CV of Simone Dell'Agnello (INFN-LNF)

Shortlist of recent roles:

- Executive Technologist at INFN-LNF, Frascati (Rome), Italy. INFN Staff since 1995
- Coordinator of all Technology Research at INFN-LNF (2011-2019)
- Worked in Particle Physics: DoE-Fermilab (Chicago, IL, USA), INFN-LNF (1987-2003)
- Founder and Leader of INFN-LNF space research infrastructure **SCF_Lab** (≥2004)
- PI/PM of: 1 Space Science, 3 R&D Experiments of INFN (2004-2018)
- PI/PM of INFN Contracts with **Space Agencies** (ASI, ESA, ISRO, NASA) and Italian **Ministries** (Defence, Foreign Affairs, Research) for the period 2004-2017, on:
    - **Space Flagships**: Galileo, Copernicus, COSMO-SkyMed
- PI of **INFN-NASA Partnership** on Solar System Exploration and Research (≥2014)
- Member of **Scientific-Technical Council (CTS) of ASI** (2014-2018).

EARLY RESEARCH ACTIVITY IN PARTICLE PHYSICS (1987-94)

Born on 15-05-64 in Livorno, Italy. He got his Master ("Laurea") in particle physics in '89 at Univ. of Pisa, Italy (110/110; title: *Two-jet Production at CDF*). He was employed by Fermilab (US Department of Energy lab) to work on the general-purpose experiment **CDF** (Collider Detector at Fermilab), as Summer/Master Student and Guest Scientist ('87-91) under A. Tollestrup.

In '93 he got his PhD ("Dottorato") in Pisa, working mostly at Fermilab on the *discovery of the top-quark elementary particle* (INFN PI/AE 94/10). Advisor of Master and PhD thesis was G. Bellettini. His thesis was incorporated and quoted in the top-quark discovery paper, PRD 50, 2966 (1994). For his thesis he received a Prize of the Italian Physics Society ('95). In '94-95 held an INFN Postdoc fellowship at INFN-Pisa.

He worked on the Silicon Vertex Detector construction, data taking as *ACquisition Expert*, physics analysis on Quantum Chromo-Dynamics and for top-quark discovery.

RESEARCH ACTIVITY IN PARTICLE PHYSICS (1995-2003)

Since '95 he is Staff Researcher at INFN-LNF (Laboratori Nazionali di Frascati), hired with a national selection led by P. Franzini. Since then he worked mainly on the precision experiment **KLOE (**K LOng Experiment) and kept a participation in CDF. He worked on many aspects of KLOE: global construction, assembly and magnetic survey (with S. Bertolucci, now Director of Research and Scientific Computing at CERN). At KLOE he created from scratch a dedicated optical & laser-based system of precision **ground** positioning metrology in the Research Division of the LNF; tracking chamber construction; monitoring/reconstruction of DAΦNE-KLOE interaction region; run and online shift coordination; tracking analysis and physics analysis.

In '00-02 he worked on **CDF-2** as Leader for the re-commissioning of central hadron calorimeters built by INFN in the '70/'80s and was LNF Representative in the CDF2 Executive Board. After completing his CDF2 duties, he concentrated on running KLOE and optimizing its performance and data yield as KLOE Deputy Technical Manager ('03).

RESEARCH ACTIVITY IN SPACE PHYSICS & TECHNOLOGY (≥ 2004)

He won the position of "Primo Ricercatore" in '04 (formally hired in '06 due to blockage of public hiring). Since then he started from scratch a new INFN research activity in space physics and technology: **precision positioning metrology in space based on laser retroreflectors for Satellite/Lunar Laser Ranging** (SLR/LLR).

Applications: General Relativity, Galileo/GPS, Earth Observation (EO, including Copernicus & COSMO-SkyMed). He formed and leads a new research group (~20 FTE) which developed (J. Adv. Sp. Res. 47, 822–842 (2011)):

- The new **SCF_Lab** (*Satellite/lunar/gnss laser ranging/altimetry and Cube/microsatellite Characterization Facilities Laboratory*): a unique space test infrastructure with 2 Optical Ground Support Equipment (**OGSE**) facilities in a new ISO 7 Clean Room

- **SCF-Test:** interdisciplinary Industrial procedures for integrated thermal-optical-vacuum characterization of Laser Retroreflector Arrays in accurately simulated space conditions
- Thermal, optical, orbital and structural sw analysis and simulation
- Full thermal and vacuum characterization for **Cube/Micro-satellites** with the 2 OGSEs
- **ETRUSCO** ('06-09, Extra Terrestrial laser Ranging to Unified Satellite COnstellations): R&D to characterize laser reflectors of Galileo (for Satellite Navigation), LAGEOS (for Space Geodesy) and optimize laser ranging to Galileo and GPS-3
    - International effort of INFN, Italian Air Force, ILRS (International Laser Ranging Service), NASA-GSFC (inventor of SLR), Univ. Maryland (UMD, inventor of LLR).
- **ETRUSCO-2** ('10-15, ASI-INFN Contract)**:** industry-level R&D for Galileo/GPS. Flight reflectors of GPS, GLONASS, GIOVE, Galileo have been SCF-Tested
    - Built a Retroreflector Array being proposed for Galileo V2 and, soon, for a patent
- **ETRUSCO-IRNSS** ('13-14, ISRO-INFN Contract) for the Indian navigation constellation
- **Laser Ranging to Galileo** ('15-16, ASI-INFN Project competitively awarded by the Italian Ministry of Research).

Membership of International Working Groups (WGs):
- ILRS: Core Properties and Performance Requirements for laser retroreflectors (≥'05)
- Internat. Lunar Network (ILN, of 9 Space Agencies): Core Lunar Instruments ('08-10).

ASI Studies and NASA R&Ds ('07-12):
- 2 ASI studies on precision test of General Relativity, lunar science/exploration
- 4 R&Ds with NASA: GSFC (LAGEOS, hollow reflectors); JPL (deep space laser-ranged mass to test $1/r^2$); 2 Calls by **NASA-LSSO**, Lunar Sortie Scientific Opportunities, and by **NASA-NLSI,** NASA Lunar Science Institute (lunar retroreflectors).

MoonLIGHT-ILN (INFN R&D, '10-12), **MoonLIGHT-2** (INFN Science, '13-18, approved by R. Battiston) are part of an advanced lunar research program (Moon Laser Instrumentation for General relativity High accuracy Tests) of INFN, led by SCF_Lab, and UMD (inventor of LLR and PI of Apollo laser reflectors):
- Collaborators: in US, UMD, Center for Astrophysics and APOLLO laser station; in Italy ASI-MLRO laser station in Matera and INFN/Univ. of Padua
- Work program: reflector construction/test, physics analysis (including Apollo/Lunokhod) for **precision tests of General Relativity (GR)**: weak and strong equivalence principle; PPN β; variation of gravitational constant (Gdot/G); $1/r^2$ Yukawa violations; geodetic precession; GR extensions with spacetime torsion and Non-Minimally Coupled gravity
- Mission opportunities: Luna-27 by Russia, Google Lunar X Prize, Chang'E 4/5/6 by China, NASA Resource Prospector
    - Signed international multi-mission payload agreement with Moon Express and UMD on May 15, 2015, at Frascati, which includes:
        - Single, large LLR reflector payload, dubbed MoonLIGHT
        - Retroreflector array micro-payload, dubbed INRRI, to be observed by orbiters equipped with laser altimeters, (atmospheric) lidars, and/or lasercomm (not by Earth). INRRI has been developed for the Moon, Mars, other solar system moons, asteroids and comets.

SCF_Lab work program for Earth Observation Flagships: Copernicus and COSMO-SkyMed
- **ETRUSCO-GMES** ('13-15, Global Monitoring for Environment and Security), an INFN R&D experiment for Copernicus, Galileo and COSMO-SkyMed
- **AUGUSTUS** ('14-15), a **MAE-INFN** High-Relevance Project for Copernicus and USA
- **G-CALIMES** ('13-16**,** Galileo-COSMO-SkyMed Absolute Laser Intercalibration with Measurements on Earth and in Space) a **Ministry of Defence-INFN** Contract
- Includes delivered and accepted devices, like:
    - **CORA**, COSMO-SkyMed Retroreflector Array, proposed for COSMO-SkyMed 2.

ISS:
- ASI-Scientific-Technical Council: consultant of ASI President for research, including ISS

- LNF Co-PI of Lazio-SiRad experiment (PI=R. Battiston) on ISS for ESA Soyuz Mission "ENEIDE" in 2007, launched from Baikonur
- Co-chairman (with R. Battiston) of INFN-Space/2 (2005) and INFN-Space/3 (2013) national workshops on astroparticle missions and space experiments on ISS.

As NASA-NLSI broadened to **SSERVI** (Solar System Exploration Research Virtual Institute, sservi.nasa.gov), he established as PI an **INFN Partnership with NASA-SSERVI** based on the research program *SPRINGLETS*: Solar system Payloads of laser Retroreflectors of INfn for General reLativity, Exploration and planeTary Science. This also includes other particle and astroparticle test facilities of the LNF (for X/UV/Vis/IR synchrotron light, DAΦNE-Light, and for electron/positron/gamma of tagged energy up to 500 MeV/c, BTF).

- PI of INFN-CSN5 R&D experiment **NEW REFLECTIONS** ('16-'18), fully synergetic with work topics of the INFN-SSERVI research and R&D program.

On 11/Sep/2014 was appointed Member of **ASI's Scientific-Technical Council** for 4 years.

He leads an Italian team of ~20 INFN employees/associates: physicists, engineers, mathematicians, technicians, students, post-docs (LNF, Rome, Padua, Naples, Trento).

Publications: >250 papers, >7800 citations, H-index (ISI)>50 (since 1987). He passed the Italian Ministry of Research selection ("Abilitazione Scientifica Nazionale"), thus enabled to the role of Full Professor ("I Fascia", Sector 02/A1, Experimental Particle Physics) for the period 23/01/2014-23/01/2018.

Languages: speaks and writes fluent English; has good French skills.

ROLES / DUTIES WITHIN INFN-LNF

- Editor of LNF Activity Reports ('02, '03)
- Secretary of LNF International Scientific Committee ('04)
- WG member: LNF Future ('04) and LNF Scientific Computing ('05)
- RUP of LNF Public Works for upgrade/extension of >300 m^2 Clean Rooms ISO 6 to 8 ('11)
- President of LNF Committee for personnel selection for a CTER technician position ('12)
- Collaborator of LNF Support Service on "High-level training and external funds" (≥'12)

ROLES / DUTIES WITH INFN & EXTERNAL FUNDING AGENCIES

- Staff Researcher, Level II ("Primo Ricercatore") at INFN-LNF (≥1995)
- Founder and Leader of **SCF_Lab** (≥2004)
- Coordinator of all Technology Research at INFN-LNF (2011-2015), re-elected for the 2nd mandate (2016-2019)
- Worked in Particle Physics (1987-2003) within INFN-National Scientific Committee 1 (**CSN1**)
- PI/PM of: 1 Space Science/INFN-**CSN2**, 3 R&D/INFN-**CSN5** Experiments (2004-2018)
- PI/PM of INFN Contracts with **Space Agencies** and Italian **Ministries** (2004-2017)
    - Contracts for **Space Flagships**: Galileo, Copernicus, COSMO-SkyMed
- PI of **INFN-NASA/SSERVI Partnership** on Solar System Exploration and Research based also on sharing of SCF_Lab, DAΦNE-Light & BTF facilities of LNF (≥2014)
    - Formal NASA-INFN partnership signed on 15-sep-2014
- Member of **Scientific-Technical Council of ASI**, appointed on 11-sep-2014
- National PI of ETRUSCO of CSN5 ('06-09), ETRUSCO-GMES of CNS5 ('13-16)
- National PI of MoonLIGHT-ILN of CSN5 ('10-12), MoonLIGHT-2 of CSN2 ('13-18).
- LNF PI of LARES of CSN2 ('04-08). Responsible for **ASI** of industrial optical acceptance test of 110 flight reflectors of LARES in air & isothermal conditions. No SCF-Test done

- Co-PI of MoonLIGHT-Manned ('07-09), R&D of **NASA-LSSO** and INFN; PI: D. Currie of UMD
- Co-I of **NASA-NLSI** project LUNAR, continuation of NASA-LSSO
- Co-I for **ASI** Study on "Observation of the Universe from the Moon" ('07); WP 1500 on LLR (Co-PIs: R. Battiston of INFN and R. Mandolesi of INAF)
- Co-I for **ASI** Study on Cosmology and Fundamental Physics ('07-10); WP 5200 on "Deep space gravity test"; PI: P. de Bernardis of Univ. of Rome
- Co-I of **ASI** Phase A Study for lunar orbiter MAGIA ('08); WP on "MoonLIGHT precursor and improved test of gravitational redshift with retroreflectors and atomic clock"; PI: Dr. A. Coradini of **INAF**; Prime: **Rheinmetall**
- PI/PM of R&D ETRUSCO-2
- PI of SCF-Test of laser retroreflectors of Galileo In-Orbit Validation satellites (IOV). Contract **ESA-Galileo**-INFN
- PI of ETRUSCO-IRNSS, Contract Indian Space Research Organization (**ISRO)-INFN** for SCF-Test of retroreflectors of the Indian Regional Navigation Satellite System (IRNSS)
- PI/PM of R&D G-CALIMES; Contract **Ministry of Defense**-INFN; approved for the "National Plan for Military Research" 2012
- PI of AUGUSTUS, Italy-USA study of INFN-Italian **Ministry of Foreign Affairs**, for satellite laser retroreflectors & ground segment geo-referencing devices for EO. Contract MAECI-INFN ('14-15). Partners: NASA-GSFC, USGS, NOAA-NIC, ASI-MLRO, ILRS
- Proposer of "Laser Ranging to Galileo", a project of the Italian **Ministry of Research**-ASI-INFN; PI: G. Bianco of ASI
- PI of **INFN-CSN5** R&D experiment NEW REFLECTIONS ('16-'18).

ORGANIZATION OF NATIONAL & INTERNATIONAL WORKSHOPS

- 2005, Co-Chairman (with R. Battiston): **INFN-Space/2**, national workshop on all INFN astroparticle and space activities, including research for ISS. LNF Frascati, http://www.lnf.infn.it/conference/2005/spazio/;
- 2006, Co-Chairman: **Fundamental Physics in Space with Small Payloads**, international workshop, LNF Frascati; http://www.lnf.infn.it/conference/fps06/
- 2007, Co-Organizer: **Observation of the Universe from the Moon**, national workshop of ASI, INFN, INAF; LNF Frascati; http://www.lnf.infn.it/conference/moon07/
- 2012, Chairman: **International Technical Laser Ranging & ETRUSCO-2 Workshop**; http://www.lnf.infn.it/conference/laser2012/
- 2013, Co-Chairman (with R. Battiston): I**NFN-Space/3**, national workshop on all INFN space activities; LNF Frascati; http://agenda.infn.it/conferenceDisplay.py?confId=6535
- 2014, Co-Organizer: **Frontier Objects in Astrophysics & Particle Physics**, international workshop, Vulcano, Italy; http://www.lnf.infn.it/conference/vulcano2014/.
- 2015, Co-Chairman: **3rd European Lunar Symposium**, international workshop on lunar sciences and exploration; LNF Frascati, Italy http://els2015.arc.nasa.gov.
- 2016, Co-Organizer: **4th European Lunar Symposium**, international workshop on lunar sciences and exploration; Amsterdam, Holland, http://els2016.arc.nasa.gov.
- 2016, Co-organizer: **Frontier Objects in Astrophysics & Particle Physics**, international workshop, Vulcano, Italy; http://www.lnf.infn.it/conference/vulcano2016/.
- 2017, Co-Organizer: **5th European Lunar Symposium**, international workshop on lunar sciences and exploration; Muenster, Germany, http://els2017.arc.nasa.gov

CONTRIBUTIONS PRESENTED TO WORKSHOPS & CONFERENCES

He bas been the author and presenter of several tens of contributions for CDF, KLOE, CDF2 and the research activities of the SCF_Lab described in this CV.

Signature 

Curriculum sintetico Alessandra FANTONI

Nata a Roma nel 1967, si è laureata in Fisica all'Università degli Studi di Roma "La Sapienza" nel 1991 discutendo la tesi "Misura delle caratteristiche del fascio di fotoni etichettati dei Laboratori Jet Target". Ha svolto il dottorato di ricerca (VIII ciclo) nel periodo 1992-1995 e conseguito il corrispondente titolo di Dottore di Ricerca nel 1996, svolgendo una tesi di carattere sperimentale dal titolo "Costruzione del calorimetro a contatori di vetro al piombo dell'esperimento HERMES per la misura delle funzioni di struttura di spin dei nucleoni".

E' stata assunta presso i LNF con il profilo di Ricercatore nel 1997 e inquadrata nel II livello professionale con profilo di Primo Ricercatore dal 2007.

Ha svolto attività di ricerca sperimentale nel campo della fisica nucleare, in particolare della fisica adronica con sonde elettromagnetiche e della fisica nucleare con collisioni di ioni pesanti ultrarelativistici.

L'attività di ricerca è stata svolta attraverso lo studio dei seguenti processi:

- Fotoassorbimento su nuclei nella regione delle risonanze nucleoniche
- Fotofissione di nuclei pesanti
- Diffusione profondamente anelastica di elettroni/positroni polarizzati su bersagli polarizzati di H, D e ^{3}He
- Transizione di fase dalla materia adronica al plasma di quark e gluoni.

Nell'ambito di queste ricerche ha lavorato all'interno delle collaborazioni internazionali JET TARGET ad ADONE (Frascati), HERMES a DESY (Amburgo) e ALICE al CERN (Ginevra).

Ai LNF ha vinto una borsa di studio per laureandi per un sistema di etichettamento per la produzione di fotoni monocromatici da un radiatore molecolare (Jet Target) in ADONE. Ha collaborato alla definizione di tale sistema di *tagging*, alle misure delle sue caratteristiche, alle misure della sezione d'urto di fotoassorbimento su nuclei nella regione delle risonanze e alla fotofissione di nuclei pesanti. I risultati sono stati pubblicati in una dozzina di articoli. Si è anche occupata della realizzazione di un polarimetro del fascio di fotoni basato sulla tecnica *Residual Electron Selection.*
Ha inoltre fatto parte di un gruppo di lavoro per studiare le prospettive future dei LNF.

A DESY ha lavorato nell'esperimento HERMES (*HERA MEasurement of the nucleon Spin*) dalla data della sua approvazione nel 1992. Si è occupata sin dalla fase iniziale della progettazione e realizzazione del calorimetro, della determinazione delle sue caratteristiche e della fase di commissioning dello stesso e dell'intero spettrometro, riportandone i risultati nella tesi di dottorato. E' stata responsabile/corresponsabile del calorimetro elettromagnetico per tutto il periodo di presa dati (1995-2007).
Nell'ambito dell'esperimento si è anche occupata dello studio della struttura di spin del nucleone ed in particolare ha avuto la responsabilità del gruppo di analisi relativo al canale inclusivo nella regione delle risonanze. E' stata promotrice e responsabile della prima determinazione per protone, neutrone e deuterio della regola di somma generalizzata GDH, sia nella regione del *Deep Inelastic Scattering* (DIS) che nella regione delle risonanze nucleoniche. Infine è stata ideatrice e promotrice della prima evidenza sperimentale della dualità quark-adrone nel caso di funzioni di struttura polarizzate, lavoro ampliato effettuando successivamente un'analisi fenomenologica completa e

comparativa delle funzioni di struttura polarizzate e non polarizzate, confrontando inoltre i contributi degli *higher twist* nella regione delle risonanze con quelli della regione DIS.
E' stata la diretta responsabile e coordinatrice dello smontaggio del calorimetro elettromagnetico e del *Photon Detector*.
All'interno della collaborazione HERMES, ha inoltre avuto diversi incarichi manageriali ricoprendo il ruolo di *Run Coordinator* nel 2007, *Deputy Spokeperson* nel 2007 e 2008 e membro del *Planning Committee* dal 2007 al 2010. Durante questo periodo ha inoltre coordinato i vari gruppi per le attività di smontaggio dell'esperimento al termine della presa dati.
In ambito INFN è stata responsabile locale della sigla HERMES dal 2006 e responsabile nazionale dal 2007 fino alla chiusura della sigla in CSN3.
I risultati sono riportati in un centinaio di articoli, di cui alcuni come primo autore.

Al CERN è coinvolta nell'esperimento ALICE (*A Large Ion Collider Experiment*) dal 2008, studiando la transizione di fase dalla materia adronica al plasma di quark e gluoni.
Dal 2008 ha ricoperto il ruolo di Coordinatore Europeo per la costruzione e assemblaggio del calorimetro elettromagnetico EMCAL a grande accettanza, basato sulla tecnica *Shashlik* con scintillatori-piombo e lettura di segnale tramite fibre *Wave Length Shifter* (WLS) accoppiate ad *Avalanche Photo Detector* (APD).
EMCAL è stato installato parzialmente nel 2009 e completamente nel 2011.
Dal 2009 è inoltre diventata coordinatore Euro-Asiatico della costruzione e assemblaggio del DCAL, un'estensione di EMCAL per misure di correlazione *back-to-back*. Si è occupata anche di istruire i nuovi gruppi giapponesi e cinesi in loco con le corrette procedure di assemblaggio, utilizzando i *tools* dei LNF che sono spediti presso le corrispondenti strutture. L'assemblaggio dei moduli, stripmoduli e supermoduli DCal è stato completato nel 2012 e l'installazione in ALICE è terminata alla fine del *Long Shutdown* 1 (LS1) di LHC alla fine del 2014.
Dal 2013 ricopre il ruolo di *Deputy Project Leader* di EMCAL e DCAL.
Nell'ottobre 2015 è stata responsabile della presa dati (*Period Run Coordinator*) durante la preparazione delle collisioni con ioni pesanti.
Dal 2015 è coinvolta nello studio e nella preparazione dei due *layer* esterni del nuovo ITS (*Inner Tracking System*), costituito da rivelatori monolitici a pixel (MAPS) ad alta risoluzione e ridotto materiale. Ha collaborato con il gruppo di Torino nella definizione delle procedure di assemblaggio: dal posizionamento, incollaggio e allineamento dei moduli, alle saldature, al posizionamento e allineamento dell'*half-stave* fino ad arrivare all'allineamento di tutto lo *stave*. Tutte le procedure sono state eseguite con una macchina a controllo numerico ad altissima precisione (CMM), acquistata per questo scopo.

Dalla fine del 2011 è Coordinatore di CSN3 e *referee* di alcuni esperimenti al CERN (AEgIS e nTOF).
Dal 2012 è Osservatore della CSN3 in CSN1.
E' inoltre Referee interno di ALICE e Referee di alcune riviste internazionali (EPJA e Phys. Rev. D).

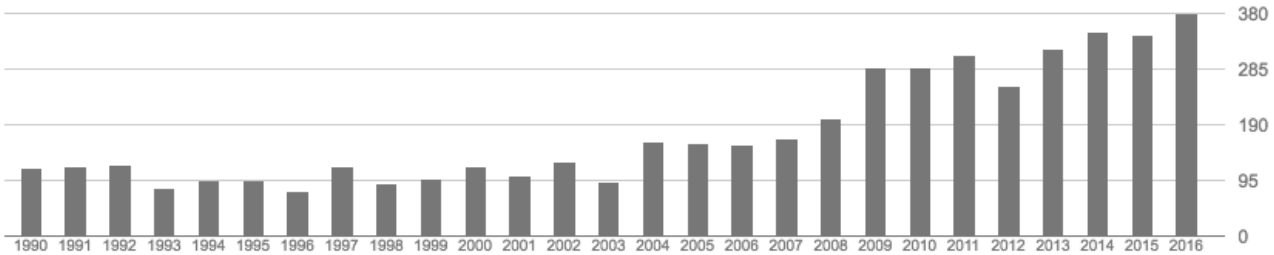
E' autore di circa 300 articoli su riviste internazionali.
Ha effettuato circa 40 presentazioni a conferenze internazionali e nazionali.
Ha organizzato diversi Workshop internazionali, sia all'interno che all'esterno dei LNF e partecipato all'organizzazione di vari eventi (*researchers night* a DESY e ai LNF, *open day* ai LNF, visite per gruppi e studenti ai LNF).

Frascati, 16 ottobre 2017

Curriculum Vitae Augusto Marcelli

16/6/1959	: Born in Roma (Italy) - Italian citizenship.
June/1984	: Physics degree - University of Roma *La Sapienza* (110/110)
1985	: Contract as Scientist (Art. 26 - D.P.R. 382/80) - *Camerino* University
1985	: Associated to the scientific activities of the INFN - LNF (Vth Committee).
1990-1996	: Professor (Contract Art. 100) - *Camerino* University.
12/1985-present	: Employed by INFN at the LNF laboratory as scientist (since 03/2000 as *Primo Ricercatore*)
04/2013	: Associated to the scientific activities of the *Rome International Center for MAterials Science* (RICMASS – Superstripes)
20/01/2017	: Associated to the scientific activities of the *Istituto Struttura della Materia del Consiglio Nazionale delle Ricerche* (ISM-CNR)

Summary of publications h-index = 38



Augusto Marcelli was involved in synchrotron radiation researches since his degree in Physics in 1984. He was appointed to a permanent position as a staff scientist at the INFN LNF in 1985 and in the 90's was leader of one of the first European teams working in the Japanese SR facilities of Tristan and PF at Tsukuba. In Japan he realized some of the early synchrotron radiation x-ray circular polarized experiments. In particular, he did the first x-ray circular dichroism experiments able to monitor the dynamics of magnetic transitions (Europhys. Lett. 28, 1994, 135-141).

From 1990 to 1996 he was a Contract Professor of Physics at Camerino University, but lectured also in the Universities of Roma I, Roma III and Salerno. Since 1997 and up to 2008 he was member of the International Scientific Committee of the X-Ray and Inner-Shell Conference Series and in 2002 he was co-Chair of the 19th International Conference of X-ray and Inner shell Process held in Roma.

He proposed and built in the DAΦNE-Light laboratory the first Italian Infrared synchrotron radiation beamline and was the scientist responsible for its operation till 2006. From 2005 to 2006 he was also responsible of the UV beamline at DAΦNE.

He also opened new frontiers in mineralogical analysis of extremely small amount of dust, gathering unique information by applying synchrotron-radiation spectroscopic methods such as Total-Reflection X-Ray Fluorescence (TXRF) and X-ray Absorption Near Edge Structure (XANES) techniques, complementary to classical mineralogy. He demonstrated that the characterization of airborne particle components trapped inside deep ice cores, precious proxy for assessing environmental and atmospheric circulation variability and regional-to-global climate change at different time scales, is possible also at extremely low concentration (down to the ppb range).

He has proven organizational and management abilities witnessed in particular by the capability in the chairmanship of several conferences and workshops and the coordination of national and international projects. For the INFN he was responsible of projects approved by the 5th National Committee and within the framework of the X Protocol of Scientific and Technological Cooperation between Italy and China, Coordinator of projects devoted to synchrotron radiation applications. In the framework of International Cooperation Agreements of the Foreign Minister he was coordinator of a bilateral program between Italy and Argentina for biomedical researches (*Non conventional analysis with synchrotron radiation of biological samples for biomedical applications* - 2006-08) and coordinator of the project *Imaging and spectromicroscopy with synchrotron radiation* within the framework of the XII Protocol of Scientific and Technological Cooperation between Italy and China (2007-09). From 2001 he is consultant of the IHEP (Institute of High Energy Physics - China) for synchrotron radiation activities and in 2011 has been the first Italian Visiting Physics Professor of the Chinese Academy of Science. At present he is one of the High-end Foreign Experts of the State Administration of Foreign Experts Affairs (SAFEA) of the P.R. of China

During his career he supervised several students and was sponsor of Italian and foreign fellowships. For two years (1999-2000) during the Y2K he has been responsible of the Computing and Network Data System of the

LNF laboratory of the INFN and Member of the INFN Board for New Data Technologies.
Since 1984, he proposed and run in cooperation with national and international teams several experiments approved by the Scientific Panels of many synchrotron radiation facilities operational in the world: BESSY, BSRF, Diamond, NSRL, KEK, LURE, SSRL, SRS, UVSOR and ESRF.
In the European framework he has been the principal investigator for INFN of two networks and coordinators of the DASIM (Diagnostic Applications of Synchrotron Infrared Micro-spectroscopy) initiative involving all European SR IR microscopy facilities. In particular, within this project he has been coordinator of a node of this Specific Support Action. This node included physicists and chemists in an established research partnerships that involved all synchrotron infrared microscopy facilities operational or under construction in Europe: ANKA, BESSY, DAFNE, ELETTRA, ESRF, LURE, SLS, SOLEIL, SRS, DIAMOND and MAXLAB. He is now involved in the proposal for a VUV beamline at the SPARC FEL at Frascati and is one of the main proponents of the IKNO facility in Sardinia (Italy): a storage ring dedicated to the emission of coherent synchrotron radiation in the THz domain.
His research areas include: correlation phenomena in x-ray absorption spectroscopy, multiple scattering theory applied to core level x-ray absorption spectra of solid and liquid systems, circular magnetic x-ray dichroism in intermetallic rare earth compounds, soft x-ray absorption of light elements of geophysical interest and under extreme conditions, FTIR micro-spectroscopy and IR imaging applied to proteins, cells and tissues, time resolved experiments in the IR domain and synchrotron radiation instrumentation, in particular IR and x-ray optics, fast infrared detectors and RF accelerator components.
With a H-index = 37, since 2013 Marcelli is present in the list of the Top Italian Scientists (TIS) of the Via-academy.org (http://www.topitalianscientists.org). In 2013 he also earned the National Habilitation to Full Professor for Sector 02/B1 [*Experimental Condensed Matter Physics*]

10-Year track-record Augusto Marcelli
More then 450 manuscripts published with > 5550 citations. The *h-index* is 38 and the *i10-index* is 134.

Top 10 publications
1) N. Poccia, A. Ricci, G. Campi, M. Fratini, A. Puri, D. Di Gioacchino, **A. Marcelli**, M. Reynolds, M. Burghammer, N.L. Saini, G. Aeppli and A. Bianconi *Optimum inhomogeneity of local lattice distortions in La_2CuO_{4+y}*
PNAS 109, 15685-15690 (2012) **IMPACT FACTOR 9.681 - CITATION INDEX ISI (71)**
2) C. Petibois, M. Piccinini, M.A. Cestelli-Guidi, G. Déléris and **A. Marcelli** *A bright future for synchrotron imaging*
Nature Photonics **3**, 177 (2009) **IMPACT FACTOR 26.462 - CITATION INDEX ISI (26)**
3) E. M. Sheregii, J. Cebulski, **A. Marcelli**, and M. Piccinini *Temperature Dependence Discontinuity of the Phonon Mode Frequencies Caused by a Zero-Gap State in HgCdTe Alloys*
Phys. Rev. Lett. 102, 045504 (2009) **IMPACT FACTOR 7.180 - CITATION INDEX ISI (14)**
4) P. Innocenzi, L. Malfatti, M. Piccinini, D. Grosso and **A. Marcelli**
Stain Effects Studied by Time-Resolved Infrared Imaging
Anal. Chem 81, 551-556 (2008) **IMPACT FACTOR 5.874 - CITATION INDEX ISI (14)**
5) Jun Zhong, Li Song, Jie Meng, Bin Gao, Wangsheng Chu, Haiyan Xu, Yi Luo, Jinghua Guo, **Augusto Marcelli**, Sishen Xie and Ziyu Wu *Bio-nano interaction of proteins adsorbed on single-walled carbon nanotubes*
Carbon 47, 967-973 (2009) **IMPACT FACTOR 4.893 - CITATION INDEX ISI (53)**
6) P. Falcaro, S. Costacurta, L. Malfatti, M. Takahashi, T. Kidchob, M.F. Casula, M. Piccinini, **A. Marcelli**, B. Marmiroli, H. Amenitsch, P. Schiavuta and P. Innocenzi
Fabrication of Mesoporous Functionalized Arrays by Integrating Deep X-Ray Lithography with Dip-Pen Writing
Adv. Mat. 20, 1864-1869 (2008) **IMPACT FACTOR 8.379 - CITATION INDEX ISI (36)**
7) M. Takahashi, T. Maeda, K. Uemura, J. Yao, Y. Tokuda, T. Yoko, H. Kaji, **A. Marcelli** and P. Innocenzi
Photoinduced Formation of Wrinkled Microstructures with Long-Range Order in Thin Oxide Films
Adv. Mater. 19, 4343–4346 (2007) **IMPACT FACTOR 8.379 - CITATION INDEX ISI (37)**
(*Selected paper in "Advances in Advance" & Cover picture*)
8) A. Sacchetti, M. Cestelli Guidi, E. Arcangeletti, A. Nucara, P. Calvani, M. Piccinini, **A. Marcelli** and P. Postorino
Far-infrared absorption of $La_{(1-x)}Ca_xMnO_{(3-y)}$ at high pressure
Phys. Rev. Lett. 96, 035503 (2006) **IMPACT FACTOR 7.621 - CITATION INDEX ISI (34)**
9) P. Falcaro, S. Costacurta, G. Mattei, H. Amenitsch, **A. Marcelli**, M. Cestelli Guidi, M. Piccinini, A. Nucara, L. Malfatti, T. Kidchob and P. Innocenzi
Highly ordered "defect-free" self-assembled hybrid films with a tetragonal mesostructure
J. Amer. Chem. Soc. 127, 3838 (2005) **IMPACT FACTOR 9.019 - CITATION INDEX ISI (64)**
10) P. Innocenzi, L. Malfatti, T. Kidchob, P. Falcaro, M. Cestelli Guidi, M. Piccinini and **A. Marcelli**
Kinetics of polycondensation reactions during self-assembly of mesostructured films studied by in situ synchrotron infrared spectroscopy
Chem. Comm. 18, 2384 (2005) **IMPACT FACTOR 5.504 - CITATION INDEX ISI (21)**

Selected invited presentations to peer-reviewed, internationally established conferences and/or international advanced schools

1. XXXVI Int. School of Physics (May 14-19, 2001, Zakopane) *Infrared synchrotron radiation: from condensed matter to biology researches*
2. 1st Summer School of Synchrotron Radiation Applications (25 August - 5 September 2001, Beijing) *IR spectroscopy and micro-spectroscopy using Synchrotron Radiation*
3. Euroclay 2003 - 10th Conference European Clay Groups Association (June 22-26, 2003, Modena) *X-ray Absorption Spectroscopy: a powerful method to investigate structural and electronic properties of layered silicates*
4. 1th BASIE Workshop (September 11-12, 2003, Karlsruhe) *Development of custom spectroscopy instrumentation for synchrotron infrared beam lines*
5. Workshop Micas@Italy (February 9-11, 2005, Rimini) *Electronic and magnetic properties of iron-containing micas*
6. 1th Meeting (Micro-)meteoriti e origine della vita (February 28 – March 1, 2005, Firenze) *Il progetto CRIOALP: il ghiaccio nelle Alpi*
7. 20th Int. Conf. on *X-Ray and Inner Shell Processes* (July 3-8, 2005, Melbourne) *Polarized XANES spectroscopy: crystal-chemical investigations in natural and synthetic materials*
8. International Symposium Methodological Study of Phase Contrast Hard X-Ray Imaging of Nanobiological and Medical Samples with Synchrotron Radiation (June 5-9, 2006, Beijing) *IR microspectroscopy. Advantages and limitations for medical imaging*
9. Nanoscience & Nanotechnology 2006 (November 6-9, 2006, Monteporzio Catone - RM) *Time resolved in-situ simultaneous analysis with SAXS and FTIR spectroscopy. A new analytical method to investigate complex materials and dynamic phenomena*
10. User Meeting Diamond 2007 (September 13-14, 2007, Oxford) *A new beamline concept for fast IR and X-ray Simultaneous Spectroscopy*
11. European Materials Research Society E-MRS 2008 (September 15-19, 2008, Warsaw) *IR a brilliant sources for solid-state researches in the mid-IR and far-IR energy domain*
12. Nanoscience & Nanotechnology 2008 (October 22-23, 2008, Frascati) *Dynamical properties of metal atoms inside the fullerene cage investigated by combined XAS and IR 2D-correlation*
13. 1st Int. *Workshop on Imaging Techniques with Synchrotron Radiation* (ITSR08) December 3-5, 2008, Hefei) *Time-resolved imaging: a must or an opportunity?*
14. Study of matter at extreme conditions SMEC 2009 (28 March – 2 April 2009, Miami) *Time resolved simultaneous spectroscopy as a probe of physical-chemical processes in functional and/or correlated materials*
15. 14th Int. Conf. X-ray Absorption Fine Structure (XAFS14) (July 26-31, 2009 Camerino) *Time resolved simultaneous spectroscopies as a probe of physical-chemical processes*
16. 10th Int. Conf. on Molecular Spectroscopy (ICMS 2009) (September 6-10, 2009, Bialka Tatrzanska) *SR IR micro-spectroscopy: status and perspectives*
17. 3rd LI^{2}FE Meeting (March11-12, 2010m Frascati) *Possible high resolution VUV beamline at SPARC*
18. 35th Int. Conf. on Infrared and Millimiter and Terahertz Wave, IRMMW-THz 2010 (September 5-10, 2010, Rome) *Application of THz Spectroscopy to Time-Dependent Chemical-Physical Phenomena*
19. 15th Hiroshima Int. Symposium *Synchrotron Radiation Progress in Materials Science by use of VUV Synchrotron Radiation* (March 3-4, 2011, Hiroshima) *IKNO - a user facility for coherent THz and UV synchrotron radiation*
20. Quantum Phenomena in Complex Matter 2011 – STRIPES 11 (July 10-16, 2011, Rome) *Interplay between local structure and electronic and magnetic properties of F-doped oxypnictides*
21. Nanoscience & Nanotechnology 2011 (September 19-23, 2011, Frascati) *3D inner structure by non-destructive synchrotron radiation 3D x-ray imaging of particle collected in the upper stratosphere*
22. International Workshop on Improving Data Quality and Quantity for XAFS Experiments (December 8-9, 2011, Tsukuba) *An advanced beamline for XAS and IR simultaneous time resolved experiments*
23. 11th International School and Symposium on Synchrotron Radiation in Natural Science - ISSRNS 2012 (May 20-25, 2012, Kraków-Tyniec) *Inner structure by non-destructive synchrotron radiation 3D x-ray imaging of particle collected in the upper stratosphere*
24. International Workshop CSX2012 (July 4-6, 2012, Zurich) *In-situ time-resolved x-ray and IR combinatorial approach for materials science investigation using 3rd generation SR sources*
25. Bilateral Italian/Chinese Workshop From Glacier to Climate - Euro-Asian perspectives in cryospheric sciences (July 9-10, 2012, Beijing) *Local vs. global climate change. A XANES investigation of dust from deep ice core of Alpine and Antarctica glaciers*
26. 5th International Conference on Channeling 2012 (September 23-28, 2012, Alghero) *X-Ray Spectroscopy*

of Fluorescence Radiation Channeling in μ-Capillary Holed Glass Plates
27. Nanoscience & Nanotechnology 2012 (September 19-23, 2012, Frascati) *The complex geometry of metal complexes in solution: the case of $[AuCl_4]^-$*
28. 3rd Sino – Italian Workshop on *Frontiers of Physics - Low energy coherent light sources: an Italian and Chinese strategy for Infrared Free Electron Lasers* (December 4-5, 2013, Beijing) *New opportunities for the investigation of time-dependent chemical-physical phenomena using new IR/THz sources*
29. 11th International Conference and Workshop on functional and Nanostructured Materials (September 1-5, 2014, Camerino) *Nanoscale phase separations in correlated materials by μ-XANES*
30. 14th Latin American Seminar of Analysis by X-Ray Techniques SARX 2014 (November 2-7, 2014, Cordoba) *Local vs. global climate change - A XANES investigation of dust from deep ice core of Alpine and Antarctica glaciers*
31. 50th Zakopane School of Physics (May 18-23, 2015, Zakopane) *Nanoscale phase separations in highly correlated materials*
32. 2nd International Symposium Nanomaterials and Environment" (June 22-23, 2015, Moscow) *Mineralogy of dust stored in deep ice cores: perspectives of analytical methods for climatic and environmental applications*
33. International seminar "Advanced Accelerator & Radiation Physics" National Research Nuclear University MEPhI (June 22- July 1, 2015, Moscow) *Local vs. global climate change - A XANES investigation of dust from deep ice cores*
34. 13th International Symposium on Radiation Physics (ISRP-13) (September 7-11, 2015, Beijing). *Iron and cobalt nanoparticles synthesized by high temperature plasma processing*
35. International seminar on Ancient Radiations. New Physics and High-Tech Applications (November 16-17, 2015, Moscow) *In-situ time-resolved x-ray and IR combinatorial experiments: a modern approach to characterize materials and phenomena*
36. Nanospectroscopy III, Cost Action MP1302 (Rome, March 22-25, 2016) *THz and IR plasmonic absorption of 3D-nanoporous grapheme*
37. Meeting on "Laboratory of Spectroscopy and Imaging for Radiobiology, therapy and of complex systems" (Krakow, May 11-13, 2016) *IR and X-ray combinatorial experiments and imaging. An original approach to characterize materials and dynamical phenomena*
38. International Conference on Semiconductor Nanostructures for Optoelectronics and Biosensors (Rzeszow, May 22-25, 2016) *Nanoscale phase separations in quantum materials by micro-XANES*
39. International Workshop of Materials Physics (Magurele, May 23-25, 2016) *Nanoscale phase separations in quantum materials by micro-XANES*
40. International seminar Advanced Accelerator & Radiation Physics: Interaction of Radiation with matters. Applications to Life Sciences on the Earth, and in the Space (Moscow, June 5-9, 2016) *The bottlenecks of radiation researches of biological systems. Status and perspectives with the available radiation sources*
41. 13th International School and Symposium on Synchrotron Radiation in Natural Science - ISSRNS 2016 (Jaszowiec, June 13-18, 2016) *A x-ray investigation of dust from TALDICE (Talos Dome Ice Core - East Antarctica). Mineral dust iron geochemistry of the last 160 kyears*
42. Conference MSNano (Rennes, June 30 - July 2, 2016) *From the early MS ideas to the experimental determination of a three-body correlation function using XAS*
43. 39th International Conference on Vacuum Ultraviolet and X-ray Physics - VUVX2016 (Zurich, July 3-8, 2016) *Nanoscale phase separations in quantum materials by micro-XANES*
44. 7th International Conference Channeling 2016 – Charged & Neutral Particles Channeling Phenomena 2016 (Sirmione, September 25-30, 2016) *Focusing properties of X-ray radiation channeling at the exit of a MCP*
45. 13th International Conference on Atomically Controlled Surfaces, Interfaces and Nanostructures - ACSIN 13 (Rome, October 9-15, 2016) *Molybdenum oxides films: conductivity properties vs. work function*
46. International seminar Advanced Accelerator & Radiation Physics: Interaction of Radiation with matters. THz radiation for Science and Technology (Moscow, December 7-8, 2016) *Imaging with a Talbot interferometer using THz radiation*
47. Ugo Fano Symposium 2016 (Rome, Dec 19-21, 2016) *Nanoscale phase separation and lattice complexity in VO_2, a complex multiphase correlated electron systems*
48. BESSY Spring School on Condensed Phase Spectroscopy (Berlin, March 14-24, 2017) *New Trends in IR Synchrotron Spectroscopy*

Research monographs & books
1. Weifeng Huang, Augusto Marcelli, Dingguo Xia, *Application of synchrotron radiation technologies on electrode materials for Li- and Na-ion batteries,* Advanced Energy Materials 1700460 (1 of 31) (2017) DOI: 10.1002/aenm.201700460

2. G. Cinque and A. Marcelli, *Synchrotron Radiation InfraRed microspectroscopy and imaging in the characterization of archaeological materials and cultural heritage artefacts,* Chapt. 12 *in:* EMU Notes in Mineralogy - Vol. 16, eds. G. Artioli and R. Oberti (2016)
3. Proceedings of the 2nd Bilateral Indo-Italian Workshop, Nanoscale excitations in emergent materials - NEEM 2015, Rome, October 12-14, 2015) ed.s by A. Marcelli and C. Balasubramanian (Superstripes Press, Rome, 2015)
4. A. Mottana and A. Marcelli, *The historical development of X-ray Absorption Fine Spectroscopy and of its applications to Materials Science* in: *A Bridge between Conceptual Frameworks. Sciences, Society and Technology Studies*, Springer Book Series: History of Mechanism and Machines Science, ed.: R. Pisano (2015)
5. Rendiconti Fisica Accademia dei Lincei, Vol. 25, Issue 1 Supplement (2014) *Cosmic rays and radiobiology in a Sino-Italian network strategy: first bilateral workshop COSMIC-RAD*, eds. E. Alleva, R. Amendola, P. Innocenzi and A. Marcelli
6. G. Della Ventura, A. Marcelli and F. Bellatreccia, *SR-FTIR microscopy and FTIR imaging in the Earth Sciences* in: Rev. Min. Geochem. 78, 447-479 (2014) ed.s by G.S. Henderson, D.R. Neuville and R.T. Downs
7. A. Marcelli and G. Cinque, *Infrared synchrotron radiation beamlines: high brilliance tools for IR spectromicroscopy. A practical guide to the characteristics of the broadband and brilliant non-thermal sources*' in: Biomedical Applications of Synchrotron Infrared Microspectroscopy, ed. D. Moss (Royal Society of Chemistry, 2011) Chapt. 3 pag. 67-104 ISBN: 978-1-84973-199-7
8. A. Marcelli and G. Cibin, *Il ghiaccio come materiale e matrice. Studio e caratterizzazione del ghiaccio, delle sue fasi, delle composizioni, dei contaminanti e del particolato mediante moderne tecniche spettroscopiche* in: Cryoalp - Una ricerca integrata sul ghiaccio alpino. Quaderni della Montagna, Chapt. 3 (Bononia University Press, Bologna, 2004) pag. 33-73 ISBN 88-7395-027-2
9. A. Marcelli, *Insertion devices*, Proceedings Int. School of Physics *E. Fermi* on *Biomedical Applications of Synchrotron Radiation*, Course CXXVIII (Varenna, 1994) ed. E. Burattini (SIF, Bologna, 1996) p. 21 ISBN: 9051992483
10. J. Chaboy, T.A. Tyson and A. Marcelli, *Relative Cross Sections for Bound-State Double-Electron $LN_{4,5}$-Edge Transitions of Rare Earths and Nonradioactive Elements of the Sixth Row*, Prensas Universitarias de Zaragoza (Spain, 1995) ISBN 84-7733-440-4
11. A. Bianconi and A. Marcelli, *Surface XANES*, Chapt. 2 in: *Synchrotron Radiation Research. Advances in Surface Science*, Vol. 1 Techniques, ed. R.Z. Bachrach (Plenum Press, New York, 1992) ISBN 0-306-43872-0

Granted patents
1997-2007 - Pseudo-spherical stepped diffractor constructed under constant step width conditions (Multi stepped monochromator) - Europe/USA/Japan - INFN

Organisation of international conferences
1996: Chairman Int. Meeting "Development of Infrared Synchrotron Radiation and Applications to Materials Science" (April 19, Frascati)
2002: Chairman 19th Int. Conf. "X-ray and Inner shell Process" (June 24-28, Rome)
2005: Chairman 18th Int. Conf. X-ray Optics and Microanalysis (September 25-30, Frascati)
2006: Chairman 2nd DASIM Workshop (June 21-23, Frascati)
2008: Chairman 1st Italian Workshop UltraViolet Techniques and Applications (October 8-10, Frascati)
2008: Chairman 1st Workshop Interdisciplinary applications of THz radiation (October 13, Frascati)
2008: Chairman 1st Int. Workshop *Imaging Techniques with Synchrotron Radiation* (December 3-5, Hefei)
2009: Chairman Int. meeting *Local distortions and physics of functional materials* (July 22-24, Frascati)
2009: Chairman 2nd Int. Workshop *Imaging Techniques with Synchrotron Radiation* (November 6-10, Sanya)
2010: Chairman 1st Bilateral Workshop between Italy and China "Synchrotron radiation time resolved concurrent experiments: advantages and future applications. A new Italian route to China" (November 10, Shanghai)
2010: Chairman 3rd Int. Workshop Imaging Techniques with Synchrotron Radiation (November 6-9, Suzhou)
2011: Chairman 2nd Bilateral Workshop between Italy and China "New Advanced Coherent Light Sources: The radiation sources of the 21st century" (June 20-21, Beijing)
2011: Chairman 4th Int. Workshop Imaging Techniques with Synchrotron Radiation (September 24-27, Bordeaux)
2011: Chairman European Science Foundation Exploratory Workshop on New High-Resolution Multimodal Techniques for the Imaging of Living Systems (September 28-30, Bordeaux)
2012: Chairman Bilateral Italian/Chinese Workshop From Glacier to Climate - Euro-Asian perspectives in cryospheric sciences (July 9-10, Beijing)
2012: Chairman 1st Bilateral Italian/Chinese Workshop on COSMICRAD (September 4-5, Lanzhou)
2013: Chairman 1st Bilateral Italian/Indian Workshop *Nanoscale Excitations in Emergent Materials* - NEEM

(November 25-27, Ahmedabad)
2013: Chairman 3rd Sino – Italian Workshop on *Frontiers of Physics - Low energy coherent light sources: an Italian and Chinese strategy for Infrared Free Electron Lasers* (December 4-5, Beijing)
2014: Chairman 2nd Italian/Chinese Bilateral Workshop on *COSMICRAD* (September 12, Beijing)
2015: Chairman 2nd Italia/India Bilateral Workshop *Nanoscale Excitations in Emergent Materials* - NEEM 2015 (October 12-14, Rome)
2015: Member of the Local Organizer Committee of the Conference 13th International *Symposium on Radiation Physics* ISRP13, (September 7-11, Beijing)
2015: Member del Local Organizer Committee del Workshop *LIMS* (October 15-16, Frascati)
2015: Chairman of the 2nd Italian/Chinese Bilateral Workshop on *COSMICRAD* (September 12, 2015, Beijing)
2015: Chairman of the 2nd Italia/India Bilateral Workshop *Nanoscale Excitations in Emergent Materials* - NEEM 2015 (October 12-14, 2015, Rome)
2016: Co-chairmen of the International *Conference on Atomically Controlled Surfaces, Interfaces and Nanostructures* - ACSIN 13 (Rome, October 9-15, 2016)
2017: Co-chairmen of the Italy-China Bilateral Workshop *Aerosols in Snow and ice: markers of environmental pollution and climatic changes: European and Asian perspectives* (Rome, September 7-8, 2017)

International Committee Membership

1991 - 2011: Member Editorial Board Int. J. Condensed Matter Research (Nova Science Publ., New York).
1993 - 1994: Referee of the International Science Foundation (USA)
1997 - 2008: Member International Scientific Committee of the X-Ray and Inner-Shell Conference Series
2012 - 2014: Member of the Scientific Committee for the evaluation of the proposal submitted to the GILDA beamline at ESRF
2012 - : Member of the "peer review" panel of the ANVUR in Italy.
2014 - 2019: Member of the International Advisory Committee of the Infrared Free Electron Laser (IRFEL) a project of the Natural Science Foundation of China (NSFC)
2015- : Member of the Review Committee of the Phase-II of the Shanghai Synchrotron Radiation Facility of the Shanghai Institute of Applied Physics (SINAP)
2016 : Member of the editorial board of Condensed Matter Guest Editor (http://www.mdpi.com/journal/condensedmatter/special_issues/acsin2016)

Educational activity (since AA 1988/89)

Since the academic year 1990/91 and up to 1996 I was contract professor (Art. 100 DM382/80) at the University of Camerino as Lecturer in Physics.
At the Camerino University in the Academicals Years 1992/93 and 1993/94 I carried out a series of seminars for the course of General Physics and of Elements of Electronics at the School of Informatics.
At the Salerno University I gave lectures on synchrotron radiation at the PhD course of Experimental Techniques (Academicals Years 1988/89 & 1994/95).
In the Academicals Year 1990/91 I was *Maîtres de Conference* at the University of Paris XI.
Since 1995 I collaborated with the department of Geological Sciences of the University of Roma Tre where I gave several lectures as part of the PhD course in Crystallography and at the Faculty of Mathematical, Physical and Natural Sciences on the applications of x-ray absorption spectroscopy.
In 1997 I was invited by the Italian Department of Defence to the School of Education and Improvement of the Civil Personnel to give a series of lectures on Physics of Laser and on the risks associated with the use of laser sources. In the same Department I gave lectures on Medical Radiation Physics, production and transduction of ultrasound (2001) and to Biomedical applications of IR microscopy (1998).
I lectured also on Optical Spectroscopy applications in Cultural Heritage to students of the Academy of Fine Arts and on radiation sources to Master classes of the *Tor Vergata* University (2002-2004).
Starting from 2005 in collaboration with Bruker Optics I organized the first Italian schools of IR spectroscopy and microscopy for students and researchers.
At Porto Conte Research a research area managed by Sassari and Cagliari Universities, I held a Master course in Nanobiotechnology with modern imaging techniques. (2007)
I was supervisor of several thesis in Italy at the University *Sapienza* of Rome, at the *Tor Vergata* University, at the *Roma Tre* University, at the Sassari University and at the Camerino University; and member of *PhD* panels of doctoral thesis in Materials Science at the University *Sapienza* of Rome, at the Zaragoza University (1991 and 1994) and for the Doctorate in Biology and Pathophysiology at the University of Bordeaux (2008, 2011 and 2012).

Frascati, June 15, 2017