  - **Tape Station** for the **Characterization** of the SPES Beams  
[DOC\\_000000xx\\_TapeSys\\_V003-28 Dic15](#)
  - **1+ Beam Transport line** – coordination of the WG  
from the production target to the Charge Breeder (definition of magnetic and electrostatic elements; the High Resolution Mass Spectrometer, Beam Diagnostics etc.)
  - Participation to the **MB meetings**, to the **Steering Committee** meetings, to the **TAC** and **SSTAC** meetings
  - Many **seminars** or **international invited talks** have been personally presented on the SPES project.
  - Production of **Tape stations** for characterization of the exotic beams
- ❖ Activity at small Accelerator machines (CN- AN2000):
  - Cross section measurements for **Astrophysical Interest**
  - Cross section Measurements for **Beta Beam production (GA n. 212372 EUROnu - Work Package n. 4 Beta Beam)**
  - Detector Development – Scintillator detectors for Fast and Thermal neutrons.
- ❖ **Responsibility of the User Service**: period (1996-2003):
  - **coordination** of personnel:
    - 4 technicians belonging to the Reparto Supporto Apparati Sperimentali ed

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Elettronica Nucleare (support to experimental apparatus, Gamma Detector Laboratory, preparation and maintenance, control system for experimental apparatus),

- 2 technician belonging to the Target Laboratory.

➤ **Budget management** : 300 - 400 KEuro

❖ **Responsibility of Research Division** (since 2015):

<http://www.inl.infn.it/index.php/en/2014-06-04-12-51-39/research-division>

- The current **main research programs** for **Nuclear Physics** are:
  - Structure of neutron-rich nuclei populated by binary reactions.
  - Nuclear structure at high spins, proton rich nuclei and superdeformation.
  - Fusion and grazing collisions around and below the Coulomb barrier.
  - Fission and quasi-fission dynamics with heavy-ion beams.
  - Nuclear structure at high excitation energy (giant resonances).
  - Nuclear reactions induced by light ions and neutrons.
  - Clustering
  - Preparation for the **SPES activity** with **Exotic Beams**
- The main **interdisciplinary research programs** concern:
  - Biophysics, medical physics, radiobiology, microdosimetry.
  - Environmental physics.
  - Solid state physics, material physics.
  - Accelerator physics, superconductivity, RNB developments.
  - Preparation for the **SPES activity** for new **Radio-Isotope cross section** measurements

**Coordination** of 19 Researchers, 7 Engineers, 7 Technicians, about 40 post-doc and Phd Students

**Structure of the Research Division Services Structure:**

- a) Computing
- b) Library
- c) Material Science & Technology for Nuclear Physics
- d) Radiobiology Laboratory
- e) Radionuclides & Molecular Imaging Laboratory
- f) User Support

**Budget Management:** 600-700 KEuro (Scientific Commissions excluded)

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PERSONAL INFORMATION

**Angela Bracco**  
 born 24-09-1955 in Lecco (Italy).  
 Present work address: Dipartimento di Fisica, Università di Milano, via  
 Celoria,16, 20133 Milano, e-mail: Angela.Bracco@mi.infn.it

WORK EXPERIENCE

Full professor of Physics (Experimental Physics) at the University of Milano  
 (from 2002 to present ).

Associate professor of Physics (Experimental Physics) at the University of  
 Milano (from 1998 to 2002)

Researcher (Experimental Physics) at the University of Milano  
 (from 1983 to 2002)

EDUCATION AND TRAINING

Ph.D. in Physics (1983, Canada, TRIUMF laboratory at UBC  
 Vancouver and U.of. Manitoba which gave the Ph.D).

Laurea (Master) in Physics (1979), Università degli Studi di Milano

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
	English				
English	Proficient User C1	Proficient User C1	Proficient User C1	Proficient User C1	Proficient User C1
	French				
French	Independent user B1	Independent user B2	Independent user B1	Independent user B1	Independent user B2

**Teaching and communication skills**

General Physics - Electromagnetism and optics for Physics students (from 1983-to 1998)  
 “Experimental techniques in gamma spectroscopy Course for Graduate School (1992-1994)  
 General Physics - Electromagnetism and optics for Chemistry students (2001-2002)  
 Laboratory of gamma spectroscopy for Physics students (1994- present)  
 Introductory Nuclear and Particle physics (2004-present)  
 Member of the board of Graduate School in Physics (2003) -  
 Supervisor for undergraduate theses for the first level (22 theses) and Master 33 theses  
 Supervisor or co-supervisor for graduate theses (Ph.D): 13 theses  
 Member and chair of several committees for Ph. D graduation in Milano, Italy and abroad.

**Organisational / managerial skills**

My research is in the field of experimental Nuclear Physics (with focus on gamma spectroscopy for nuclear structure) In connection with my experience in managing research funding and personnel I had the chance to be in many committees and panels dealing with several different activities: astrophysics, astroparticle, particle, nuclear and accelerator physics, new technical developments and applications. In addition I did evaluation work (two times member of GEV of ANVUR , ERC panel members for three times)

- MIUR (Ministry of Research and University) representative member in the *Board of directors of INFN* (from August 2011-to August 2015)
- Chair of the Nuclear Physics Board of INFN (CSN3) from April 2005 to September 2011- This responsibility position implied extensive work to organize the funding of many different projects in Nuclear Physics in the Italian laboratories LNL, LNS (and partly in LNGS and LNF), at CERN, and at several foreigner laboratories such as GSI, GANIL, JLAB, and few others. The activity included also the preparation of road map and triennial plans, annual reports of the results and future planning to be presented to the international evaluation committee of INFN.
- Member of several selection committees for INFN and University personnel. In particular, I was chair of an INFN Committee for selection at national level for Advanced researchers (more than 200 participants) and chair of a committee for selection at national level of first level researchers of INFN. Member of several university committees for selection for positions of different levels at several Universities in Italy and in Europe (Leuven and Darmstadt) .
- Member of the governing board of the EU project NupNet (ERANET for Nuclear Physics in FP7) and responsible of one working package -from 2008-2011. In particular I worked in the preparation of calls for projects to be funded jointly by several funding agencies in Europe.
- Responsible at National level of a PRIN MIUR project (competitive funding) on instrumentation for Radioactive beams (2013-2015)
- Chair of NuPECC - the nuclear Physics expert committee of the European Science Foundation, from January 2012- December 2017. (Among the activities made for NuPECC is the volume “ Nuclear Physics for Medicine”; “The long Range Plan in Nuclear Physics”)- Invited (in 2014-2017) to contribute in several meetings of ESFRI for the European Landscape for Physics.
- Member of WG9 (nuclear physics) of IUPAP (from 2012 to present).
- Member of the Executive Board of the European Physical Society (from 2014-2018).

**My activity in evaluation panels for EU commission, Institutions and Agencies is listed below:**

---- Member of several panels for the EU commission in different calls and framework programs.  
*Member of the ERC panel for evaluation and selection* of physics projects with meetings in Bruxelles (section PE in HORIZON2020) for the Starting grants (in 2014-2016-2018).

---- Panel member (evaluation and selection) for calls within the FP6 and FP7 programs. Evaluation panels in Bruxelles for proposals of the type “Integrated Activities” and “Design Studies” ( 2002, 2003 and 2004) and in 2005 for “Research and Training Networks , Marie Curie fellows”.

---- Member of the Physics Expert Panel (called GEV) of ANVUR for the evaluation of the Italian Research from 2011 up to May 2013. I was the coordinator of the sub-panel for nuclear, particle and astroparticle physics. ANVUR GEV member also for the second evaluation in 2015-2016.

---- Responsible for the Nuclear and particle physics evaluation of several Greek institutes (February 2014), nominated by the Greek Ministry of Research.

---- Member of the Review panel of the Helmholtz Programme ”Physics of Hadrons and Nuclei” (GSI, February 2009), Member of the Review Panel of the Helmholtz Institute Mainz”Structure, Symmetry and Stability of Matter and Antimatter” (Mainz, April 2009)

----- Member of an evaluation panel for the French activity P2I (Physique des deux infinis) held in April 2010. Panel Member of the ANR (Agency National Recherche, France) from 2018.

----- Member of the Evaluation panel for excellence Initiative for “Graduate Schools” for the German Research Foundation DFG (November 2011) - Member of the Cluster of excellence DFG panel in 2017.

----- Member of the Review Panel of the Helmholtz Institute in Julich (Julich, December 2017).

My activity as remote referee has been very intense.

**Job-related skills My activity in Scientific committees of Laboratories and Institutes is listed below**

- Chair of the International Program Advisory Committee of Nishina Center RIKEN (2017-)
- Chair of the Inter. Scientific Committee of the project HE-ISOLDE at CERN (2011- 2017)
- Chair of the International Scientific Council of the institute IRFU/CEA (France) (2013-2018) This council deals with all activities of the institute: astrophysics, astroparticle, particle, nuclear and accelerator physics, new technical developments and applications.
- Member of the Scientific Council of the ELI Facility (the pillar in Bucarest from 2015 to present).
- Member of the Scientific Committee of Nishina Center at the research institute RIKEN (Tokyo, Japan) (from 2008-2012). Member of the Program Advisory Committee of the RIKEN Nishina Center (2015-2016). Member of the RIKEN Advisory Committee(2019)
- Member of the Scientific committee of the cyclotron laboratory at IFJ in Cracow(from 2014 to present)
- Member of the Scientific committee of the Institute of Physics in Helsinki (Finland) (2018)
- Member of the Scientific Committee of French Institute IN2P3(CNRS Institute for Nuclear, Particle and astroparticle Physics)(2011- 2014) and member of the Scientific Committee of Nuclear Physics Institute at Orsay (IPNO) (2012-2016).
- Member of the Scientific Committee of the german Laboratory GSI (Darmstadt, Germany) (2009-2015) and of the Scientific Committee of the center of the Helmholtz Institute at Mainz (Germany) for Nuclear Physics (2009-2015).
- Member of the Scientific Council of the ELI Facility (the pillar in Bucarest from 2015 to present).
- Member of the Scientific Committee of Nishina Center at the research institute RIKEN (Tokyo, Japan) (from 2008-2012). Member of the Program Advisory Committee of the RIKEN Nishina Center (2015-2016). Member of the RIKEN Advisory Committee(2019)
- Member of the Scientific committee of the cyclotron laboratory at IFJ in Cracow(from 2014 to present)
- Member of the Scientific committee of the Institute of Physics in Helsinki (Finland) (2018-

**International Panels of Research Funding Agencies**

- Member of the expert panel for Nuclear and Particle physics of the Belgian Funding Agency FWO (from 2010-2018)
- Member of the expert panel of Academy of Finland Centre of Excellence Programme - Nuclear and Accelerator Based Physics (October 2010- September 2012, August 2018)
- Member of the committee for MICINN (Spanish ministry of Science and Innovation) for “ evaluación de proyectos de investigación 2011 del Plan Nacional” ( Madrid May 2011 and October 2017).
- Member of the Nuclear Physics Grants Panel of the Science and Technology Facilities Council in the UK (October 2010-June 2011, 2013-2015, 2016-2018)
- Member of a review panel for the USA Department of Energy DOE (Washington, Usa, 2018)
- Member of a grant selection panel for NSERC (Ottawa, Canada, from 2018)

**Other Past responsibilities and participation in Scientific committees of Laboratories, Institutes and Funding agencies**

- Member of the Working Group of OECD (Global Science Forum Organization for Economic Cooperation and development ) on Nuclear Physics (2006-2007)
- Member of the Scientific Committee of the laboratory GANIL (France (from 2007- 2010 )
- Member of the Scientific Review International Committee of the INFN LNL and LNS laboratories (2004- March 2008)
- Member of the scientific Advisory Committee (SAC) of the Facility SPIRAL2 (in the ESFRI list) from 2003 to 2005.
- Member of the Program Advisory Committee of the Laboratory “ National Accel.Center of Cape Town “ (from 2000 to 2002) and Member of the Program Advisory Committee of the CNRS Laboratory IRES in Strasburg (from 1998 to 2002).

Digital skills	SELF-ASSESSMENT				
	Information processing	Communication	Content creation	Safety	Problem solving
	Independent user	Independent user	Independent user	Independent user	Independent user

Levels: Basic user - Independent user - Proficient user  
[Digital competences - Self-assessment grid](#)

Replace with name of ICT-certificates

- I acquire my competence during my research activity requiring use of computer and programming.

Other skills Teaching and outreach activity

Driving licence driving licence category B

ADDITIONAL INFORMATION

Publications  
 Presentations  
 Conference seminars  
 Outreach

- Co-author of 220 research papers on scientific journals (including 27 PRL+28 PLB, a Phys. Report and a Report in Progress Physics) plus approximately 160 papers on proceeding volumes (many in special volumes of scientific journals), (h factor 38).  
 The number of coauthors varies from 10 to around 50 which is typical for the field in which I carry out my research.
- Presentation of 76 invited talks at international workshops and conferences (2 summary talks, and two keynote talk at 4 large conferences, EMIS2012, ARIS2014 and NN2015 and Zakopane2016 and one SIF relazione generale) plus 25 seminars given at Universities or Laboratories. Organization of 8 International Conferences.
- Author (with two other colleagues) of a book “Giant Resonances: Nuclear structure at finite temperature” belonging to the series “Contemporary Concepts in Physics”
- Editor for 4 volumes of Conference Proceedings, one volume being lectures of the Enrico- Fermi School in Varenna of the Italian Physical Society.
- Referee of several papers in different scientific journals.
- Outreach activity: Editor in chief of Nuclear Physics News; Contributor to the journal Asimmetrie of INFN, Notiziario Università di Milano. Member of scientific committee of Energy-Lab in Lombardia.

Editor of Sci. Journals

- *Co-editor of European Physics Letters (EPS journal) (2015-) and Supervisory Editor of the international scientific journal Nuclear Physics A (Elsevier) (2018-)*

Honours and awards

Member of Academia Europaea -selected in the Physical Engineering Science Panel  
 Member of the executive committee of the European Physical Society

ANNEXES

- **Short description of the scientific activity and selected publications.**



Personal information I authorize the handling of personal information in this curriculum, according to D.Lgs n. 196/03 and following modifications and Regulations EU 679/2016 (General Regulations concerning Data Protection or GRDP) and art. 7 of University Regulations concerning protection of personal information.

I authorize, according to D.lgs 14/03/2013 n. 33 concerning transparency, in case of conferment of the position and of the fellowship, the publication of this curriculum in the web site of Università degli Studi di Milano in the section "Amministrazione trasparente", "Consulenti e collaboratori".

Date

Signature

10 November 2018



## ANNEX : Short description of the scientific activity and selected publications.

### *Short description of the scientific activity*

The research activity starting from 1985 is in experimental nuclear physics with focus in the field of Nuclear Structure and reaction dynamics. Before, and in particular during the PH.D work, research was made to study the nucleon force and the nucleon few-body problem with reactions induced by intermediate energy protons (at the laboratory TRIUMF, Vancouver Canada).

Most of the experimental work of my research activity was made employing heavy ions reactions and gamma spectroscopy. In this connection the research was and is being carried out as a member of several European collaborations around large detector arrays for gamma-ray spectroscopy. The most recent collaboration is AGATA, an array for gamma-ray spectroscopy based on a novel tracking technique. The first phase of the AGATA array, called demonstrator, was constructed and pilot experiments were carried out in LNL-INFN, GSI and GANIL. I am presently involved in experiments for the study of Giant Resonances in RIKEN and Osaka, Japan. In the past years I was member of the international collaborations NORBALL and HECTOR (Niels Bohr Institute, Copenhagen) and GASP (LNL-INFN, Legnaro-Padova) and of the much larger European collaboration EUROBALL (operating during 1996-2002 at LNL-INFN and Strasbourg).

After 2002, using a large fraction of the EUROBALL equipment, two new experimental set ups were constructed, RISING(GSI) and PRISMA-CLARA (at LNL). The RISING collaboration has conducted very new studies of unstable nuclei with radioactive beams at the laboratory GSI (Darmstadt-Germany).

Personal contributions of some relevance were given in the experimental data taking and they concern the study of the properties of collective nuclear excitations at the extreme conditions of thermal excitation, angular momentum and isospin. Indeed a number of experiments dedicated to the study of the gamma decay of the giant dipole resonances were performed under the Milano responsibility. Interesting results on nuclear structure at finite temperature were obtained using the above large arrays and including additional detectors for high energy gamma-rays, developed and constructed with my group in Milano.

Presently within the AGATA international collaboration, I am committed in the realization of new ancillary detectors to study nuclear degrees of freedom identified with high-energy gamma-ray emission. These studies are relevant to understand the response for high frequency small amplitude vibrations in the region around the nucleon binding energy. They are also important for the description of the nucleosynthesis of elements following explosions of super-novae.

Additional experimental work, still in the field of nuclear structure with gamma spectroscopy, was made during the years at ANL(Chicago,USA) with the array Gammasphere and GANIL(Caen, France) with the array EXOGAM.

With all these activities the group of Milano, that I have been coordinating for the last 25 years, has gained a well recognized expertise in the field of nuclear structure at finite temperature. The expertise is also in the development of experimental and analysis techniques necessary to study continuum spectra emitted from nuclear rotations and vibrations. The experimental activities planned for the future are in international collaborations and concern the investigation of collective modes in nuclei far from stability, which are mostly created using radioactive beams (from SPES\_INFN, CERN-ISOLDE and GANIL-SPIRAL2).

The construction phases of the complex detector arrays, mentioned above, required relations and common developments with companies dealing with detectors, mechanics, electronics and computers.

***In this research field she supervised the activity of 10 post-doctoral fellows. One fellowship was obtained from funding from industry (from CAEN)***

A good fraction of the master and Ph.D supervised students, with research projects within the above collaboration, have now positions at the University of Milano, at INFN, in foreigner research institutions, and as managers in companies performing research.

## Research collaborations

- Member of the Steering Committee of the AGATA European collaboration for nuclear spectroscopy with gamma-rays (from 2009-...)
- Member of the Steering Committee of the RISING collaboration at GSI from 2002 to 2005 (gamma spectroscopy with radioactive beams at GSI).
- Member of the Steering Committee of EUROBALL (Large European Collaboration for gamma spectroscopy) (from 1996 to 1999)
- National responsible of INFN Nuclear Physics experiments (named HECTOR, PRIAMO, PARIDE from 1992-1998 dealing with the study of giant resonances) and responsible for Milano of the INFN experiments named EUROBALL and AGATA (1999-2005)
- Scientific Responsible of the project SPES (2001-2005). In 2005 I left the responsibility because in conflict with the chairship of the scientific committee of Nuclear Physics of INFN (CSN3).

Visitor Scientist at TRIUMF (1984); at Oak Ridge National Laboratory (in 1985 and in 1986); at the Niels Bohr Institute (Copenhagen) for several periods of 2 to 3 months from 1987 to 2005.

## Activity in Organization of Conferences and workshops

- I have organized 8 international conferences including one Enrico Fermi School in 2010 (Varenna) I have also organized meetings for the EU-Eranet NuPNET project and several other collaboration meetings. Organization in Milano of the Symposium Italy-RIKEN in 2012 and of NuSTAR week in September 2018.
- I was member of the International Advisory Committees of several (28) International Conferences.
- Chair of the Program Committee of the international Nuclear Physics Conference INPC2013 (this is the largest conference in the field, covering all topics of modern Nuclear Physics, some at the boundary with particle and astroparticle physics) and of EuNPC 2018 (Bologna)
- Responsible in 2014 of the section on “ Nuclear and Particle Physics” for the annual meeting of SIF (Società Italiana di Fisica).

## Relation with industry and technology transfer

During the time I was chair of the Nuclear Physics Board of INFN I had the chance to interact directly or indirectly with industries and companies involved in the construction of our detection systems. In addition with my group in Milano we are developing detectors and related electronics (particularly scintillators) for nuclear spectroscopy in basic science and applications. In this context we have had for several years contacts and collaborations with companies and industries. Recently, the company CAEN showed much interest in developing together with our group a commercial version of an electronics module for scintillators, whose main structure was designed at the Milano INFN section for our applications. This resulted in *the funding by CAEN of a post-doctoral fellowship and in a technology transfer agreement (with royalties for INFN) for the electronics module.*

## Selected publications of Angela Bracco (out of >200 co-authored in refereed journals)

1) Is seniority a partial dynamic symmetry in the first  $vg(9/2)$  shell? Morales, A. I.; Benzoni, G.; Watanabe, H.; .... A.Bracco et al. PHYSICS LETTERS B 781(2018)706.

- 2) Observation of isoscalar and isovector dipole excitations in neutron-rich O-20, Nakatsuka, N.; Baba, H.; Aumann, T.; A. Bracco et al. PHYSICS LETTERS B768 (2017) 387.
- 3) *Isospin Mixing in Zr-80: From Finite to Zero Temperature*, Ceruti, S.; Camera, F.; Bracco, A.; et al. PHYSICAL REVIEW LETTERS 115 (2015) 222502.
- 4) *Gamma decay of pygmy states from inelastic scattering of ions*, Bracco, A.; Crespi, F. C. L.; Lanza, E. G. EPJA 51(2015)99.
- 5) *Pygmy dipole resonance in Sn-124 populated by inelastic scattering of O-17*, Pellegrini, L.; Bracco, A.; Crespi, F. C. L.; et al. PHYSICS LETTERS B (2014) Volume: 738 Pages: 519-523
- 6) Isospin Character of Low-Lying Pygmy Dipole States in Pb-208 via Inelastic Scattering of O-17 Ions, Crespi, F. C. L.; Bracco, A.; Nicolini, R.; et al. PHYSICAL REVIEW LETTERS (2014) Volume: 113 Issue: 1 Article Number: 012501
- 7) Concluding remarks on the EMIS2012 conference, Bracco, Angela NIM 317 (2013) 317, 810.
- 8) Evidence for the Dipole Nature of the Low-Energy gamma Enhancement in Fe-56, Larsen, A. C.; Blasi, N.; Bracco, A.; et al. PHYSICAL REVIEW LETTERS 111(2013), 242504 .
- 9) *"The Pygmy Dipole Resonance in 68Ni and the neutron skin"*, O. Wieland and A. Bracco, Progress in Particle and Nuclear Physics Vol. 66(2011)374
- 10) *"Constraints on the symmetry energy and neutron skins from pygmy resonances in 68Ni and 132Sn"* A. Carbone, G. Colo, A. Bracco, L. Cao, P. F. Bortignon, F. Camera and O. Wieland, Phys. Rev. C 81 (2010) 041301(R)
- 11) *"Probing the nature of particle-core couplings in 49Ca with  $\gamma$  spectroscopy and heavy-ion transfer reactions"*, D. Montanari, S. Leoni, D. Mengoni, G. Benzoni, N. Blasi, G. Bocchi, P. F. Bortignon, A. Bracco, F. Camera, G. Colo, A. Corsi, F. C. L. Crespi, B. Million, R. Nicolini, O. Wieland, J. J. Valiente-Dobon, L. Corradi, G. de Angelis, F. Della Vedova, E. Fioretto, A. Gadea, D. R. Napoli, R. Orlandi, F. Recchia, E. Sahin, R. Silvestri, A. M. Stefanini, R. P. Singh, S. Szilner, D. Bazzacco, E. Farnea, R. Menegazzo, A. Gottardo, S. M. Lenzi, S. Lunardi, G. Montagnoli, F. Scarlassara, C. Ur, G. Lo Bianco, A. Zucchiatti, M. Kmiecik, A. Maj, W. Meczynski, A. Dewald, Th. Pissulla, G. Pollarolo, Phys. Lett. B 697, 288 (2011)
- 12) *"Search for the Pygmy Dipole Resonance in Ni-68 at 600 MeV/nucleon"*, Wieland, O; Bracco, A; Camera, F; Benzoni, G; Blasi, N; Brambilla, S; Crespi, FCL; Leoni, S; Million, B; Nicolini, R; Maj, A; Bednarczyk, P; Grebosz, J; Kmiecik, M; Meczynski, W; Styczen, J; Aumann, T; Banu, A; Beck, T; Becker, F; Caceres, L; Doornenbal, P; Emling, H; Gerl, J; Geissel, H; Gorska, M; Kavatsyuk, O; Kavatsyuk, M; Kojouharov, I; Kurz, N; Lozeva, R; Saito, N; Saito, T; Schaffner, H; Wollersheim, HJ; Jolie, J; Reiter, P; Warr, N; deAngelis, G; Gadea, A; Napoli, D; Lenzi, S; Lunardi, S; Balabanski, D; LoBianco, G; Petrache, C; Saltarelli, A; Castoldi, M; Zucchiatti, A; Walker, J; Burger, A, PHYS REV LETT(2009)51
- 13) *"Probing the order-to-chaos region in superdeformed Tb-151 and Pb-196 nuclei with continuum gamma transitions"*, Leoni S, Benzoni G, Blasi N, Bracco A, Brambilla S, Camera F, Corsi A, Crespi FCL, Mason P, Million B, Montanari D, Pignanelli M, Vigezzi E, Wieland O, Matsuo M, Shimizu YR, Curien D, Duchene G, Robin J, Bednarczyk P, Castoldi M, Herskind B, Kmiecik M, Maj A, Meczynski W, Styczen J, Zieblinski M, Zuber K, Zucchiatti A, PHYSICAL REVIEW LETTERS 101( 14): - 142502 (2008)
- 14) *"Giant dipole resonance in the hot and thermalized Ce-132 nucleus: Damping of collective modes at finite temperature"* Wieland O, Bracco A, Camera F, Benzoni G, Blasi N, Brambilla S, Crespi F, Giussani A, Leoni S, Mason P, Million B, Moroni A, Barlini S, Kravchuk VL, Gramagna F, Lanchais A, Mastinu P, Maj A, Brekiesz M, Kmiecik M, Bruno M, Geraci E, Casini G, Chiari M, Nannini A, Ordine A, Ormand E, PHYSICAL REVIEW LETTERS 97(2006)( 1)012501 .
- 15) *"Is the K quantum number conserved in the order-to-chaos transition region?"* G. Benzoni, A. Bracco, S. Leoni, N. Blasi, F. Camera, C. Grassi, B. Million, A. Paleni, M. Pignanelli, E. Vigezzi, O. Wieland, M. Matsuo, T. Døssing, B. Herskind, G. B. Hagemann, J. Wilson, A. Maj, M. Kmiecik, G. Lo Bianco, C. M. Petrache, M. Castoldi, A. Zucchiatti, G. De Angelis, D. Napoli, P. Bednarczyk, D. Curien, Phys. Lett. B. 615(2005)160.
- 16) *"Radiative fusion from very symmetric reactions: the giant dipole resonance in the 197Au nucleus"* F. Camera, A. Bracco, V. Nanal, M. P. Carpenter, F. Della Vedova, S. Leoni, B. Million, S. Mantovani, M. Pignanelli, O. Wieland, B. B. Back, A. M. Heinz, R. V. F. Janssens, D. Jenkins, T. L. Khoo, F. G. Kondev, T. Lauritsen, C. J. Lister, B. McClintock, S. Mitsuoka, E. F. Moore, D. Sewerly, R. H. Siemssen, R. J. Van Swol, D. Hofman, M. Thoennessen, K. Eisenman, P. Heckman, J. Seitz, R. Varner, M. Halbert, I. Dioszegi, A. Lopez-Martens, Phys. Lett. B560 (2003)155.
- 17) *"Effect of E1 decay in the population of superdeformed structures"*- G. Benzoni, A. Bracco, F. Camera, S. Leoni, B. Million, A. Maj, A. Algora, A. Axelsson, M. Bergstrom, N. Blasi, M. Castoldi, S. Frattini, A. Gadea, B. Herskind, M. Kmiecik, G. Lo Bianco, J. Nyberg, M. Pignanelli, J. Styczen, O. Wieland, M. Zieblinski, A. Zucchiatti, Phys. Lett. B540 (2002)199.
- 18) *"High-lying collective rotational states in nuclei"*, Bracco, A. and Leoni, S., REPORTS ON PROGRESS IN PHYSICS 65,2 (2002) 2, 299.

- 19) "Quantum tunneling of the excited rotational bands in the superdeformed nucleus  $^{143}\text{Eu}$ " S. Leoni, A. Bracco, F. Camera, B. Million, A. Algora, A. Axelsson, G. Benzoni, M. Bergstrom, N. Blasi, M. Castoldi, S. Frattini, A. Gadea, B. Herskind, M. Kmiecik, G. Lo Bianco, A. Maj, J. Nyberg, M. Pignanelli, J. Styczen, E. Vigezzi, M. Zieblinski, A. Zucchiatti. Phys. Lett. B498(2001)137.
- 20) "Fission hindrance in  $^{200}\text{Pb}$  measured from giant dipole resonance  $\gamma$ -ray emission" I. Dioszegi, N.P. Shaw, A. Bracco, F. Camera, S. Tettoni, M. Mattiuzzi and P. Paul, Phys. Rev. C63(2000)014611.
- 21) "Measurement of 15 MeV  $\gamma$ -rays with Ge cluster detectors of EUROBALL" B. Million, A. Bracco, F. Camera, S. Brambilla, A. Gadea, D. Giugni, B. Herskind, M. Kmiecik, R. Isocrate, S. Leoni, A. Maj, F. Prelz and O. Wieland Nucl. Inst. Meth. A452(2000)422
- 22) "Unresolved gamma-rays in  $^{114}\text{Te}$ : mass dependence of rotational damping" S. Frattini, A. Bracco, S. Leoni, F. Camera, B. Million, N. Blasi, G. LoBianco, M. Pignanelli, E. Vigezzi, B. Herskind, T. Dossing, M. Bergstrom, P. Varmette and S. Tormanen, A. Maj, M. Kmiecik, D.R. Napoli and M. Matsuo Phys. Rev. Lett. 83 (1999) 5234.
- 23) Nuclear Structure at Finite Temperature P.F. Bortignon, A. Bracco and R.A. Broglia, Harwood Academic Publishers, Amsterdam (1998), volume della collana Contemporary Concepts in Physics.
- 24) "The Rotational Quadrupole Moment of Thermally Excited High Spin States in  $^{164}\text{Yb}$ ", S. Frattini, A. Bracco, S. Leoni, P. Bosetti, B. Herskind, T. Dossing, M. Bergstrom, G.B. Hagemann, H. Ryde, J.P. Vivien, A. Bagshaw, D. Smalley and A.G. Smith, Phys. Rev. Lett. 81(1998)2659.
- 25) "Possible Conservation of the K-Quantum Number in Excited Rotating Nuclei" P. Bosetti, S. Leoni, A. Bracco, B. Herskind, T. Dossing, G.B. Hagemann, R. Bark, A. Brockstedt, P. Ekstrom, H. Carlsson, A. Nordlund, H. Ryde, F. Camera, S. Frattini, M. Mattiuzzi, B. Million, D. Bazzacco, R. Burch, G. de Angelis, D. De Acuna, M. de Poli and P. Pavan, Phys. Rev. Lett. 76 (1996)1204.
- 26) "Fluctuation Analysis of Rotational Spectra." T. Dossing, B. Herskind, S. Leoni, M. Matsuo, A. Bracco, R. A. Broglia, and E. Vigezzi, Phys. Report 268(1996)1-84.
- 27) "Microscopic Simulations of gamma-cascades in warm rotating nuclei", A. Bracco, P. Bosetti, S. Frattini, E. Vigezzi, S. Leoni, T. Dossing, B. Herskind, M. Matsuo, PRL 76, (1996)4484.
- 28) "Increase of the width of the Giant Dipole Resonance in hot Nuclei: Shape Change or Collisional Damping?" A. Bracco, F. Camera, M. Mattiuzzi, B. Million, M. Pignanelli, J.J. Gaardhoje Z. Zelazny, T. Ramsøy, T. Tveter and A. Maj Phys. Rev. Lett. 74(1995)3748.
- 29) "Limiting Temperature for the Existence of Collective Motion in Hot Nuclei." P.F. Bortignon, A. Bracco, D. Brink, and R. A. Broglia, Phys. Rev. Lett. 67(1991)3360.
- 30) "Saturation of the width of the giant dipole resonance at high temperature", A. Bracco, J.J. Gaardhoje, A. Bruce, J.D. Garret, B. Herskind, M. Pignanelli, D. Barneoud, H. Nifenecker, J.A. Pinston, C. Ristori, F. Schussler, J. Bacelar, and H. Hofmann, Phys. Rev. Lett. 62 (1989)2080.
- 31) "Study of the breathing mode of  $^{208}\text{Pb}$  through Neutron decay." A. Bracco, J.R. Beene, N. Van Giai, P.F. Bortignon, F. Zardi, and R. A. Broglia, Phys. Rev. Lett. 60(1988)2603.
- 32) "Study of The Two-Nucleon Wave Function in  $^3\text{He}$ ." A. Bracco, H.P. Gubler, D.K. Hasell, W.T.H. van Oers, M.B. Epstein, D.J. Margaziotis, R. Abegg, C.A. Miller, and P. Schwandt, Phys. Rev. Lett. 50(1983)1741.



# Curriculum Vitae del Dott. Pasquale Lubrano

## 1 Agosto 2018

Pasquale Lubrano é nato il 16 Dicembre 1958, a Pozzuoli (Na). É coniugato con Mary Jo Di Biase, nata a Rochester (NY), U.S.A., ed padre di due figli: Paolo, nato a Syracuse (NY), U.S.A., nel 1987, e Mauro nato a Meyrin (Ginevra), Svizzera, nel 1990.

Laureato in Fisica presso l'Universitá degli Studi di Pisa nel 1983, con uno studio sulla costruzione di camere a deriva per uno spettrometro magnetico per muoni atmosferici operante al livello del mare, relatore Prof. Carlo Bradaschia.

Dottorato di Ricerca in Fisica (Ph.D. , Philosophiae Doctor) presso la Syracuse University (NY), USA, nel 1988 con uno studio sui processi di produzione e decadimento del mesone  $D_S$  in collisioni elettrone-positrone ad energie intorno alla  $\Upsilon(4S)$ , relatore Prof. A. Jawahery (attualmente alla University of Maryland).

Dal 1991 é ricercatore dell'Istituto Nazionale di Fisica Nucleare presso la Sezione di Perugia, dal 1996 é Primo ricercatore, dal 2002 é Dirigente di Ricerca. Attivo da circa 30 anni in collaborazioni scientifiche internazionali nel campo della fisica sperimentale delle interazioni fondamentali:

- Fisica delle interazioni adroniche, deboli ed elettromagnetiche (esperimenti CLEO a Cornell (USA), UA2 e Na48 al CERN (Ginevra), progetto SuperB (in Italia), Belle II (KEK, Giappone);
- Studio dei raggi gamma galattici ed extra-galattici (Fermi).

Nel corso della carriera ha ricoperto ruoli di responsabilitá sia scientifica che manageriale all'interno dell'INFN e in organizzazioni di ricerca internazionali, in particolare é stato Direttore della sezione INFN di Perugia e Componente del Consiglio Direttivo dell'INFN dall'ottobre 2007 al luglio 2015.

Ha inoltre svolto un'intensa attività didattica sia come professore a contratto presso il dipartimento di Fisica dell'Università di Perugia sia come relatore di tesi di Laurea e di Dottorato.

### **Incarichi**

Nel corso della carriera ha ricoperto diversi ruoli di responsabilità scientifica e manageriale all'interno dell'INFN e in organizzazioni di ricerca internazionali:

- Coordinatore del gruppo di analisi di Jet per l'esperimento UA2 (1990-1991);
- responsabile di un'attività di Gruppo V (COLD, studio di fattibilità di misure di tempo con fibre scintillanti e tubi fotomoltiplicatori operati alle temperature del krypton liquido);
- Componente della Commissione Calcolo e Reti dell'INFN e responsabile del Servizio di Calcolo della Sezione di Perugia (1992-1995);
- Coordinatore per la Prima Commissione Scientifica dell'INFN (1995-2001); Valutatore (referee) per la Prima Commissione Scientifica degli esperimenti KLOE, BaBar e CMS (1997-2008);
- Componente della Commissione per le Nuove Tecnologie per il Calcolo dell'INFN (1998-2001);
- Co-autore, su richiesta del Presidente della Seconda Commissione Scientifica dell'INFN, di un'indagine sulle necessità di calcolo di tutti gli esperimenti della CSN2 (2003);
- Responsabile locale (Perugia) dell'esperimento NA48 (1994-2000);
- Coordinatore del gruppo di Trigger dell'esperimento NA48 al CERN (1998);
- Run Coordinator dell'esperimento Na48 al CERN (1998-1999);
- Responsabile locale (Perugia) dell'esperimento FERMI (2000-2006);

- Dal 2001 al 2004 valutatore del progetto INFN GRID (in particolare per la fase di progettazione del TIER1 presso il CNAF);
- Componente della Physics and Engineering Scientific Committee (PESC) della European Science Foundation (ESF) in rappresentanza dell'INFN (2006-2013);
- Componente del CORE group della PESC (ESF), rappresentante italiano (2007-2010). In questo gruppo ristretto ed esecutivo della PESC ha condotto in prima persona molteplici valutazioni di progetti europei (EuroThemes, EuroCOREs, Reti di ricerca, Scuole di Fisica della ESF);
- Componente del comitato di valutazione nominato dalla Agenzia Spaziale Europea (ESA) del progetto ELIPS (2007-2008);
- Componente del collegio di valutazione dei programmi Sinergia della Swiss National Foundation (SNF) (2014-oggi);
- Chairman della commissione nominata dal Presidente INFN per la valutazione degli esperimenti Athena, Juice e NGO, su richiesta dell'Agenzia Spaziale Italiana (ASI, 2012);
- Componente della Commissione paritetica ASI-INFN (2011-2012);
- Componente della Commissione paritetica INFN-Cabibbo Lab (2013);
- Componente della Commissione paritetica INFN-Regione Marche (2012-2014);
- Chairman della Executive Board dell'esperimento SuperB (2011-2013);
- Componente (rappresentante italiano) della Executive Board dell'esperimento Belle II (2013-2014);
- Direttore della Sezione di Perugia dell'INFN e Componente del Consiglio Direttivo Nazionale dell'INFN (2007-2015);
- Componente della Commissione Nazionale per la Formazione (CNF) dell'INFN (2011-2016);
- Rappresentante per l'Italia nel LHC Scrutiny Group del CERN (2017-oggi);



- Componente dello UCG (Upgrade Cost Group) del CERN per l'esperimento ATLAS e Totem ad LHC;
- Coordinatore del Gruppo di Lavoro sulla Valutazione (GLV) dell'INFN (1 Aprile 2018 - oggi);
- Componente del comitato organizzatore di Incontri di Fisica delle Alte Energie (IFAE);
- Dal 1991 ad oggi ha usufruito di incarichi da Professore a contratto presso il Dipartimento di Fisica dell'Università di Perugia per i corsi di Rivelatori di particelle elementari ed il Laboratorio di Fisica nucleare e subnucleare. È stato relatore di numerose tesi di Laurea e di Dottorato di Ricerca. È attualmente Componente del Collegio dei Docenti della scuola di Dottorato. In questo ambito ha iniziato, nel corso del XXXI ciclo di dottorato a Perugia, un corso di Dottorato in Comunicazione e Divulgazione scientifica. È tutor interno al collegio di dottorato per tre studenti di dottorato sulla comunicazione della Scienza

### **Attività Scientifica**

Dopo il conseguimento della Laurea ha effettuato un periodo di permanenza professionale all'estero dal 1983 al 1990.

- 1983-1988, ha partecipato all'esperimento CLEO presso il Newmann Laboratory of Nuclear Studies della Cornell University (USA). In questo periodo ha conseguito il Dottorato di Ricerca in Fisica (Ph.D., Philosophiae Doctor) presso l'Università di Syracuse, NY, USA;
- ha fatto parte del gruppo di progettazione del nuovo rivelatore per muoni per CLEO II, partecipando sia alla fase di costruzione ed assemblaggio che a quella di installazione come responsabile del test di qualità dei nuovi rivelatori;
- lo studio dei dati di CLEO, effettuato nel programma di conseguimento del Ph.D, si concretizzò con la pubblicazione di tre articoli di fisica (di cui è stato autore principale) in cui per la prima volta sono stati mostrati studi sistematici dei meccanismi di produzione e decadimento del mesone  $D_S$ ;

- dal 1988 al 1990 ha usufruito di una Fellowship presso i Laboratori del Centro Europeo per la Ricerca Nucleare (CERN) di Ginevra, collaborando nell'esperimento UA2. Nell'ambito di questo esperimento ha lavorato nel gruppo online responsabile dei processori di filtro del trigger di II livello e partecipato all'analisi dei dati con particolare attenzione alla fisica adronica dei jet, studiando eventi con più di 4 jet nello stato finale. I risultati di questa analisi sono stati pubblicati in un articolo che per la prima volta ha mostrato confronti di dati sperimentali con predizioni assolute (non normalizzate) della QCD perturbativa per sezioni d'urto adroniche.

Nel 1991 è tornato in Italia, assunto dopo concorso, come ricercatore presso la Sezione dell'INFN di Perugia. Qui ha iniziato a collaborare, diventandone poi il responsabile locale, in un gruppo di ricerca sperimentale operante nel campo della fisica delle particelle dedicato alla misura di altissima precisione della violazione diretta di CP nel sistema dei mesoni K. La collaborazione in questo gruppo (NA48, esperimento realizzato al CERN di Ginevra) è continuata dal 1991 fino al 2000,

- dal 1991 in poi ha partecipato alla progettazione, disegno e sviluppo di un sistema di misura dei tempi per particelle cariche con precisione dell'ordine di 100 psec;
- la misura temporale ad alta precisione è stata estesa alle particelle neutre (fotoni) grazie allo sviluppo di una tecnologia innovativa ed originale che ha consentito l'inserimento di fibre scintillanti e tubi fotomoltiplicatori all'interno del calorimetro a Kriptone liquido, a temperature prossime allo zero assoluto. Questo progetto ha richiesto una lunga fase di ricerca e sviluppo, di cui ha assunto responsabilità, su tecnologie e materiali idonei per questo tipo di misure;
- dal 1997 al 2000 (durante il periodo di presa dati dell'esperimento) è stato responsabile del funzionamento dell'elettronica di lettura dei due sistemi di misura temporale per particelle cariche e fotoni;
- Nel 1998 è stato il coordinatore del gruppo responsabile per il sistema di trigger di NA48, mentre l'anno successivo (1998-1999) coordinatore di tutte le attività collegate al funzionamento dell'esperimento (Run coordinator). Durante quest'anno, che ha portato alla prima misura

di altissima precisione della violazione diretta di CP nel sistema dei mesoni K, ha presentato la misura di  $\frac{\epsilon'}{\epsilon}$  dell'esperimento (1999), alla conferenza internazionale Heavy Flavours 8, svoltasi a Southampton (UK).

Dal 2001 è stato responsabile di un gruppo di ricerca della Sezione di Perugia operante all'interno della collaborazione Fermi, esperimento effettuato nel programma strategico Space and Science della NASA. L'esperimento FERMI è un rivelatore di fotoni ed elettroni di ultima generazione, basato su rivelatori a stato solido, costruito per essere ospitato a bordo di un satellite dedicato della NASA. Questo esperimento, pur non avendo un laboratorio di riferimento particolare, ha richiesto lunghe permanenze di tempo presso la sua base logistica naturale, il Laboratorio SLAC, Stanford Linear Accelerator Center, della Stanford University situato in Palo Alto, California, U.S.A. Il gruppo di Perugia si è occupato di

- studiare, progettare e realizzare la migliore disposizione del rivelatore (tracciatore/convertitore con sensori di silicio) per massimizzare la sua efficacia in termini di risultati scientifici;
- effettuare la quasi totalità dei test di qualificazione spaziale per i rivelatori e tutte le prove elettriche e con raggi cosmici per verificare il funzionamento dei singoli rivelatori prima dell'installazione.

L'esperimento è stato lanciato in orbita l'11 Giugno del 2008 e da allora sta producendo risultati di altissimo interesse scientifico. In questo si è occupato di studiare le funzioni di risposta del rivelatore e la ricerca di Materia Oscura in prossimità di buchi neri di massa intermedia.

Dal 2006 ha collaborato con un gruppo di Perugia al progetto SuperB. Questo progetto, approvato dal Governo Italiano come progetto bandiera, prevedeva la costruzione di un collisionatore elettrone-positrone di altissima intensità. Il gruppo della Sezione di Perugia si occupava di costruire il calorimetro elettromagnetico in avanti, utilizzando nuovissimi materiali pesanti scintillanti (Ortosilicato di Lutezio, LYSO). Dopo la chiusura di questo progetto, a causa della mancanza di finanziamenti, ha lavorato per circa due anni nell'esperimento Belle II, decidendo poi di dedicarsi principalmente alla

fisica dei raggi gamma e all'esperimento Fermi. Da quasi un anno ha iniziato un'attività su nuove applicazioni di tecniche di wavelength shifting (quantum dots) che potrebbero avere importanti implicazioni nel campo del trasferimento tecnologico.

E' autore di circa 300 pubblicazioni su riviste scientifiche: la tabella successiva riassume un estratto da Web of Science.

Total Number of papers analyzed	291
Times cited	24043
Average citations per item	103,7
$h_{HEP}$ index	86

Autorizzo il trattamento dei miei dati personali ai sensi del Dlgs 196 del 30 Giugno 2003

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# Alessandro Variola

## CURRICULUM VITAE

### Dati personali

**Nome** Alessandro  
**Cognome** Variola  
**Data di nascita** 21 Aprile 1966  
**Luogo di nascita** Porto Alegre (Brasile)  
**Nazionalità** Italiana - Brasiliana  
**Stato civile** Coniugato  
**E-mail** [alessandro.variola@lnf.infn.it](mailto:alessandro.variola@lnf.infn.it)  
**Tel** 0039 06 94032889

### Titoli di Studio

**Ph.D. in Fisica Sperimentale**, Specializzazione: "Grandi ApparatI Sperimentali" - Fisica degli Acceleratori di Particelle, Università di Paris-Sud. - Relatore: Dr. Robert Chehab  
Titolo: "Use of Optical Radiation for the study of Electron Beam Spatio-Temporal Characteristics. TTF Application"  
**Laurea in Fisica Sperimentale**, Specializzazione - Fisica degli Acceleratori di Particelle, Università di Trieste - Relatore: Prof. Mario Puglisi  
Titolo: "Teoria Elettromagnetica dei Campi Scia. Interazione Fascio - Cavità"

### Esperienza Professionale

*2014-2017/Laboratori Nazionali di Frascati (I.N.F.N) / Frascati / Italia*

*Ricercatore a tempo indeterminato, Dirigente di Ricerca*

*Attività scientifica:*

2014-) Machine leader del progetto ELI NP GBS

*Insegnamento:*

2015-2016) Professore a contratto all'Università Sapienza di Roma, corso di 'Fisica Moderna'

2016) Organizzatore e promotore della scuola internazionale ELIS, Natal, Brasile

*Altri incarichi:*

2015-2017) Coordinatore del Machine Advisory Committee dell'INFN

2017) Coordinatore del Working Group di project management dell'INFN

**2004-2014 /Laboratoire de l'Accelérateur Lineaire (C.N.R.S) / Orsay / Francia**

*Ricercatore tecnologo a tempo indeterminato. Tecnologo di Classe Eccezionale*

*Attività scientifica:*

2008-2014) Coordinatore di progetto:

- High Power Couplers for XFEL,
- ThomX,
- ILC e CLIC sorgenti di positroni,
- Machine leader del progetto SuperB

Collaborazioni scientifiche nei progetti : PLIC, PHIL, PHIN, ILC e CLIC

2008- 2012) Programmi europei :

Coordinatore per il C.N.R.S dei programmi CARE ed EUCARD

Membro del governing board di CARE ed EUCARD

Responsabilità scientifica dei work packages sulle tematiche:

EUCARD -AccNet, Crab Waist, SRF, Couplers production

CARE High Power Couplers, ILCHgrade

*Insegnamento:*

2009-2015) Professore a contratto all'Università di Paris-Saclay, corso 'fisica degli acceleratori'

Direzione della tesi di Iryna Chaikovska.

Controrelatore di varie tesi di dottorato. Corso di introduzione alla fisica degli acceleratori

*Altri incarichi:*

2008-2014) Capo dipartimento fisica degli acceleratori.

Incarichi al LAL-CNRS: Membro del consiglio scientifico del laboratorio LPSC Grenoble, membro consiglio scientifico del LAL, membro della commissione sulla valutazione delle future tecniche di accelerazione con V.Malka e J.M.Filhol

*Organizzazioni di conferenze:* Posipol 2007, SuperB 2007, SuperB 2009

Conference Boards : IPAC 2011-2014 SAB, IPC Posipol, LINAC, IAC Jefferson lab positron sources.

**2001-2004 / C.E.R.N. (I.N.F.N. Genova) / Ginevra / Svizzera**

*Ricercatore a tempo determinato*

*Attività scientifica:*

2002) Deputy Physics coordinator dell'esperimento ATHENA

2002-2004) Run coordinator dell'esperimento ATHENA

2001-2004) Responsabile responsabile del collegamento tra l'esperimento ATHENA e il team della macchina acceleratrice A.D

***1998-2001 / CERN / Ginevra / Svizzera***

*Ricercatore a tempo determinato*

1998 – 2001 Fellow CERN, gruppo BI-SL

*Attività scientifica:*

- Responsabile dello sviluppo di monitor di fascio a radiazione di transizione, luminescenza e a spettro di forza di carica spaziale nell'ambito dei test per LHC.
- Partecipazione allo sviluppo del RFQ deceleratore per la macchina AD del CERN

***1995-1998 Laboratoire de l'Accélérateur Linéaire (L.A.L.) / Orsay (Parigi) / Francia (Tesi Ph.D.)***

*Studente di dottorato*

*Attività scientifica:*

Partecipazione allo sviluppo del preiniettore della Tesla Test Facility, attività incentrata prevalentemente nel campo della diagnostica di fascio.

***1993-1995 / Laboratorio ELETTRA – Sincrotrone Trieste / Trieste / Italia***

*Ricercatore a tempo determinato*

*Attività scientifica:*

Partecipazione al commissioning del linac e allo studio dei sistemi SLED

***1991-1993 / Laboratorio ELETTRA – Sincrotrone Trieste / Trieste / Italia (Tesi di Laurea)***

*Attività scientifica:*

Tesi di Laurea sulla tematica dell'interazione fascio cavità

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# Curriculum vitæ

Marco Serone

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## Academic Titles and Positions

- July 1994: *Laurea Degree* in Physics at the University of Rome “La Sapienza”, advisor Prof. Guido Martinelli.
- October 1997: Ph.D. in Physics at SISSA, Trieste, advisors Dr. E. Gava and Prof. K.S. Narain.
- September 1997- August 1999: post-doc of the “Nederlandse Organisatie voor Wetenschappelijk Onderzoek” (NWO), Dutch Organization for Scientific Research, at the Departments of Mathematics of the University of Amsterdam (UvA).
- September 1999-August 2000: post-doc of the “Fundamenteel Onderzoek der Materie” (FOM), Fundamental Research on Matter, at the Departments of Mathematics and Physics of the University of Amsterdam (UvA) and at the Spinoza Institute, University of Utrecht.
- September 2000: “assegnista di ricerca” (advanced fellow) at SISSA.
- January 2004: Researcher in Theoretical Physics at SISSA.
- July 2006: Associate Professor of Theoretical Physics at SISSA.
- Since May 2010: Scientific Consultant at “The Abdus Salam International Centre for Theoretical Physics” (ICTP), Trieste.
- Since December 2016: Professor in Theoretical Physics at SISSA.

## Teaching Experience

- Ph.D. courses at SISSA on “String Theory II” (from 2000 until 2005) and “Quantum Field Theory” (from 2006 until today).
- Advisor of 12 Ph.D. and 1 Master students. Member of 6 examination committees for Ph.D. and 1 for Master as external advisor.
- 2009-2012: course on “Quantum Field Theory” at the ICTP High Energy Physics “Diploma Programme”; 2010: course on “Relativistic Quantum Mechanics” at the ICTP “Basic Physics Diploma Programme”.
- 2015: Article “Accordi Fondamentali”, written for the general public INFN magazine “Asimmetrie”, n.18, april 2015.



### Organization Activity

- Scientific organizer of 10 among national and international schools, workshops and conferences
- Referee for most of the scientific journals in the high energy sector, including JHEP, Phys. Rev. Lett., Phys. Rev. D, Nucl. Phys. B, Phys. Lett. B, Eur. Phys. Jou. C, Jou. of Phys. G.
- June 2006 - December 2013, local coordinator for Trieste of the INFN project (“iniziativa specifica”) “Milano 12” (IS MI12).
- April 2007 - October 2007, local coordinator for Trieste of the FP6 European Program MRTN-CT-2004-005104 “Constituents, Fundamental Forces and Symmetries of the Universe” (Force-  
sUniverse)
- Since 2009, INFN Research Assignment (“Incarico di Ricerca”).
- Grant Reviewer for the Swiss National Science Foundation (SNSF), the French National Agency for Research (ANR), the Evaluation of the Italian Quality of Research (VQR), the University and Research Evaluation Agency (ANVUR), the Scientific Independence of young Researchers (SIR).
- June 2016 - May 2018, Coordinator of the Theoretical Particle Physics (TPP) group at SISSA.
- Since May 2018, member of the SISSA Academic Senate

### Publications

Author of 60 publications and 6 conference proceedings. The full list can be found at <http://www.slac.stanford.edu/spires/find/hep/www?rawcmd=a+serone&FORMAT=WWW&SEQUENCE=>

### Seminars

117 seminars in international conferences, italian and foreign Universities and lectures in international schools.

August 6, 2018

# Zanderighi, Giulia



I currently hold a post of Professor of Physics at the Rudolf Peierls Centre for Theoretical Physics, and I am a tutorial fellow at [Wadham College](#). Following a Laurea degree at the Università degli Studi di Milano (Italy) and a PhD at the Università degli Studi di Pavia (Italy), I have held posts at the [Institute for Particle Physics Phenomenology](#) in Durham (UK), at [Fermilab](#) in Batavia (Illinois, US) and at [CERN](#) in Geneva (Switzerland). In 2012 I have been awarded the [Friedrich Wilhelm Bessel-Forschungspreis](#). In 2013 I won a consolidator ERC grant. From January 2014 I started a staff position at CERN, and I am currently on a five year leave from Oxford.

## **Fields of Interest:**

Collider Physics

QCD

Standard Model Phenomenology