

**CURRICULUM  
VITAE ET  
STUDIORUM**

**INFORMAZIONI PERSONALI**

Nome **Paolo Favaron**  
Indirizzo **Via Guizza 443 35100 Padova**  
Telefono **049 8068525**  
E-mail **paolo.favaron@lnl.infn.it**  
  
Nazionalità **Italiana**  
Data di nascita **22/07/1954**

**ESPERIENZA LAVORATIVA**

- Periodo **Dal 1996 ad oggi**
- Datore di lavoro **ISTITUTO NAZIONALE DI FISICA NUCLEARE**  
Laboratori Nazionali di Legnaro  
Viale dell'Università 2 Legnaro (PD) 35020  
Ricerca  
Responsabile Divisione Tecnica e dei Servizi Generali  
**DIRIGENTE TECNOLOGO**  
Gestione e organizzazione della Divisione Tecnica e dei Servizi Generali dei laboratori e attività di ricerca nel campo delle tecnologie innovative.
- Settore
- Tipo di impiego
- Principali mansioni e responsabilità
  
- Periodo **Dal 1999 al 2008**
- Datore di lavoro **ISTITUTO NAZIONALE DI FISICA NUCLEARE**  
Laboratori Nazionali di Legnaro  
Referente locale per il trasferimento tecnologico e formazione esterna  
Coordinamento dei programmi di trasferimento tecnologico e referente per le iniziative in campo delle tecnologie meccaniche innovative e della criogenia.
- Tipo di impiego
- Principali mansioni e responsabilità
  
- Periodo **Dal 1996 al 2010**
- Datore di lavoro **ISTITUTO NAZIONALE DI FISICA NUCLEARE**  
Laboratori Nazionali di Legnaro  
Responsabile del Servizio di Prevenzione di Protezione dei LNL  
Organizzazione e Gestione del Servizio Prevenzione e Protezione per l'applicazione della normativa in materia di igiene e sicurezza.
- Tipo di impiego
- Principali mansioni e responsabilità

- Periodo
  - Datore di lavoro
  - Tipo di impiego
  - Principali mansioni e responsabilità
- Dal 1999 al 2000**  
ISTITUTO NAZIONALE DI FISICA NUCLEARE  
Laboratori Nazionali di Legnaro  
Referente locale per la Formazione  
Coordinamento dei Programmi di formazione del personale.
- Periodo
  - Datore di lavoro
  - Tipo di impiego
  - Principali mansioni e responsabilità
- Dal 1997 al 1999**  
ISTITUTO NAZIONALE DI FISICA NUCLEARE  
Laboratori Nazionali di Legnaro  
Coordinamento Servizio di Amministrazione dei LNL  
Programmazione della spesa e gestione del bilancio dei LNL.
- Periodo
  - Datore di lavoro
  - Settore
  - Tipo di impiego
  - Principali mansioni e responsabilità
- Dal 1997 al 1999**  
ISTITUTO NAZIONALE DI FISICA NUCLEARE  
Sezione di Padova  
via Marzolo 8                      Padova 35131  
Ricerca  
Responsabile del Servizio di Prevenzione e Protezione della Sezione  
Organizzazione e Gestione del Servizio Prevenzione e Protezione per l'applicazione della normativa in materia di igiene e sicurezza.
- Periodo
  - Datore di lavoro
  - Settore
  - Tipo di impiego
  - Principali mansioni e responsabilità
- Dal 1994 al 1996**  
Osservatorio Astronomico di Padova - Telescopio Nazionale Galileo  
Canarie – SPAGNA  
Ricerca  
Progettista meccanico  
Progettazione sistema di rotazione e Collaudo Tecnico parti meccaniche cupola rotante.
- Periodo
  - Datore di lavoro
  - Tipo di impiego
  - Principali mansioni e responsabilità
- Dal 1994 al 1995**  
ISTITUTO NAZIONALE DI FISICA NUCLEARE  
Laboratori Nazionali di Legnaro  
Vice-Responsabile Divisione Tecnica  
Gestione e organizzazione della divisione e attività di ricerca nel campo delle tecnologie innovative.
- Periodo
  - Datore di lavoro
  - Tipo di impiego
  - Principali mansioni e responsabilità
- Dal 1987 al 1994**  
ISTITUTO NAZIONALE DI FISICA NUCLEARE  
Laboratori Nazionali di Legnaro  
Responsabile Ufficio Tecnico e Progettazione  
Ristrutturazione e organizzazione dell'Ufficio Tecnico. Progettazione dell'acceleratore lineare ALPI.
- Periodo
  - Datore di lavoro
  - Tipo di impiego
  - Principali mansioni e responsabilità
- Dal 1978 al 1986**  
Libero professionista . Dipendente di ditte private e titolare di uno studio di progettazione in ingegneria e architettura  
Consulenza tecnica  
Consulente tecnico per aziende operanti nel settore meccanico. Progettazione di edifici industriali e impiantistica relativa.

## **ISTRUZIONE E FORMAZIONE**

- Periodo
- Istituto di istruzione
- Qualifica conseguita

### **Novembre 1978**

Università degli Studi di Padova - Facoltà di Ingegneria

### **Laurea in Ingegneria Meccanica**

Titolo Tesi: "Il collaudo della macchina utensile da produzione", con votazione 105/110

- Periodo
- Livello nella classificazione nazionale

### **Dicembre 1978**

Conseguimento abilitazione all'esercizio della professione di Ingegnere e conseguente iscrizione all'albo degli Ingegneri della Provincia di Padova.

- Periodo
- Istituto di istruzione
- Qualifica conseguita

### **Luglio 1973**

Liceo Scientifico "E. Fermi" - Padova

Diploma di maturità scientifica

- Periodo
- Istituto di formazione
- Qualifica conseguita

### **Maggio 1999**

FITA- Confindustria- ROMA

Qualifica di "Safety Auditor": Audit per la Sicurezza e la Salute nei luoghi di lavoro.

- Periodo
- Istituto di formazione
- Qualifica conseguita

### **Marzo 1999**

Ordine degli Ingegneri Provincia di Padova

Coordinatore per la Progettazione e Coordinatore per l'esecuzione dei Lavori ai fini della sicurezza nei cantieri temporali o mobili.

## **ALTRO (PARTECIPAZIONE A PROGETTI DI RICERCA)**

- Periodo
- Istituto dove ha svolto la ricerca
  - Mansioni svolte
- Risultati conseguiti

### **Dal 2002 ad oggi**

Università degli Studi di Padova

Membro del Comitato Ordinatore del Master di II livello in "Trattamenti di Superficie per l'Industria". Docente del Master

Coordinamento e Organizzazione e Docenza

- Periodo
- Istituto dove ha svolto la ricerca
  - Mansioni svolte
- Risultati conseguiti

### **Dal 2002 ad oggi**

Istituto Nazionale di Fisica Nucleare

Partecipante a vari esperimenti di Gr.V dell'INFN dedicati alla costruzione di dispositivi per la realizzazione di cavità superconduttrici in radiofrequenza

Realizzazione dei dispositivi e progetti di trasferimento tecnologico alla Piccola e Media Impresa

- Periodo
- Istituto dove ha svolto la ricerca
  - Mansioni svolte
- Risultati conseguiti

**Dal 2009 ad oggi**

Istituto Nazionale di Fisica Nucleare  
 Progettazione preliminare ed esecutiva edificio e impianti Progetto SPES. RUP edificio impianti convenzionati e speciali.  
 Riduzione IVA al 10%

- Periodo
- Istituto dove ha svolto la ricerca
  - Mansioni svolte

**Dal 2005 al 2009:**

Istituto Nazionale di Fisica Nucleare  
 Organizzazione scuola di criogenia presso i Laboratori Nazionali dell'INFN LNL, LNF, LNGS  
 Organizzazione congresso associazione Italiana del Vuoto AIV

- Periodo
- Istituto dove ha svolto la ricerca
  - Mansioni svolte

**Dal 1994 al 1995**

Istituto Nazionale di Fisica Nucleare  
 Progettazione meccanica e ricerca criogenica nell'ambito dell'esperimento INFN di gruppo II PVLAS

- Periodo
- Istituto dove ha svolto la ricerca
  - Mansioni svolte
- Risultati conseguiti

**Dal 1987 al 1995:**

Istituto Nazionale di Fisica Nucleare  
 Progettazione meccanica di prototipi (cavità superconduttrice, criostato, ecc..) per il Progetto ALPI  
 Coordinamento per la progettazione e il montaggio dell'acceleratore lineare superconduttore ALPI con particolare riferimento alla parte di criogenia e meccanica.

**ALTRO  
 (PUBBLICAZIONI SUL TEMA  
 DELLA RICERCA)**

- Periodo
- Titolo

**Dal 1987 ad oggi**

Oltre 50 pubblicazioni/lavori a stampa/note tecniche interne

**COMPETENZE E  
ABILITA' PERSONALI**

**LINGUA MADRE**

**Italiano**

**ALTRE LINGUE**

Autovalutazione  
*European level (\*)*

**Inglese**

**Francese**

UNDERSTANDING				SPEAKING				WRITING	
Listening		Reading		Spoken interaction		Spoken production			
C 1	Proficient user	C 1	Proficient user	B 2	Indipendent user	B 2	Indipendent user	C 1	Proficient user
B 2	Indipendent user	C 1	Proficient user	B 2	Indipendent user	B 2	Indipendent user	B 2	Indipendent user

(\*) Common European Framework of Reference for Languages

**ABILITA' E COMPETENZE  
SOCIALI**

Elevata capacità di creare ambienti collaborativi e capaci di lavorare con spirito di gruppo, acquisita con una lunga esperienza di management.

**ABILITA' E COMPETENZE  
ORGANIZZATIVE**

Leadership, senso dell'organizzazione, ottima esperienza nella gestione di progetti o gruppi che ha permesso la realizzazione degli obiettivi prefissati.

**ABILITA' E COMPETENZE  
TECNICHE**

Ottime conoscenze professionali in molti settori tecnologici innovativi: progettazione meccanica, criogenia, criostati, cavità acceleranti, tecniche del vuoto, Stampaggio 3D.

**ABILITA' E COMPETENZE  
INFORMATICHE**

Ottima conoscenza dei vari pacchetti informatici. Conoscenza sistema gestionale INFN

**ALTRE ABILITA' E  
COMPETENZE**

Ho allevato 5 figli... le capacità organizzative, manageriali e gestionali acquisite non sono comuni! Hobbies: cucina con ottimi risultati. Buona conoscenza del settore enologico nazionale. Sport praticati arrampica sportiva, tennis, sci.

Padova, 20 novembre 2015



Paolo Favaron

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*G. Bisoffi - CURRICULUM VITAE*

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Giovanni Bisoffi  
CURRICULUM VITAE

**PERSONAL INFORMATION**

<b>Name</b>	GIOVANNI BISOFFI
<b>Address</b>	VIA DEI GIACINTI 8 / B   35126 PADOVA (ITALIA)
<b>Mobile Phone Number</b>	+39 347 7895206
<b>Fax</b>	+39 049 641925
<b>E-mail</b>	bisoffi@lnl.infn.it

<b>Nationality</b>	Italian
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<b>Birth date</b>	NOVEMBER 14, 1962
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**EDUCATION**

<b>• Date</b>	March 1987
<b>Institution</b>	Physics Course at the Faculty of Science (University of Padova, I)
<b>• Diplome</b>	Degree in Physics

<b>• Date</b>	July 1989
<b>• Institution</b>	Ruprechts-Karl Universität and Max Planck Institut für Kernphysik in Heidelberg (D)
<b>• Diplome</b>	PhD in Physics

**LANGUAGES**

<b>MOTHER TONGUE</b>	ITALIAN
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<b>OTHER LANGUAGE (CERTIFICATE)</b>	ENGLISH (CERTIFICATE OF PROFICIENCY IN ENGLISH, UNIVERSITY OF CAMBRIDGE)
<b>OTHER LANGUAGE (CERTIFICATE)</b>	GERMAN (ZERTIFIKAT "B2", GOETHE INSTITUT)

**CAREER STEPS**

<b>May 1988 – Nov 2000</b>	TECHNOLOGICAL RESEARCHER OF LEVEL 3 (INFN) – TITLE OF "TECHNOLOGICAL RESEARCHER"
<b>Dec 2000 – Dec 2007</b>	TECHNOLOGICAL RESEARCHER OF LEVEL 2 (INFN) – TITLE OF "FIRST TECHNOLOGICAL RESEARCHER"

Since Jan 2008	TECHNOLOGICAL RESEARCHER OF LEVEL 1 (INFN) – TITLE OF "DIRECTOR OF TECHNOLOGICAL RESEARCH"
<b>COORDINATION AND DIRECTION OF FUNCTIONAL UNITS AND PROJECTS</b>	
•Dates	Since October 1, 2005
• Role	<b>Head of the Accelerator Division at INFN-Laboratori Nazionali di Legnaro (Encl.5)</b>
• Structure Breakdown	The Accelerator Division is structured in 6 units (and 3 sub-units), named "Accelerator Operation", "Sources and Injectors", "Accelerator Physics and Technology", "Electrostatic Accelerators for Applications", "Research and Development", "Machine Technical Plants"
• Personnel	50 individuals: 25 physicists and engineers, 24 technicians e 1 secretary
• Main duties and responsibilities	<p>The candidate has the full responsibility over accelerator-related activities at Laboratori Nazionali di Legnaro (LNL), in particular those made available to national and international users. He takes care of their efficiency and operational reliability, within the yearly budget made available for the structure (1,3 M€ on average).</p> <p>He responds directly to the director of LNL and is an active member of the Laboratory Council. He reports periodically about the state and plans of accelerator activities to the international committees PAC (Programme Advisory Committee) e CVI (International Evaluation Committee of INFN). He stays in close contact and collaboration with the Heads of the Research Division and Technological Division, as well as with physicists, engineers and technicians of the Laboratory.</p> <p>He coordinates the management of the local accelerator facilities, as well as the related research and development. The unit heads, taking care of accelerator operation, beam dynamics and diagnostics, vacuum systems, radiofrequency, control and cryogenics, technical plants, report to him.</p> <p>He has a leading role in the strategic planning of the Accelerator Division (in the short and medium terms) and in the related operational decisions: in particular the upgrade projects of PIAVE and ALPI linacs and the SPES project for a mid-term RNB facility at LNL. He proposes and manages a budget for operation, research and activities related to the realization of new accelerators.</p> <p>He promotes the potentialities and the projects of LNL in the field of particle accelerators through national and international collaborations and through the organization of meetings and conferences (e.g. he promoted the "International Conference on Heavy Ion Accelerator Technology", hosted by LNL in June 2009 with his chairmanship).</p>
• Main developments in the structure	<p>At the beginning of his mandate in 2005, LNL accelerators are in a critical moment: the electrostatic accelerator Tandem XTU cannot exceed the 80% of its nominal voltage, the SC linac ALPI is going through a very delicate maintenance of its cryogenic system, the SC injector PIAVE (of which the candidate has been project leader till then) is in the commissioning phase. Through a careful coordination of the activities of all the Division units, the situation is fully recovered at the end of 2006: the Tandem is back to its full acceleration voltage (14,5 MV), ALPI reaches a record accelerating voltage (49 MV), while PIAVE is fully operational, with an initial selection of beams for the LNL users community. Since then, Tandem, PIAVE and ALPI accelerators worked with a very high degree of availability. Since 2013, it was decided to work with ALPI and PIAVE every second semester, while the Tandem worked continuously, so as to both spare on the LNL electricity bill (at the advantage of SPES budget) and to devote more manpower to the project itself.</p>

•Date	September 19, 2003 – September 30, 2005
• Role	<b>Deputy Director of Laboratori Nazionali di Legnaro (INFN) – Aiuto di Direzione</b>
• Main duties and responsibilities	“Planning of the LNL activities” is delegated by the Director to the candidate
• Activities	The appointment letter mentions the aim of making the initiatives of the Divisions, on the priority activities planned by the Director, sharper and better coordinated. He coordinates the hardware commissioning of those components which shall allow the linac ALPI to be fully operational together with the injector PIAVE. This activity is broken down in a series of projects: 1. Operation of the ECR source on the HV platform; 2. PIAVE; 3. The low velocity section of ALPI; 4. The cryogenic fluid distribution system. He coordinates the sharing of the manpower in support to these projects, in respect of the duties related to the management of the laboratory structures and the operational machines. He reports to both the Director of LNL and to the Users’ Committee, which evaluates these activities quarterly.

•Dates	May 6, 2004 – September 30, 2005
• Role	<b>Leader of the PIAVE Project and Head of the Unit ITAM</b>
•Dates	December 5, 2002 – May 5, 2004
• Role	<b>Deputy Head of the PIAVE Project</b>
• Structure Description	The ITAM Unit is the main operational structure, taking care of the setup and full commissioning of the heavy ion injector PIAVE.
• Personnel	4 individuals (2 physicists and 2 engineers) in the Unit; <u>30 individuals</u> (20 physicists and engineers and 10 technicians) in the PIAVE project
• Main duties and responsibilities	In the final phase of the production of the SC RFQ cavities (of which the candidate has had since the beginning the full responsibility), he takes care of the whole injector project, as the Deputy Head and then as the Head of the project. In particular, he coordinates and controls the various project activities, in close coordination with the people in charge of each of them (beam dynamics, diagnostics, cryogenics and cryostats, rf equipment, vacuum and control systems). The coordination activity is conducted also through twice-monthly meetings. He coordinates the workplan of physicists, engineers and technicians in agreement with the Head of the Accelerator Division and in respect of the operational priorities of the Tandem and ALPI accelerators.
• Main developments	<ul style="list-style-type: none"> <li>- Completion of the second of the two SRFQ’s; test of both in the operational environment; fulfillment of the alignment specs;</li> <li>- Commissioning of the cryogenic system, in respect of the tough specifications of maximum pressure variations;</li> <li>- Installation and tests of the QWR SC resonators;</li> <li>- Debugging of the SRFQ cryostat;</li> <li>- Infrastructure preparation of the injector hall.</li> </ul> <p>In Summer 2005 this preparatory work is concluded: the first beam tests have been performed and are conform to the project specifications. In Spring 2006, the commissioning is declared successfully concluded with the realization of the first officially experiments, approved by the PAC committee.</p>

**PROJECT AND REALIZATION OF ACCELERATING FACILITIES**

•Date	Since 2011
• Role	<b>In SPES: Accelerator Coordinator, Head of the Project Management Office, Head of Work-Package “RNB Accelerator”</b>
• Topic	Project of Radioactive Ion Beam Facilities



• Goals	Working in close relationship with the Project Leader, who has a Nuclear Physics background, he coordinates all work-packages related to the construction of the accelerator, i.e. Control (WP-B4), Cyclotron (WP-B5), Exotic Beams (WP-B6), Beam Transport and Selection (WP-B7), RFQ (WP-B8), Mechanical Engineering (WP-B10), Vacuum Systems (WP-B11), while he leads WP-B9 (RNB Accelerator). He has been appointed in 2012 by INFN to be a member of the cost evaluation committee of the project. He leads the Project Management Office.
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•Date	1995-2002
• Role	<b>Realizations in the field RF Superconductivity</b>
• Role	The very first SC RFQs ever built worldwide for an operation-oriented accelerator; they are the first accelerating elements of the Heavy Ion Injector PIAVE.
• Topic	Thanks to the heavy ion injector PIAVE, the LNL heavy ion accelerator complex accelerates masses beyond A=100 with a significant increase of beam current on target of all ion species. The SC RFQ's work in CW mode, consistently with the ALPI booster. They are the first SC RFQ's built worldwide with the goal of going beyond the R&D phase and to accelerate beams on a working accelerator. Their design had to be a successful compromise between the technologies and the project choices of typical NC RFQ's with the best technologies and design choices of superconducting resonators.
• Design (1995-1996)	Starting from the beam dynamics design, setup by the LNL experts, the candidate has taken care of the RF and mechanical project of the SC RFQ's since the very beginning. Main steps: <ul style="list-style-type: none"> <li>- analytical and computational optimization of the cavity geometry with respect to the construction options, maximum surface EM fields, stored energy, cavity size, cryostat connections, mechanical vibrations, frequency tuning;</li> <li>- detailed engineering and design.</li> </ul> In this phase the candidate has received the collaboration of 1 physicist and 1 engineer and of that of the Department of Mechanical Engineering of the Universities of Padova and Ferrara, and the Department of Electronic Engineering of the University of Naples (n.3 degree these have been written in this context).
Prototype development (1996-1997)	<ul style="list-style-type: none"> <li>- Development of a full scale stainless steel prototype of cavity SRFQ2 to check all the realization steps.</li> <li>- Coordination of the project of cavity SRFQ1, carried out in collaboration with the University of Kyoto (J)</li> </ul> <i>In this phase the candidate has received the collaboration of two physicists of the Kyoto University (Nuclear Science Research Facility), in the framework of a collaboration of which he carries the scientific responsibility; two mechanical technicians of LNL; department of Mechanical Engineering of the Universities of Padova and Ferrara; one scientist of the Institute for Theoretical and Experimental Physics (Moscow, Russia) and one physicist of LNL. He has closely followed and chaired the complex Electron Beam Welding phases of the cavity components, performed at a dedicated company.</i>
Realization and tests (1997-2002)	Activities chaired by the candidate: <ul style="list-style-type: none"> <li>- All possible tests on the stainless steel model (EM field distribution, frequency tuning, measurement of mechanical vibrations, control of EM frequency sensitivity with respect to vacuum and external pressure, temperature change, chemical etching);</li> <li>- Realization a a 1:2 Al model of SRFQ1;</li> <li>- Executive project of SRFQ2;</li> <li>- Construction of SRFQ2 in Nb and Ti, with the contribution of DESY and CERN;</li> </ul>

	<ul style="list-style-type: none"> <li>- Setup of the test laboratory and realization of the 4 K tests of SRFQ2, exceeding the specifications in terms of accelerating field;</li> <li>- Executive project of SRFQ1;</li> <li>- Construction and similar tests on SRFQ1</li> </ul> <p>Both RFQ's exceed the specifications in terms of accelerating field and are ready to be tested and commissioned in the accelerator hall.</p>
<b>Design and construction of the Ladder resonator (2000-2007)</b>	A novel very compact superconducting resonator (called Ladder cavity), aimed at accelerating proton beams with a relativistic factor $\beta=0,12$ , has been proposed designed, built and successfully tested by the candidate and coworkers. It is an interesting option to replace NC DTL structures after a proton RFQ, leaving the option open of a fully SC linac. The structure was developed in the Eurisol accelerator framework.

<b>•Dates</b>	1994-1995
<b>• Role</b>	<b>Technological Researcher in the LNL Radiofrequency Group</b>
<b>• Responsibilities</b>	<b>Development of a prototype of SC RFQ</b>
<b>• Activity</b>	He optimizes with analytical and computational methods a SC RFQ prototype and develops three different AI models, followed their realization, conducted the experimental tests. Leader of the Radiofrequency Team of the "Progetto Nuovo Iniettore (PIAVE)" (Encl.12)
<b>•Dates</b>	1992-1993
<b>• Role</b>	<b>Technological Researcher of the ALPI Project</b>
<b>• Responsibilities</b>	Member of the RF Group in the commissioning of the ALPI linac
<b>• Activity</b>	He is a member of the commissioning group of the ALPI linac with respect to all its components (radiofrequency, beam transport, diagnostics, cryogenics, bunching, magnets and vacuum), during all the physics experiments performed during the accelerator test phase. He writes the operation manual of the accelerating resonators.

<b>•Date</b>	2001-2010
<b>• Role</b>	<b>Work-Package leader of the SPES and Eurisol-DS projects</b>
<b>• Topic</b>	Project of Radioactive Ion Beam Facilities
<b>• Activity</b>	<p>Within the Technical Committee of the SPES project (2002-2005), aimed at building a RIB Facility at LNL, he leads the task "Determination of cost and time schedule of the Project".</p> <p>Since 2006: Leader of the task "RNB Accelerator" of the SPES Project.</p> <p>The candidate takes care of the best adaptation of the PIAVE-ALPI facility for the acceleration of exotic species generated in the production target. He has written a conceptual project and then chaired the development of this part of the Technical Design Report, evaluated cost and time schedule, in accordance with the regular and continued use of the linacs for the current scientific activity hosted by LNL.</p> <p>1. Eurisol-DS</p> <p>Within the European project "Eurisol-DS", aimed at the design of a RNB facility with a primary proton linac with energies up to 1 GeV, he is the leader of the Italian team in the Work-Package 6 (RNB Accelerator). He coordinates a group of 3 physicists for the design of the accelerator front-end, based on SC RFQ's.</p> <p><u>Invention and construction of a low-beta resonator for high-current linacs</u></p> <p>In the SPES and Eurisol-DS frameworks, the candidate has proposed and developed a fully innovative resonator for the very low beta part of the driver accelerator. This resonator, called "Ladder" cavity, is extremely compact and efficient and would allow</p>

	significant saving in the accelerator cost. He has coordinated the collaboration of 1 physicist and followed two degree theses in Physics and Mechanical Engineering.
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•Dates	1989-1991
• Role	<b>Design and Construction of an ECR Ion Source</b>
• Topic	Project, installation and tests of an ECR Ion Source at LNL
•	He takes care of the final phase of the project and the installation of the ECRIS in a test laboratory. He is in charge of the project of the beam extraction system: his design is adopted also by the SC-ECR group at MSU (USA). His participation ceases after the successful commissioning of the ion source with beams of noble gases.

•Date	1987-1989
• Role	<b>Ion cooler storage rings (PhD thesis)</b>
• Topic	Development of the setup for maximizing the amount of beam current stored in the heavy ion storage ring TSR (Test Storage Ring) at the MPI-K in Heidelberg.
• Activity	He develops the project and performs the related simulations; adapts a resonant cavity acquired from CERN to the project purpose, optimizing its phase and amplitude docking systems. He is member of the TSR commissioning team, where a beam current increase of a factor 800 is achieved, in agreement with his predictions. He has evaluated analytically the limit of maximum current which can be stored in the ring, with respect to space charge and collective instabilities. He has taken active part in the whole ring commissioning, including the very first experiments of heavy ion electron cooling.

•Date	1986-1987
• Role	<b>Mass spectrometers (degree thesis)</b>
• Topic	Evaluation of high voltage (HV) insulation in high vacuum, within the project CAMEL, a high resolution heavy ion mass spectrometer
• Activity	Analysis of the HV performance of a large parallel plate capacitor. Investigation of the electrostatic field distribution, setup and realization of the experiments. These results are still a reference in the relevant literature. They are, e.g. used in the experimental phase of the Neutral Beam Injector of the ITER project, in a presently running collaboration between INFN and CNR (National Research Center).

**MONITORING AND EVALUATION  
OF INTERNATIONAL PROJECTS  
PARTICIPATION IN SCIENTIFIC  
COMMITTEES**

•Date	Since 2011
• Role	<b>Scientific Evaluator of the Russian Skolkovo Innovation Center</b>
	The Skolkovo Innovation Center is a scientific and technological centre for the development and commercialisation of advanced technologies. Project approval is submitted to the assessment of international referees. The candidate belongs to the refereeing group "Nuclear Technologies".

•Date	2014-2020
• Role	<b>Member of the Board of the EPS-AG (Accelerator Group of the European Physical Society)</b>
	EPS-AG fosters the most efficient and highest quality dissemination of scientific information in the field of accelerator in Europe and world-wide, particularly through the scientific organization of the International Particle Accelerator Conferences (IPAC). Within EPS-AG, the candidate is member of a team, charged to organize the publication

	of IPAC proceedings on a refereed journal (to the benefit of the whole community of particularly young researchers).
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•Date	Since 2012
• Role	<b>Member of the MAC of INFN</b>
	The committee is charged to assess: innovation developments in the field of accelerators done by INFN labs and units; follow-up in the realization of special projects, with funds to INFN by the Italian Minister for Research; extraordinary maintenance and upgrades, in the field of accelerators, requested by the national laboratories of INFN.

•Date	2010-2014
• Role	<b>Member of the TAC of ESS</b>
	Together with dr. Caterina Biscari (INFN-LNF, now director at ALBA-CELLS, Barcelona), he represents INFN in the international Technical Advisory Committee of the European Spallation Source, in construction in Lund (S). Within the committee, he was charged – in particular – of evaluating the accelerator front-end (source and normal conducting injector) and the development on the superconducting spoke resonators.

•Date	2008-2013
• Role	<b>Member of FAIR-MAC</b>
	FAIR-MAC is the Machine Advisory Committee nominated by the International Steering Committee of FAIR, the Facility for Antiproton and Ion Research which is being built in Darmstadt (D). It has the role of reviewing the accelerator TDR and following up the project realization. The Committee was chaired by Dr. Lyn Evans, project leader of the Large Hadron Collider at CERN.

•Date	2006-2012
• Role	<b>Member, nominated by the President of INFN, of the Scientific-Technical Committee of RFX Consortium</b>
• Main Responsibilities	Evaluation of the working programme of the RFX Consortium, within the European collaboration EFDA in the framework of Controlled Thermonuclear Fusion and the ITER experimental reactor.
• Main related activities	INFN participates in the RFX Consortium through the joint project and construction of the Neutral Beam Injector (NBI) into the ITER plasma. The Consortium has the leading role in Europe for the construction of the NBI: INFN contributes with studies on beam extraction and acceleration, cryogenic pumping and high voltage insulation in high vacuum. The Committee meets twice-yearly to assess both the completed activity of the previous year and the planned activity of the following one.

•Date	2005-2010
• Role	<b>Member of the Scientific Advisory Board of PAC (Particle Accelerator Conference) and EPAC (European Particle Accelerator Conference)</b>
• Main Responsibilities	Proposal and assessment of the overall proposed invited and contributed papers to the Particle Accelerator Conference. The candidate belongs to the sub-committee "Radiofrequency".

•Date	Since 2007
• Role	<b>Member of the Review Committee of Eurisol-DS</b>

• Main Responsibilities	Reviewing activity of all papers published in the framework of the European Project "Eurisol-DS". The candidate assesses papers on the driver accelerator and the RNB-accelerator.
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•Date	1999 - 2007
• Funzione	<b>Monitoring Expert of the International Science and Technolgy Center (ISTC) (Encl.17)</b>
• Main Responsibilities and activities	The ISTC organizes and funds the activities of conversion of the military research of the former USSR. The candidate has executed, on behalf of the European Commission, the monitoring activity of two projects executed by the Khlopin Radium Institute in St. Petersburg (Ru) in collaboration with Institutions in Germany, Sweden, Italy in the field of generation and acceleration of ionized heavy clusters. The monitoring activity consisted in evaluating the fulfillment of the planned scientific and technological goals and its management through yearly workshops promoted by the candidate and in facilitating the applications of their findings in the fields of nanotechnologies and molecular biology.

•Date	In 2001 and in 2003
• Role	<b>Member of the Committee of Independent Experts for the Monitoring of the activities of the European Commission in the field of Controlled Thermonuclear Fusion (Encl.18)</b>
• Main Responsibilities and activities	Twice-yearly evaluation of the European activity, in a group of four experts from various EU states, through dedicated workshops and the editing of an evaluation report for the European Commission.

•Date	2003-2008
• Role	<b>Evaluator of INTAS (EU-Commission Programme for Research Programmes in collaboration between EU and Russian Federation)</b>
• Main responsibilities and activities	The program aims at promoting and preserving the potential of scientific research in the CIS. The evaluation activity is based on the analysis of research programs sent to the candidate electronically.

•Date	2009
• Role	<b>Chairman of the 11th International Conference "Heavy Ion Accalerator Technologies"</b>

<b>INTERNATIONAL COLLABORATIONS</b>	
•Date	2016-2019
• Funzione	<b>Scientific responsibility in the implementation of the Collaboration Protocol between INFN-LNL and the "National Institute for Radiological Science" in Chiba (J)</b>
• Collaboration topic	Studies on Radioactive Nuclear Beam facilities, strengthening of respective assets on cyclotrons, targets, selection, RNB acceleration, through exchange of scientists and ideas.

•Date	2016-2019
• Role	<b>Scientific responsibility in the implementation of the Collaboration Protocol between INFN-LNL and the "Institute for Theoretical and Experimental Physics" in Moscow (Russia)</b>

• Collaboration topic	Heavy ion accelerators and high intensity proton accelerators, particularly in the fields of particle sources and RF accelerating structures.
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•Date	2003
• Role	Visiting Scientist at BESSY II in Berlin (D)
• Collaboration topic	Scientific and technical in-depth evaluation of the development of a superconducting linac for a X-FEL project

•Date	1995-2003
• Role	Scientific responsibility in the implementation of the Collaboration Protocol between INFN and the "Institute for Chemical Research" of the Kyoto University (J)
• Collaboration topics	Exchange of researchers in the fields of linear accelerators and storage rings for heavy ions.

•Date	1998-2001
• Role	Scientific responsibility in the implementation of the Collaboration Protocol between INFN and CERN (Collaboration Contract K 505/SL)
• Collaboration topic	Chemical treatment of niobium superconducting resonators

<b>TEACHING AND LECTURING ACTIVITY</b>
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•Date	2012
•Role	Lecturer at the Euroschool on Exotic Beams, Athens (G).

•Period	Academic years 1997-1998, 1998-1999 e 1999-2000
•Role	Research Professor at the Physics Course of the Faculty of Science (Padua University, Italy), in the course "Laboratory of Physics Technologies" of the last year

•Date	2000
•Role	Lecturer at the CERN Accelerator School on RF Engineering (Darmstadt, maggio 2000), on "Superconducting Cavities"

•Date	1995-2010
•Role	Supervisor of several master theses in Physics, Electronic Engineering, Mechanical Engineering, associated to work done on INFN or international projects (e.g. Eurisol DS)



Born in 1969, Sara Maria Carturan received the Degree in Chemistry in 1993 from Padova University and the Ph.D. degree in Chemistry from Trento University in 2004. From 2003 she has a permanent position as graduated technician at the Department of Physics and Astronomy of Padova University, with the main task of providing technological support as for chemistry related aspects to projects and activities funded by DFA and INFN (Laboratori Nazionali di Legnaro). Her research interests have been focused on polymers synthesis and sol-gel derived glasses and modification of their optical, electrical and mechanical properties by chemical treatments and/or ion beams interaction for applications covering particles detectors, optical gas sensors, luminescent solar concentrators. Recently, she has been deeply involved also into the surface modification of germanium through wet chemical treatments for the recovery of crystalline integrity and for the development of new doping approaches. Sara Maria Carturan has authored about 90 peer reviewed articles and is referee of *Materials Letters*, *IEEE Sensors Journal*, *Polymer*.

*h-index*: 16, total citations number: 878 (ISI web of science, march, 2017)

*h-index*: 19, total citations number: 1160 (Google Scholar, march, 2017)

#### *Selected publications*

1. Carturan, S., Maggioni, G., Rezvani, S.J., Gunnella, R., Pinto, N., Gelain, M., Napoli, D.R. *Wet chemical treatments of high purity Ge crystals for  $\gamma$ -ray detectors: Surface structure, passivation capabilities and air stability* (2015) *Materials Chemistry and Physics*, 161, art. no. 18120, pp. 116-122.
2. Buffa, M., Carturan, S., Debije, M.G., Quaranta, A., Maggioni, G. *Dye-doped polysiloxane rubbers for luminescent solar concentrator systems* (2012) *Solar Energy Materials and Solar Cells*, 103, pp. 114-118.
3. Carturan, S., Quaranta, A., Marchi, T., Gramegna, F., Degerlier, M., Cinausero, M., Kravchuk, V.L., Poggi, M. *Novel polysiloxane-based scintillators for neutron detection* (2011) *Radiation Protection Dosimetry*, 143 (2-4), art. no. ncq403, pp. 471-476.
4. Carturan, S., Quaranta, A., Bonafini, M., Vomiero, A., Maggioni, G., Mattei, G., De Julián Fernández, C., Bersani, M., Mazzoldi, P., Della Mea, G. *Formation of silver nanoclusters in transparent polyimides by Ag-K ion-exchange process* (2007) *European Physical Journal D*, 42 (2), pp. 243-251.
5. Carturan, S., Quaranta, A., Maggioni, G., Vomiero, A., Ceccato, R., Della Mea, G. *Optical study of the matrix effect on the ES IPT mechanism of 3-HF doped sol-gel glass* (2003) *Journal of Sol-Gel Science and Technology*, 26 (1-3), pp. 931-935.

Legnaro, June 15th, 2017

