

PERSONAL INFORMATION

Ivan Andrian



📍 Via Gabriele D'Annunzio 11, 34077 Ronghi dei Legionari (GO), Italy

☎ +39 347 5363245

✉ ivan.andrian@elettra.eu (business) – ivan@andrian.org (personal)

🌐 <http://www.elettra.eu/People/IvanAndrian>

💬 [skype](#) ivan.andrian

Sex Male | Date of birth 1972-03-01 | Nationality Italian

WORK EXPERIENCE

Apr 2010 – now

Computing and Network Engineer

Elettra - Sincrotrone Trieste S.C.p.A.
S.S. 14 km 163.5 in Area Science Park
34149 Basovizza, Trieste – Italy
<http://www.elettra.eu>

- Active member in various EU-financed Projects
- Linux system administration
- General Network planning and troubleshooting
- Guest Network planning, deployment and maintenance (captive portal, wifi, cabled)
- eduroam implementation and maintenance
- Postmaster (mail servers, antispam, HA cluster, integration with other systems)
- Intranet services integration (LDAP, Active Directory, etc.)
- DNS/DHCP maintenance and development
- servers configuration with puppet
- Servers/network continuous monitoring and alerting with Zabbix
- File and printer servers co-maintenance
- Database maintenance (MySQL, PostgreSQL, Oracle)
- Backup planning and implementation (servers: bacula, rsnapshot; clients: CrashPlan)
- OpenVPN installation and maintenance, integration with Intranet for certificates management
- Firewall planning, evaluation and co-maintenance

Business or sector Education/Research

Nov 1998 – now

JACoW editor and officer

Joint Accelerators Conferences Website
<http://www.JACoW.org>

- Chairman
- SPMS part time developer
- Acrobat and web scripts development
- JACoW representative for Elettra
- Editor in Chief for various conferences

Business or sector International Collaboration as a service for the Scientific Community

Jul 2008 – Mar 2010

Senior Analyst Programmer

Ikon Multimedia S.r.l.
Strada San Canciano, 6
34079 Staranzano (GO) – Italy
<http://www.ikon.it>

- Mobile technologies planning, development and integration (on Nokia Maemo platform)
- Research on new CMS paradigms, filesystem-based with temporal DB characteristics
- Web technologies analysis
- Ticketing and collaboration system deployment
- ASP.Net web development

Business or sector IT services: web services, websites, multimedia, communication

Oct 1998 – Jul 2008

Computing and Network Engineer

Elettra - Sincrotrone Trieste S.C.p.A.
S.S. 14 km 163.5 in Area Science Park
34149 Basovizza, Trieste – Italy
<http://www.elettra.eu>

- Renovation of many network services to new architecture, most Linux-based, e.g:
 - email (smtp, imap4, pop3) from VAX
 - webservers (from Windows/HP-UX to Linux)
 - backup (from Apple Macintosh to HP DataProtector)
 - DNS from VAX to Linux (bind)
 - DHCP on Linux (new)
 - number crunching servers (from VAX to Linux with Mosix/OpenMosix)
- Linux system administration
- Migration from simple Windows Workgroup to Active Directory
- File and printer servers (on Windows Server)
- Database maintenance and development (PostgreSQL, Oracle)
- In-team planning and migration from flat network (10base2) to structured cabling (Avaya)

Business or sector Education/Research

1998 – 2003

Contract Professor in IT classes

University of Udine in Gorizia, Italy
<http://www.uniud.it>

- Course of 'Basics of Computer Science' for DAMS
- Course 'Computer Science I' for DAMS
- Course 'Computer Science II' for DAMS

Business or sector Education

1998 – 1999

Network and Computing Engineer

Municipality of Fiumicello (UD) and Aquileia (UD), Italy
<http://www.comune.fiumicello.ud.it>
<http://www.comune.aquileia.ud.it>

- New switched network configuration
- New IT infrastructure:
 - Migration from Windows 95 to Windows NT on clients
 - Migration from workgroup to Windows NT Server Domain
 - New file, printer and fax services
- Various dedicated software analysis and development

Business or sector IT

1996 – 1997

Contract Teacher in IT classes

Municipality of Fiumicello (UD), Italy
<http://www.comune.fiumicello.ud.it>

- Advanced Word and Excel in Public Administration
- Basis of Computer Science for citizens

Business or sector Education

EDUCATION AND TRAINING

May 2018	Zimbra Collaboration System Administration Synacor, Inc	
Jun 2017	Red Hat Ceph Storage Architecture and Administration Red Hat, Inc	CEPH125
Dec 2015	Sonicwall Network Security Basic Administrator Training Sonicwall Italy	Sonicwall Network Security Basic Administration NS-102
Oct 2010 – May 2011	English Course Assessment The British School of Trieste, Italy	B+ Council of Europe Vantage Level C1.1
Oct 2010 – May 2011	Course on Project Management Techniques and Tools Emmeffe S.r.l. – Management & Formazione – Milano, Italy	
Feb 2005	RH401 - "Red Hat Enterprise Deployment and Systems Management" Red Hat Italia http://www.redhat.com/training/courses/rh401/	
Sep 2002 – May 2003	Laurea Specialistica in Informatica Classe XXIII/S Università degli Studi di Udine, Italy ■ Full marks with distinction (<i>110/110 e lode</i>)	EQF Level 7
May 2002 – Jul 2002	English Course Assessment The British School of Trieste, Italy	B+ Council of Europe Vantage Level B2.1
Mar 2000	Red Hat Certified Engineer (RHCE) Red Hat Italia ■ certificate no. 806199547801030 https://www.redhat.com/wapps/training/certification/verify.html	
Nov 1998 – Dec 1998	Course "Oracle for Database Administrators" ELEA Institute in Padua, Italy, by Oracle Education	
Sep 1991 – Jul 1998	Laurea in Scienze dell'Informazione Università degli Studi di Udine, Italy Thesis entitled "Dimensioni Temporali nel Modello Relazionale: una nuova caratterizzazione con applicazioni alle basi di dati cliniche in terapia intensiva" (<i>Temporal Dimensions in the Relational Model: a new characterisation with applications to clinical databases in Intensive Care Units</i>) ■ Full marks with distinction (<i>110/110 e lode</i>)	EQF Level 7
Sep 1986 – Jul 1991	Ragioniere Perito Commerciale e Programmatore Istituto Tecnico Commerciale "Enrico Fermi", Gorizia, Italy	EQF Level 5

PERSONAL SKILLS

Mother tongue(s) Italian, Friulian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C1	C1
B+ Council of Europe Vantage Level C1.1					
Spanish	A2	A2	A1	A1	A1
Council of Europe Vantage Level A1					

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills Very good communication skills gained mainly through my experience in an International laboratory and my personal interest in social interactions and co-working:

- Working in small and medium groups in long term project-focused jobs
- Working with people all over the world in the JACoW community, both from the organisational / proactive point of view and supporting users
- Able to describe complex tasks or procedures in simple terms and concepts
- Very focused on documentation and shared knowledge to improve and clarify communication through time
- Learning techniques and processes gained in my teaching activities

Organisational / managerial skills Working in team has been my daily activity for years. I've had the opportunity in playing several roles from single-task responsibility to group facilitator and/or leader

- *Leadership*: have been project leader several times at Elettra, plus being Deputy Chair leading the Board of Directors first, now Chairman in JACoW
- *Key member in teams*: can recognise others' leadership being collaborative and positively active
- Scoutmaster in [A.G.E.S.C.I.](#) 1993–2017, International Gilwell degree (Wood Badge) in 1995, Scoutmaster Trainer since 1995, chief leader of several regional training camps

- Hobbies
- Sailing (single hull & catamarans, cruise and sport)
 - Mountaineering
 - Motorcycling
 - Music
 - Reading

- Driving licence ■ A+B
- Sailing licence ■ Italian maritime license, no limits from coast

Curriculum vitae et studiorum di Maria Rita FERRAZZA

DATI PERSONALI

Luogo e data di nascita: Roma, 10-09-68
Tel.: 06-94032573
E-mail: maria.rita.ferrazza@lnf.infn.it

PERCORSO FORMATIVO

Titoli di studio:

Laurea in Scienze e Tecniche Psicologico-Sociali di Analisi e Intervento nel Lavoro, nelle Organizzazioni, nelle Istituzioni (classe n. 34), conseguita presso la Facoltà di Psicologia 2 dell'Università degli Studi di Roma "Sapienza" con votazione 109/110 (30 marzo 2007) e con tesi sperimentale dal titolo "*Burnout e assenteismo: uno studio empirico*";

Diploma di Maturità Scientifica conseguito con la votazione di 52/60 presso il Liceo Scientifico Statale "G. Vailati" di Genzano di Roma (24 agosto 1987).

Specializzazioni:

Ottima conoscenza della lingua inglese parlata e scritta acquisita attraverso corsi organizzati presso i LNF e soggiorni nel Regno Unito;

Elementare conoscenza della lingua francese parlata e scritta acquisita attraverso corsi organizzati presso i LNF;

Ottima conoscenza delle moderne tecniche di *Office Automation* mediante l'uso di *computer* PC e Mac; ottima conoscenza dello strumento *Internet* (WWW e gestione posta elettronica) e conoscenza basica dei Data Base relazionali (MySQL e PHP) acquisita attraverso corsi specialistici. Ottima conoscenza dello strumento INDICO per la gestione e organizzazione delle conferenze.

ATTIVITÀ SVOLTA PRESSO I LNF:

Inizio attività professionale: 2 ottobre 1989.

La nomina a Responsabile dell'Ufficio di Segreteria è stata riconfermata il 10 aprile 2019 per un ulteriore quadriennio dal Direttore Dott. Pierluigi Campana. Il 10 aprile 2015 mi viene comunicata la nomina dall'allora Direttore Umberto Dosselli a Responsabile dell'Ufficio di Segreteria della DA. L'ufficio consta di quattro unità, compresa la sottoscritta.

Alla data del 3 dicembre 2010 mi viene comunicata l'attribuzione del IV livello del Profilo Funzionario di Amministrazione con decorrenza giuridica 1 gennaio 2009 - delibera CD 11628 del 29 ottobre 2010.

Attività svolta dal 16 aprile 2009 ad oggi come *staff* della Divisione Acceleratori con profilo di Funzionario di Amministrazione - IV livello professionale.

Il 16 aprile 2009 a seguito della richiesta dell'allora Responsabile della Divisione Acceleratori (DA) dei LNF, Dott. Pantaleo RAIMONDI sono stata trasferita allo *staff* della DA ricoprendo le seguenti mansioni in totale e completa autonomia:

- *Personal Assistant* del Responsabile della DA, comprendendo la tenuta della sua agenda, l'organizzazione dei suoi viaggi e dei suoi appuntamenti;
- segreteria Scientifica per la DA, con supporto nella preparazione dei contributi scientifici da sottoporre alle conferenze/Workshop/Meeting ai fini della predisposizione dei *Proceedings*;
- gestione degli ospiti e visitatori della DA, con predisposizione di tutte le pratiche di ospitalità e associazione da inoltrare alla Direzione dei LNF;
- gestione e invio di tutta la documentazione necessaria ai fini delle richieste di collaborazione scientifica per gli ospiti ricercatori supportati dalla DA (FAI Ordinari, ...);
- gestione e rilascio delle credenziali per l'accesso alla LAN dei LNF in modalità WiFi attraverso l'applicazione Go, a breve sostituita con Godiva;
- gestione degli accessi/ingressi relativi alla BTF (*Beam Test Facility*) con un volume di circa 10-15 utenti a settimana, di gruppi sperimentali che si avvicendano settimanalmente, ottemperando alla normativa in vigore ai LNF circa gli ingressi per attività sperimentale; aggiornamento del phonebook circa gli accessi per attività sperimentale degli utenti BTF;
- supporto al Responsabile della DA nella gestione delle Richieste d'Acquisto (RDA), seguendo l'*iter* informatico e cartaceo con relativa archiviazione elettronica di tutta la documentazione;
- smistamento degli ordini della DA e relativa archiviazione elettronica e cartacea degli stessi;
- smistamento di tutta la corrispondenza in entrata e uscita per la DA;
- supporto al Responsabile di Divisione nella gestione del preventivo della Divisione (DIV_ACCELERAT), comprendendo previsione, assestamento e consuntivo dello stesso;
- supporto al Responsabile di Divisione nell'autorizzazione delle missioni per tutto il personale dipendente e associato alla DA;
- supporto al Responsabile di Divisione nella gestione degli straordinari e turni per il personale dipendente della DA con controllo del *plafond* e relativa ripartizione tra i vari Servizi della DA;
- organizzazione delle riunioni periodiche del Responsabile di Divisione con i Responsabili di Servizio della DA e relativa verbalizzazione, gestione della pagina di INDICO dedicata alle riunioni con archiviazione elettronica della documentazione;

- archiviazione di tutte le pratiche del personale afferente alla DA (schede di radioprotezione, schede di destinazione lavorativa, certificati idoneità, permessi parentali, ...);
- aggiornamento del *phonebook* dei LNF in particolare dei *record* relativi al personale afferente alla DA (dipendente, ospite e associato);
- Aggiornamento del *data base* accessi ditte per la parte relativa e di competenza della DA;
- Organizzazione di Conferenze, *Meeting* in e fuori sede circa i progetti gestiti e supportati dalla DA, partecipando sia alla segreteria organizzativa che al *Local Organizing Committee* (LoC) delle conferenze;

Nel 2017 e nel 2018 ho fatto parte delle due commissioni per le selezioni di due borse di studio per neodiplomati per la segreteria della DA.

Nell'aprile del 2012 ho curato due selezioni di personale ai sensi dell'Art. 6 (durata del contratto 90 giorni) per Collaboratore di Amministrazione VII livello professionale per la segreteria della DA, a seguito dell'assenza per maternità, selezionando i *curricula* e convocando i candidati. Ho provveduto in seguito alla formazione di cinque persone che hanno poi ricoperto i contratti in sequenza temporale.

Nel gennaio del 2010 sono stata nominata membro della Commissione Esaminatrice per la Selezione di Personale (Art. 15 - Collaboratore di Amministrazione VII livello professionale - LNL/C7/ 270) presso i LNL.

Attività svolta dal 1° gennaio 2009 al 15 aprile 2009 come Responsabile del Servizio di Direzione con profilo di Funzionario di Amministrazione (IV livello professionale).

Il Servizio curava e gestiva le seguenti attività, da me coordinate in piena autonomia, assicurandone l'attuazione e provvedendo al contempo alla formazione e al coordinamento del personale a me assegnato:

Segreteria di Direzione;
 Archivio di Direzione;
 Protocollo Informatico;
 Documentazione programmi e obiettivi;
 Rapporti con le organizzazioni sindacali locali;
 Consiglio di Laboratorio;
 Comitato Scientifico dei LNF (organizzazione e supporto di segreteria alle riunioni);
 Rapporti e Scambi Internazionali;
 Elaborazione, aggiornamento ed applicazione delle norme concernenti l'accesso ai LNF al di fuori del normale orario di lavoro e/ o durante i periodi di chiusura;
 Coordinamento degli autisti sia dei Laboratori che della ditta convenzionata;
 Organizzazione e gestione delle elezioni dei rappresentanti locali in seno al Consiglio di Laboratorio (2 Rappresentanti del personale tecnico- amministrativo, 2 Rappresentanti del personale ricercatore, 1 rappresentante del personale tecnologo e 5 coordinatori delle 5 linee

scientifiche locali) e della consultazione per l'elezione del Direttore dei LNF;
Organizzazione e gestione delle elezioni per i Rappresentanti Locali dei Lavoratori per la Sicurezza (RLS);
Aggiornamento del *phonebook* dei LNF attraverso inserimento e convalida di nuovi *record* per tutto il personale dipendente, ospite e associato dei LNF;
gestione dei PRIN (Progetti di Ricerca a Interesse Nazionale);
assegni di dottorato e di ricerca in cofinanziamento con le Università.

Maria Rita
Ferrazza

Firmato digitalmente
da Maria Rita Ferrazza
Data: 2019.07.15
10:29:14 +02'00'

Frascati, 15 luglio 2019

(dott.ssa Maria Rita FERRAZZA)

Riccardo Pompili

June 13, 2019

Physics researcher - Head of the SPARC.LAB accelerator activities
Particle accelerators, beam diagnostics, plasma physics

Personal Data

- Place and Date of Birth: Rome (Italy), 9 June 1985
- Nationality: Italian
- Affiliation: LNF-INFN, Via E. Fermi 40, 00044 Frascati (Rome, Italy)
- ORCID: orcid.org/0000-0002-1429-6143
- e-mail: riccardo.pompili@lnf.infn.it

Work Experience

- **3rd July 2017 - Today:** Researcher (permanent position) at Laboratori Nazionali di Frascati (LNF-INFN), Via E. Fermi 40, 00044 Frascati, Italy
- **9th December 2015 - 3rd July 2017:** Researcher at Laboratori Nazionali di Frascati (LNF-INFN), Via E. Fermi 40, 00044 Frascati, Italy
 - Funded by EUROFEL project nr. LNF/R3-500
 - Topic: *Development of longitudinal and transverse diagnostics for plasma-accelerated electron beams*
- **5th December 2013 - 4th December 2015:** Research Fellowship at Laboratori Nazionali di Frascati (LNF-INFN), Via E. Fermi 40, 00044 Frascati, Italy
 - Funded by FIRB 2012 project RBFR12NK5K_001 nr. 15788
 - Topic: *Study and development of a single-shot, non-intercepting longitudinal diagnostics for high brightness electron beams used to drive a plasma accelerator*

Education

- PhD in Physics at Tor Vergata University, Via della Ricerca Scientifica 1, 00133 Rome, Italy
 - Topic: *Longitudinal diagnostics for comb-like electron beams by means of Electro-Optic Sampling*
 - Supervisor: [Dr. Alessandro Cianchi](#)
 - Date of PhD graduation: 13 December 2013
- Master in Physics at Sapienza University, Piazzale A. Moro 5, 00185 Rome, Italy
 - Topic: *Characterization and use of scintillating bolometers for the study of double beta decay*
 - Supervisor: [Prof. Fernando Ferroni](#)
 - Date of Master graduation: 16 July 2010
 - Final grade: 110/110 cum laude
- Bachelor in Physics at University of Rome "La Sapienza", Piazzale A. Moro 5, 00185 Rome, Italy
 - Topic: *Filter studies for the analysis of bolometric signals*
 - Supervisor: [Prof. Riccardo Faccini](#)
 - Date of Bachelor graduation: 27 February 2008
 - Final grade: 110/110

- Scientific degree at Liceo Scientifico G. Vailati, Via A. Grandi 146, Genzano di Roma, Rome, Italy
 - Final grade: 100/100

Awards, Grants & Honours

- Principal Investigator of the PLADIP (compact PLASma DIPole for particle bending) project, 2018-2021 funded grant by INFN
- Young scientist prize by the Italian Society of Synchrotron Light (SILS), July 8, 2015 (Trento)
- Winner of a fellowship at Department of Health and Technologies (Istituto Superiore Sanità) regarding the "Development of a diagnostic system for 250 MeV proton beams to be used in hadron-therapy" (G.U. - IV serie speciale – n. 75 del 21/09/2010)
- LNF-INFN fellowship related to the master thesis work at the LNGS - Gran Sasso National Laboratories (bando n. 13376, 09/2009)
- Winner of the regional competition of the Italian Physics Olympics and participation to the National competition (2004 edition)

Professional skills

- 76 publications on international peer-reviewed journals ([1-12](#) as corresponding author)
- h-index (i10-index): 16 (27), provided by [Google Scholar](#) (updated on June 13, 2019)
- Operating systems: Linux, Windows, Macintosh, Android OS
- Programming languages: Arduino IDE, C++, LabView, LaTeX, Mathematica, MATLAB, Python
- Expert of programmable micro-controllers (Arduino), wireless communication devices, IoT.
- Simulation codes: General Particle Tracer (GPT), generation and transport of particle beams in accelerators. Methodological Accelerator Design (MAD-X), particle accelerator design and simulation. RADIA (ESRF) programming tools for 3D magneto-statics computation.

Other activities

- Member of the local organizing committee for the 4th European Advanced Accelerator Concepts Workshop, September 15-21, 2019 La Biodola (Italy)
- Co-Leader for the WG 1 (Electron beams from plasmas) at the 3rd European Advanced Accelerator Concepts Workshop, September 24-29, 2017 La Biodola (Italy)
- Member of the local organizing committee for the 2nd European Advanced Accelerator Concepts Workshop, September 13-19, 2015 La Biodola (Italy)
- Teaching assistance for the course of Particle Accelerator held by Dr. A. Cianchi at the University of Rome Tor Vergata
- Teaching assistance for the course of Physics I/II held by Dr. A. Cianchi at the University of Rome Tor Vergata
- External supervisor of graduating student for activities related with active-plasma lenses

- Scientific dissemination at the LNF OpenLabs events and as LNF guide for young students
- Activity as referee for international journals
 - Physical Review Applied
 - Optics Letters
 - Physical Review Accelerators and Beams
 - Philosophical Transactions of the Royal Society of London
 - Nuclear Instruments and Methods in Physics Research
 - Applied Sciences

Conferences and Seminars

- Conference on High Intensity Lasers and Attosecond Science, December 9-11, 2019 Tel-Aviv (Israel)
 - Invited talk: *High-brightness plasma-accelerated beams at SPARC_LAB*
- Annual meeting of the Italian Synchrotron Radiation Society, September 9-11, 2019 Camerino (Italy)
 - Invited talk: *From SPARC_LAB to EuPRAXIA@SPARC_LAB*
- 10th International Particle Accelerator Conference (IPAC), May 19-24, 2019 Melbourne (Australia)
 - Poster: *Focusing of High-Brightness Electron Beams with Active-Plasma Lenses*
- High Brightness Beam workshop, April 8-12, 2019 Rethimno, Crete (Greece)
 - Invited talk: *From SPARC_LAB to EuPRAXIA@SPARC_LAB*
- Compact Linear Collider (CLIC) Workshop, January 21-25, 2019 CERN (Switzerland)
 - Talk: *Plasma activities at SPARC_LAB*
- 8th Charged and Neutral Particles Channeling Phenomena conference, September 23-28, 2018 Ischia (Italy)
 - Invited talk: *Guiding of charged particle beams in curved capillary-discharge waveguides*
- 104th Congress of the Italian Physics Society, September 17-21, 2018 University of Calabria (Italy)
 - Invited talk: *Advanced beam manipulation with plasma-based devices*
- Conference on High Intensity Lasers and Attosecond Science, December 11-13, 2017 Tel-Aviv (Israel)
 - Talk: *High-brightness electron beams focusing with plasma lenses: recent results at SPARC_LAB*
- 3rd European Advanced Accelerator Concepts Workshop, September 24-30, 2017 La Biodola (Italy)
 - Talk: *Recent results from SPARC_LAB*
 - Poster: *Generation of hollow driver bunches followed by ultra-high brightness witness for plasma wakefield acceleration*
- International Beam Instrumentation Conference, September 11-15, 2016 Barcelona (Spain)
 - Talk: *Electro-Optical Methods for Multipurpose Diagnostics*
- 17th Advanced Accelerator Concepts Workshop, July 31 - August 5, 2016 National Harbor (USA)
 - Talk: *Beam-Driven Plasma Wakefield Acceleration at SPARC_LAB*
- Erice School-Workshop - Trends in Free Electron Laser Physics, May 17-23, 2016 Erice (Italy)
 - Talk: *Advanced beam manipulation experiments at SPARC_LAB*
- Conference on High Intensity Lasers and Attosecond Science, February 22-24, 2016 Tel-Aviv (Israel)
 - Poster: *Direct visualization of laser-induced particle acceleration by field enhancement*

- 2nd European Advanced Accelerator Concepts Workshop, September 13-19, 2015 La Biodola (Italy)
 - Invited talk: *Beam manipulation with Velocity Bunching for PWEA applications*
- 23rd Meeting of Italian Society of Synchrotron Light (SILS), July 8-10, 2015 Trento (Italy)
 - Invited talk: *Single-shot and non-intercepting longitudinal beam diagnostics for FELs and future beam-driven plasma accelerators*
- 20th IMEKO TC4 International Symposium, September 15-17, 2014 Benevento (Italy)
 - Talk: *Single-shot and non-destructive longitudinal diagnostics for future PWEA experiments*
- 16th Advanced Accelerator Concepts Workshop, July 13-18, 2014 San Jose (USA)
 - Poster: *Single-shot and non-destructive longitudinal diagnostics by means of Electro-Optic Sampling for future PWEA experiments*
- 99th SIF National Congress, September 23-27, 2013 Trieste (Italy)
 - Talk: *Single-shot and non-intercepting longitudinal diagnostics based on Electro-Optic Sampling*
- 1st European Advanced Accelerator Concepts Workshop, June 2-7, 2013 La Biodola (Italy)
 - Talk: *First single-shot and non-intercepting longitudinal bunch diagnostics for comb-like beam by means of Electro-Optic Sampling*

International schools and student stages

- U.S. Particle Accelerator School (USPAS), Austin (Texas, USA), 25 January - 5 February 2016
 - Topic: *Particle-Driven Wakefield Accelerators*
 - Rating: *Outstanding*
- CERN Accelerator School (CAS), CERN (Switzerland), 23-29 November 2014
 - Topic: *Plasma Wake Acceleration*
- SLAC School (S3EPB) on Electron and Photon Beams, San Francisco (USA), 22-26 July 2013
 - Topic: *Generation of electron beam: physics of photo-cathodes, photo-injectors, alternative sources using ultra-cold gases or plasmas, fundamental limits on beams phase space density*
 - Funded by fellowship
- CERN Accelerator School (CAS), Granada (Spain), 28 October - 9 November 2012
 - Topic: *Introduction to Accelerator Physics*
- International School of Physics E. Fermi, Varenna (Italy), 20-25 June 2011
 - Topic: *Laser Plasma Accelerators*
 - Funded by fellowship
- DESY Summer Student Program, Hamburg (Germany), July - September 2009
 - Topic: *Characterization of the ALFA scintillating fibers for the ATLAS experiment*
 - Funded by fellowship
- LNF-INFN Student Stages, Frascati (Italy), February - June 2003
 - Topic: *Strain gauges, reading through PC with interface card and LabView software*

Spoken languages

- Italian (native), English (fluent), French (basics)

Research and employment activities

Currently I am the head of the SPARC_LAB accelerator scientific activities. SPARC_LAB [10,13] (LNF-INFN) is a test-facility providing electron beams with energies up to 180 MeV that feed four experimental beamlines mainly devoted to beam-dynamics studies [14-17], test of new diagnostics devices [18-26] and user experiments [27-31]. Particle accelerators are used in many fields of science, with applications ranging from particle physics research to advanced radiation sources (e.g. based on FEL [32-38], THz radiation [39-41] and X/ γ rays production by Thomson scattering [42-44]). During my past experience I was involved in several tasks related to the machine operation. During my PhD I developed a non-intercepting and single-shot longitudinal beam diagnostics based on the Electro-Optic Sampling [11,45] (EOS). The goal was to use such device as a monitor for the electron beams that will be injected in plasma accelerators [46]. After PhD, I have continued the studies related to the EOS diagnostics and get the skills needed to design and tune the SPARC_LAB photo-injector setup according to the experimental task. At this regard I performed several beam dynamics studies by means of numerical simulation codes [7,47], with the goal to provide a complete simulation of the photo-injector working points as, for instance, the one required for the plasma acceleration experiments [48,49]. During my career I have actively participated to all the SPARC_LAB activities and I am also involved in the experimental activities of the FLAME laser facility [50-54]. I have also participated to the design of a new plasma-based facility to be built at LNF in the framework of the EuPRAXIA project [55-58]. In 2018 we concluded our studies and provided a Conceptual Design Report. In the following the main details of my research activity are summarized.

Plasma-based activities. The demand to accelerate particles to higher and higher energies is currently limited by the effective efficiency in the acceleration process that requires the development of km-size facilities. By increasing the accelerating gradient, the compactness can be improved and costs reduced. For such goals the technique which attracts main efforts relies on plasma acceleration. Nowadays the SPARC_LAB activities are mainly focused on such topic [12,59-64]. At this regard I have personally contributed to the design and characterization of a strong focusing device consisting of three Permanent Magnet Quadrupoles (PMQs) and provided a complete set of numerical simulations both regarding the magnetic performances and beam dynamics [8]. The goal is to squeeze down to few microns the electron bunches to be injected in a plasma accelerator. I have installed these two triplets into the experimental vacuum chamber. In parallel to plasma acceleration experiment we are also performing measurement by using the plasma as a focusing device [4,65,66]. Here we have demonstrated for the first time the lensing of high-brightness beams and proved how the beam emittance is affected by such a focusing. These results represent a fundamental step toward the development of next-generation focusing optics and demonstrate their effective usability in view of new compact facilities [1].

Beam diagnostics. Ultra-bright and ultra-short electron beams, as the ones required for FEL and future plasma-based accelerators, have a temporal duration ranging from sub-picosecond to few femtoseconds (rms). With such demanding requirements, a reliable beam diagnostics plays a key role especially if the technique is non-destructive and non-intercepting with respect to the particle beam. I have designed and developed an EOS-based diagnostics that has been successfully used to measure the longitudinal profile of electron beams consisting in one or more consecutive bunches [67], as the ones required for beam-driven plasma acceleration [7]. The resulting temporal resolution was of the order of 80 fs [11], proving the EOS to be a valuable non-destructive diagnostics useful to longitudinally characterize beams that are injected in a plasma accelerator. Moreover, being a non-destructive technique it can be used online during an experiment. For instance, during FEL operations [17] it can be exploited in order to correlate the bunch entering in the undulators and the FEL light emitted. The EOS can be used as a beam time of arrival monitor, too. We demonstrated that it is possible to reduce the arrival time-jitter (ATJ) [68] between the EOS laser system and the electron beam to the level of few femtoseconds [6]. This result is fundamental for seeded-FELs and the external injection in laser-plasma accelerators (LWFA), where the ATJ between the laser system and the electron beam must be kept as low as possible (fs-scale). In 2015 I was awarded with the Young Researcher Prize by the Italian Synchrotron Society (SILS). Recently I have also developed an EOS-based system in order to provide temporal and energy measurements in a very noisy and harsh environment: the electron beams ejected by the interaction of high-intensity (hundreds TW-class) ultra-short (35 fs) laser pulses with solid targets by means of the so-called Target Normal Sheath Acceleration (TNSA) method [3,5,69,70].

Beam dynamics. My research activity also consists in the design and study of the photo-injector working points as required by planned experiments [4, 66, 71-73]. For this purpose I provided theoretical simulations by using two well-known numerical codes used in the accelerator community: the [General Particle Tracer](#) (GPT) code (commercially developed by Pulsar Physics) and the open-source [MAD-X](#) package (available from CERN). GPT allows to fully simulate the beam dynamics for particle accelerators by taking into account space-charge effects. I extensively used these codes to simulate the photo-injector dynamics [74], the next planned plasma acceleration experiment [7], tests of new materials (like topological insulators) through the use of THz radiation [27] and beam-based studies for radiotherapy applications [28].

PLADIP project. I am the Principal Investigator (PI) of the *compact PLAsma DIPole for particle bending* (PLADIP) project funded by INFN grant. The project will begin in October 2018 with a duration of three years and will be included in the CSN5 activities. The goal of PLADIP is to demonstrate the feasibility of a plasma-based bending device for electron beams [9]. It is based on the use of discharge-waveguide curved capillary [75, 76] in which the magnetic bending field is provided by the flow of the current-discharge. I have provided calculations and numerical simulations showing that the device is able to reach fields as large as the ones produced with superconducting technology. The benefits to take into account with such a new tool are its compactness, tunability and reliability since it does not require the use of superconducting magnets operating at cryogenic temperatures with very prohibitive costs. The PLADIP project will start with a first stage of theoretical and numerical studies in order to determinate its working parameters. Then we will provide a series of offline tests in laboratory to completely characterize the plasma and discharge dynamics. In the last year we foresee an experimental activity to be conducted at the SPARC LAB facility and consisting of test with electron beams.

Publications

- [1] R. Pompili, et al. Focusing of high-brightness electron beams with active-plasma lenses. *Phys. Rev. Lett.*, 121:174801, Oct 2018.
- [2] R Pompili, et al. Ultrafast evolution of electric fields from high-intensity laser-matter interactions. *Nature Scientific Reports*, 8(1):3243, 2018.
- [3] R Pompili, et al. Femtosecond dynamics of energetic electrons in high intensity laser-matter interactions. *Nature Scientific Reports*, 6, 2016.
- [4] R. Pompili, et al. Experimental characterization of active plasma lensing for electron beams. *Applied Physics Letters*, 110(10):104101, 2017.
- [5] R. Pompili, et al. Sub-picosecond snapshots of fast electrons from high intensity laser-matter interactions. *Opt. Express*, 24(26):29512–29520, Dec 2016.
- [6] R Pompili, et al. Femtosecond timing-jitter between photo-cathode laser and ultra-short electron bunches by means of hybrid compression. *New Journal of Physics*, 18(8):083033, 2016.
- [7] R Pompili, et al. Beam manipulation with velocity bunching for pwfa applications. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 829:17–23, 2016.
- [8] R. Pompili, et al. Compact and tunable focusing device for plasma wakefield acceleration. *Review of Scientific Instruments*, 89(3):033302, 2018.
- [9] R. Pompili, et al. Guiding of charged particle beams in curved capillary-discharge waveguides. *AIP Advances*, 8(1):015326, 2018.
- [10] R. Pompili, et al. Recent results at sparc.lab. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.
- [11] R Pompili, et al. First single-shot and non-intercepting longitudinal bunch diagnostics for comb-like beam by means of electro-optic sampling. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 740:216–221, 2014.
- [12] E Adli, et al. Summary of working group 1: Electron beams from plasmas. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2017.
- [13] M Ferrario, et al. Sparc.lab present and future. *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, 2013.
- [14] F Villa, et al. Laser pulse shaping for high gradient accelerators. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2016.
- [15] Andrea Mostacci, et al. Operational experience on the generation and control of high brightness electron bunch trains at sparc-lab. In *SPIE Optics+ Optoelectronics*, pages 95121Q–95121Q. International Society for Optics and Photonics, 2015.
- [16] B Marchetti, et al. Novel schemes for the optimization of the sparc narrow band thz source. *Review of Scientific Instruments*, 86(7):073301, 2015.
- [17] C Ronsivalle, et al. Large-bandwidth two-color free-electron laser driven by a comb-like electron beam. *New Journal of Physics*, 16(3):033018, 2014.
- [18] A Cianchi, et al. Transverse emittance diagnostics for high brightness electron beams. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 865:63–66, 2017.

- [19] A Cianchi, et al. Transverse emittance diagnostics for high brightness electron beams. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2016.
- [20] A Cianchi, et al. Observations and diagnostics in high brightness beams. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2016.
- [21] A Cianchi, et al. Issues with phase space characterization of laser-plasma generated electron beams. *Physics Procedia*, 52:75–79, 2014.
- [22] V Shpakov, et al. Betatron radiation based diagnostics for plasma wakefield accelerated electron beams at the sparc_lab test facility. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2016.
- [23] A Cianchi, et al. Six-dimensional measurements of trains of high brightness electron bunches. *Physical Review Special Topics-Accelerators and Beams*, 18(8):082804, 2015.
- [24] V Shpakov, et al. Pre-wave zone studies of coherent transition and diffraction radiation. *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, 355:144–149, 2015.
- [25] A Cianchi, et al. 6d electron beam diagnostics at sparc_lab. In *SPIE Optics+ Optoelectronics*, pages 95120E–95120E. International Society for Optics and Photonics, 2015.
- [26] A Cianchi, et al. Challenges in plasma and laser wakefield accelerated beams diagnostic. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 720:153–156, 2013.
- [27] F Giorgianni, et al. Strong nonlinear terahertz response induced by dirac surface states in bi2se3 topological insulator. *Nature communications*, 7, 2016.
- [28] A Subiel, et al. Dosimetry of very high energy electrons (vhee) for radiotherapy applications: using radiochromic film measurements and monte carlo simulations. *Physics in medicine and biology*, 59(19):5811, 2014.
- [29] MD Alaimo, et al. Mapping the transverse coherence of the self amplified spontaneous emission of a free-electron laser with the heterodyne speckle method. *Optics express*, 22(24):30013–30023, 2014.
- [30] F Giorgianni, et al. Tailoring of highly intense thz radiation through high brightness electron beams longitudinal manipulation. *Applied Sciences*, 6(2):56, 2016.
- [31] M Ferrario, et al. Iride: Interdisciplinary research infrastructure based on dual electron linacs and lasers. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 740:138–146, 2014.
- [32] V Petrillo, et al. Observation of time-domain modulation of free-electron-laser pulses by multi-peaked electron-energy spectrum. *Physical Review Letters*, 111(11):114802, 2013.
- [33] LL Lazzarino, et al. Self-amplified spontaneous emission free electron laser devices and nonideal electron beam transport. *Physical Review Special Topics-Accelerators and Beams*, 17(11):110706, 2014.
- [34] E Chiadroni, et al. Two color fel driven by a comb-like electron beam distribution. *Physics Procedia*, 52:27–35, 2014.
- [35] F Villa, et al. Seeded fel with two energy level electron beam distribution at sparc_lab. In *SPIE Optics+ Optoelectronics*, pages 95120T–95120T. International Society for Optics and Photonics, 2015.
- [36] F Ciocci, et al. Segmented undulator operation at the sparc-fel test facility. In *SPIE Optics+ Optoelectronics*, pages 951203–951203. International Society for Optics and Photonics, 2015.
- [37] A Petralia, et al. Two-color radiation generated in a seeded free-electron laser with two electron beams. *Physical Review Letters*, 115(1):014801, 2015.
- [38] F Villa, et al. Generation and characterization of ultra-short electron beams for single spike infrared fel radiation at sparc_lab. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2017.

- [39] E. Chiadroni, et al. Characterization of the thz radiation source at the frascati linear accelerator. *Review of Scientific Instruments*, 84(2):022703, 2013.
- [40] C Ronsivalle, et al. The sparc-lab high peak power thz source: Different methods of generation and characterization. *International Conference on Infrared, Millimeter, and Terahertz Waves, IRMMW-THz*, 2013.
- [41] F Giorgianni, et al. Intense terahertz pulses from sparc.lab coherent radiation source. In *SPIE Optics+ Optoelectronics*, pages 95090O–95090O. International Society for Optics and Photonics, 2015.
- [42] C Vaccarezza, et al. A european proposal for the compton gamma-ray source of eli-np. In *International Particle Accelerator Conference-IPAC'12*, pages 1086–1088. Joint Accelerator Conferences Website, 2012.
- [43] A Bacci, et al. Electron linac design to drive bright compton back-scattering gamma-ray sources. *Journal of Applied Physics*, 113(19):194508–194508, 2013.
- [44] C Vaccarezza, et al. The sparc.lab thomson source. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 829:237–242, 2016.
- [45] A Cianchi, et al. Conceptual design of electron beam diagnostics for high brightness plasma accelerator. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.
- [46] V. Shpakov, et al. Longitudinal phase-space manipulation with beam-driven plasma wakefields. *Phys. Rev. Lett.*, 122:114801, Mar 2019.
- [47] E Chiadroni, et al. Beam manipulation for resonant plasma wakefield acceleration. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2017.
- [48] Stefano Romeo, et al. Simulation design for forthcoming high quality plasma wakefield acceleration experiment in linear regime at sparc_lab. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.
- [49] E Brentegani, et al. Numerical studies on capillary discharges as focusing elements for electron beams. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.
- [50] FG Bisesto, et al. Evolution of the electric fields induced in high intensity laser–matter interactions. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.
- [51] A Curcio, et al. Electro-optical detection of coherent radiation induced by relativistic electron bunches in the near and far fields. *Physical Review Applied*, 9(2):024004, 2018.
- [52] FG Bisesto, et al. The flame laser at sparc_lab. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.
- [53] G Costa, et al. Characterization of self-injected electron beams from lwfa experiments at sparc_lab. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 909:118–122, 2018.
- [54] FG Bisesto, et al. Recent studies on single-shot diagnostics for plasma accelerators at sparc_lab. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 909:364–368, 2018.
- [55] M Ferrario, et al. Eupraxia@ sparc_lab design study towards a compact fel facility at lnf. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.
- [56] A Giribono, et al. Eupraxia@ sparc_lab: the high-brightness rf photo-injector layout proposal. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.

- [57] C Vaccarezza, et al. Eupraxia@ sparc_lab: Beam dynamics studies for the x-band linac. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.
- [58] Paul Andreas Walker, et al. Horizon 2020 eupraxia design study. In *Journal of Physics: Conference Series*, volume 874, 2017.
- [59] S Romeo, et al. Beam dynamics in resonant plasma wakefield acceleration at sparc_lab. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2016.
- [60] MP Anania, et al. Plasma production for electron acceleration by resonant plasma wave. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2016.
- [61] AR Rossi, et al. Stability study for matching in laser driven plasma acceleration. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2016.
- [62] FG Bisesto, et al. Laser–capillary interaction for the exin project. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2016.
- [63] F Filippi, et al. Plasma density characterization at sparc_lab through stark broadening of hydrogen spectral lines. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2016.
- [64] A Biagioni, et al. Electron density measurement in gas discharge plasmas by optical and acoustic methods. *Journal of Instrumentation*, 11(08):C08003, 2016.
- [65] A Marocchino, et al. Experimental characterization of the effects induced by passive plasma lens on high brightness electron bunches. *Applied Physics Letters*, 111(18):184101, 2017.
- [66] E Chiadroni, et al. Overview of plasma lens experiments and recent results at sparc_lab. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.
- [67] R Pompili. *Longitudinal diagnostics for comb-like electron beams by means of Electro-Optic Sampling*. PhD thesis, Università di Roma "Tor Vergata", 2014.
- [68] M Bellaveglia, et al. The sparc_lab femtosecond synchronization for electron and photon pulsed beams. In *SPIE Optics+ Optoelectronics*, pages 95120V–95120V. International Society for Optics and Photonics, 2015.
- [69] FG Bisesto, et al. Innovative single-shot diagnostics for electrons accelerated through laser-plasma interaction at flame. In *SPIE Optics+ Optoelectronics*, pages 102400K–102400K. International Society for Optics and Photonics, 2017.
- [70] F. Bisesto, et al. Novel single-shot diagnostics for electrons from laser-plasma interaction at sparc_lab. *Quantum Beam Science*, 1(3):13, 2017.
- [71] J Zhu, et al. Misalignment measurement of femtosecond electron bunches with thz repetition rate. *Physical Review Accelerators and Beams*, 20(4):042801, 2017.
- [72] J Scifo, et al. Nano-machining, surface analysis and emittance measurements of a copper photocathode at sparc_lab. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.
- [73] A Biagioni, et al. Wake fields effects in dielectric capillary. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.
- [74] J. B. Rosenzweig, et al. Next generation high brightness electron beams from ultrahigh field cryogenic rf photocathode sources. *Phys. Rev. Accel. Beams*, 22:023403, Feb 2019.
- [75] F Filippi, et al. Tapering of plasma density ramp profiles for adiabatic lens experiments. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2018.

[76] A Biagioni, et al. Temperature analysis in the shock waves regime for gas-filled plasma capillaries in plasma-based accelerators. *Journal of Instrumentation*, 14(03):C03002, 2019.

DICHIARAZIONE SOSTITUTIVA DI CERTIFICAZIONE (art. 46 e 47 D.P.R. 445/2000)

Il sottoscritto Riccardo Pompili nato a Roma (RM) il 09/06/1985, consapevole della responsabilità penale prevista dall'art. 76 del D.P.R. 445/2000 per le ipotesi di falsità in atti e dichiarazioni mendaci ivi indicate, dichiara che le informazioni riportate nel curriculum vitae corrispondono a verità. Il sottoscritto autorizza inoltre al trattamento dei dati personali, in conformità alle disposizioni della legge sulla privacy (D.L.196/2003).

Rome, June 13, 2019

