

BREVE CURRICULUM VITAE ET STUDIORUM

La sottoscritta **MARTA SOLINAS** ai sensi dell'art. 46 del decreto del Presidente della Repubblica 28 Dicembre 2000, n. 445, consapevole che le dichiarazioni mendaci sono punite ai sensi del codice penale e dalle leggi speciali in materia attesta quanto segue:

Studi:

Diploma di Maturità Classica conseguito a Frascati, Liceo M. T. Cicerone il 21 Luglio 1994 con votazione 58/60;

Laurea in Lettere classiche conseguita presso l'Università di Roma "La Sapienza", il 14 Luglio 2001 con votazione 110 e lode con tesi in Etruscologia ed Archeologia Italiana.

Diploma di Specialista in Archeologia Classica conseguito il 29 Marzo del 2006 con votazione 70/70 presso la "I Scuola di Specializzazione in Archeologia dell'Università di Roma La Sapienza".

Laurea Magistrale in Progettazione e gestione dei sistemi turistici, conseguita il 23 Maggio 2019 presso l'Università di Roma Tor Vergata con votazione 110 e lode nella seguente materia: Antropologia del Turismo, con tesi dal titolo "La *leisure* turistica esperienziale nei Laboratori INFN del Gran Sasso", correlatore Dr. G. Salina.

Rapporti di lavoro in ambito INFN:
1) dal 15 Settembre 1994 al 14 Gennaio 1995 (90 giorni) contratto ex art. 6 presso la **Sezione INFN (Istituto Nazionale di Fisica Nucleare) di Roma SANITA'**, con profilo di collaboratore di amministrazione VII livello, ai sensi dell'art. 6 Lg. 20/03/1975, n. 70 **con attestazione di lodevole servizio da parte del Direttore dell'Amministrazione Centrale, Sig. G. Deleo.**

2) dal 15 Settembre 2003 al 1 Aprile 2008, **contratto di lavoro a tempo determinato** presso la **Sezione INFN di Roma Tor Vergata** con profilo di collaboratore di amministrazione VII livello, art. 15, per attività di segreteria scientifica e di direzione;

3) Dal 2 Aprile 2008 trasformazione del **contratto di lavoro** presso la **Sezione INFN di Roma Tor Vergata** con profilo di collaboratore di amministrazione VII livello, **da tempo determinato a tempo indeterminato**; passaggio **al VI livello** con bando 13618/2019.

Si segnalano le seguenti responsabilità:

- **Responsabile del Servizio di Direzione** della Sezione INFN di Roma Tor Vergata dal 2010 al 31 Luglio 2012.
- **Responsabile Amministrativo** della Sezione di Roma Tor Vergata dal 1 Gennaio 2018 ad oggi.

Mansioni svolte

Presso la Sezione INFN "Tor Vergata" dal 15 Settembre 2003

Attività di Segreteria Amministrativa

- Gestione dell'inventario e delle note di carico;
- gestione e rendicontazione contratti ASI/INFN e dei fondi MAE, MIUR, PRIN della Sezione;
- rendicontazione Legge 95/1995-elettronica e rivelatori per ricerche spaziali (5%);
- Responsabile del Servizio PosteCERT e predisposizione degli ordinativi di acquisto elettronici sul sito Acquisti In Rete della P.A.
- Responsabile dell'Ufficio Missioni dal 2012 al 2017.
- **Financial Officer** dei progetti ASI Limadou, Limadou2, e dei progetti UE Muse, Ahead, NPTEV;
- **Cassiere** della Sezione INFN di Roma Tor Vergata da Gennaio 2019 ad oggi.

Attività di Direzione:

- Organizzazione e gestione dell'Archivio del Direttore dal 2003;
- Responsabile del Protocollo Informatico BULL dal 1 Dicembre 2008
- gestione rapporti con RSPP in materia di Sicurezza sul Lavoro e segreteria del servizio e con il PTV per la Medicina del Lavoro,
- assistenza redazione *Documento Programmatico per la Sicurezza* e gestione incaricati trattamento dati personali;
- gestione rapporti Sezione con sindacati;
- gestione fondi affari internazionali della Sezione e organizzazione viaggio e soggiorno degli ospiti FAI e seminari; organizzazione viaggio e soggiorno delle delegazioni russe in vista ufficiale nell'ambito degli accordi INFN-ROSCOSMOS;
- segreteria progetto FEL
- segreteria progetto HELEN
- rilevazione presenze ed assistenza a tutto il personale della Sezione mediante AS400

Partecipazione Corsi di Formazione

- 12 Marzo 2001 "**Documento sulla valutazione dei rischi**", Roma, Soprintendenza Archeologica, a cura della SECURLAV S.r.l
- 27-31 Ottobre 2003 "**Database relazionali e pagine web dinamiche: My SQL e PHP**", Roma, a cura dell'INFN, Sezione di Roma "Tor Vergata".
- 15-17 Marzo 2004 "**Gli aspetti amministrativi e contabili del VI programma quadro UE. Aggiornamenti normativi**", Roma, a cura dell'INFN.
- 14-15 Dicembre 2004 "**Incaricati del trattamento dei dati personali**", Torino, a cura dell'INFN.
- 31 Maggio-1 Giugno 2005 "**La gestione dei rifiuti nel rispetto dell'ambiente presso le Strutture dell'INFN**" Milano, a cura della Commissione Nazionale Permanente Igiene-Sicurezza- Ambiente dell'INFN;

- 22-24 Settembre 2005 “*SGSL: Sistemi di Gestione della Salute e Sicurezza sul Lavoro*”, Trieste, a cura del CNR;
- 26-27 Ottobre 2005 “*La Gestione dei Rifiuti nel Rispetto dell’Ambiente*”, Rimini, a cura della Commissione Nazionale Permanente Igiene-Sicurezza- Ambiente dell’INFN;
- 28-29 Maggio 2007 “*La Gestione delle assenze e dei tempi di lavoro nel pubblico impiego*” a cura dell’Ente CEIDA- Roma;
- 18-19 Ottobre 2007 “*Aspetti amministrativi gestionali dei progetti europei nell’ambito del FP7*”, presso i LNF-INFN, a cura dell’INFN
- 12-16 Novembre 2007 “*L’organizzazione delle attività di Segreteria*” a cura dell’Ente CEIDA-Roma;
- 20-21 Dicembre 2007 “*INDICO. Guida all’utilizzo dell’agenda INFN*”, presso i LNF-INFN, a cura dell’INFN
- 1 Febbraio 2008: “*Il processo di digitalizzazione della p.a. - innovazioni tecnologiche e firma elettronica*” presso la Scuola di Pubblica Amministrazione
- 7 Luglio 2008 “*Arte e tecnica della negoziazione*” presso E-Learning Center - Roma
- 24 Settembre 2008: “*La sicurezza dei video terminalisti*” presso i LNGS.
- 13-14 Ottobre 2008: “*La sicurezza negli ambienti di lavoro dell’INFN*” presso la Sezione INFN di Bologna.
- 25-26 Ottobre 2010: “*Corso INFN in materia assicurativa (copertura assicurativa fornita al personale dipendente, associato e ospite dell’Istituto)*” presso LNL;
- 9-10 Febbraio 2015 “*Il portale del Servizio Coordinamento Fondi Esterni: nuove funzionalità e tools applicativi. Best practice INFN per la gestione dei progetti europei*”
- 20-21 Aprile 2015: “*Procedure per l’acquisizione di beni e servizi, aggiornamento normativo e operativo (AVCPass)*” presso AC-INFN;
- 24-25 Maggio 2016: “*Corso di formazione sui tempi di pagamento delle transazioni commerciali, sulla certificazione dei crediti (e monitoraggio del debito), sulle attività c/terzi e gestione delle fees*” presso INFN Torino.
- 4-5 Ottobre 2016: “*Gli affidamenti di importo inferiore alla soglia di rilevanza comunitaria nel nuovo codice dei contratti pubblici (d.lgs. n. 50/2016)*” presso INFN Napoli.
- 14-15 Dicembre 2016: “*Le procedure di selezione del contraente nel nuovo codice dei contratti pubblici e le Linee guida ANAC*” presso INFN Genova;
- 5 Maggio 2017: *Horizon 2020: le Marie Sklodowska-Curie actions (msca)*”presso APRE;
- 27 Ottobre 2017: “*Aggiornamento in materia contrattuale prima parte “Il MEPA: la nuova organizzazione e le novità introdotte nell’invito dei fornitori”*” presso AC INFN;
- 7-8 Novembre 2017: “*Horizon 2020: istruzioni per l’uso*” presso Presidenza INFN
- 15-6 Novembre 2017: “*Novità fiscali 2017 con particolare riferimento allo Split Payment*” presso AC INFN;
- 23-24 Gennaio 2018: “*I principi contabili per la gestione dell’inventario e del patrimonio negli Enti di Ricerca*” presso TIFPA, Trento.

- 11-12 Luglio 2018: “*Aggiornamenti in materia fiscale: IVA, IRPEF, imposta di bollo, fattura elettronica*”, presso Spoleto
- 20-21 Novembre 2018: “*La gestione del procedimento amministrativo riguardante il trattamento di missione in Italia e all'estero per il personale INFN*”, presso Napoli
- 11-13 Marzo 2019: “*Gestione e rendicontazione dei progetti finanziati dai fondi strutturali*” presso Presidenza INFN
- 9-11 Aprile 2019: “*Rendicontazione e audit dei progetti H2020*”
- 18-20 Giugno 2019: “*Corso di formazione manageriale rivolto al personale tecnico e amministrativo responsabile di servizi (V^ edizione)*” presso LNF-INFN.
- 1 Ottobre 2019: “*Trattamento compensi erogati a lavoratori autonomi occasionali, abituali e assimilati a lavoratori dipendenti*” presso INFN Bologna;
- 24 Ottobre 2019: “*Gare telematiche: illustrazione della normativa di riferimento e della convenzione con Consip Spa* “ presso LNF-INFN;
- 18-19 Novembre 2019: “*Corso di aggiornamento in materia fiscale e tributaria*”, presso LNF-INFN
- Aprile 2020: “*Corso Nazionale di Formazione per i Responsabili Unici del Procedimento di livello intermedio - II^ edizione*”

Altre esperienze lavorative

- **collaboratore occasionale** con il Museo delle Antichità Etrusche ed Italiche dell'Università di Roma “La Sapienza”, anni 1997-1999 per un totale di 300 ore lavorative, per attività di riordinamento e schedatura computerizzata dei materiali archeologici
- dall'1 Gennaio 1999 al 15 Dicembre 1999 contratto di **collaborazione occasionale** presso il Dipartimento di Scienze dell'Antichità dell'Università Statale di Milano, per lo studio, la riproduzione grafica, al fine della pubblicazione, dei materiali archeologici.
- dal 2 Novembre 1999 al 31 Agosto 2003 (per dimissioni volontarie) **contratto di lavoro a tempo determinato** presso il **Ministero per i Beni e le Attività Culturali**, Soprintendenza Archeologica di Roma, sede di Palazzo Massimo alle Terme, Museo Numismatico, con profilo di assistente tecnico-museale, area B3 (ex VI q. f.)
- da Marzo 2000 a Marzo 2001 **collaborazione occasionale** presso l'Accademia di Arte ed Archeologia BRITISH SCHOOL AT ROME per lo studio, la riproduzione grafica, ed il catalogo dei materiali archeologici, dalla preistoria al medioevo.
- dal 9 Ottobre 2008 **abilitazione alla professione di Guida Turistica** nella Provincia di Roma a seguito del superamento del relativo esame.

Roma, 5 Maggio 2020

Curriculum vitae sintetico di Rossana Brunetti

Dati Personali

Nome e Cognome: Rossana Brunetti

Email: rossana.brunetti@roma1.infn.it

Profilo: Collaboratore di Amministrazione V livello 1° progressione economica di cui all' art. 53 del CCNL 1998-2001 dal 1 gennaio 2014

Titoli di Studio

1988/89: Diploma di maturità tecnica di Ragioniere e Perito Commerciale presso l'Istituto "M. Buonarroti" Frascati (RM) – votazione 52/60

Competenze Informatiche: Ottima padronanza: Sistema operativo Windows e MacOS; Office; Adobe (photoshop e acrobat professional); Sw contabilità platform Oracle Suite E-Business; File Maker Pro.

Dipendente di ruolo dell'Istituto Nazionale di Fisica Nucleare dal 09/12/1997 presto servizio presso la Segreteria Amministrativa della Sezione di Roma – Servizio contabilità Fornitori Roma1 e Roma3, in qualità di Collaboratore di Amministrazione di V livello-1° progressione economica.

Nell'ambito di detto servizio mi occupo in totale autonomia dell'intero iter delle procedure amministrative contabili delle Sezioni Roma e Roma3 di seguito descritte:

- Accettazione/rifiuto fatture in Alfr&d;
- Liquidazione fatture;
- Controllo regolarità contributive dei fornitori con verifica DURC;
- Controllo e verifica inadempimenti all'Agenzia delle Entrate ai sensi art. 48-bis del DPR n. 602/1973 per i pagamenti superiori a 5000 euro;
- Emissione mandati di pagamento con indicatore di tempestività dei pagamenti inferiore ai 30 gg fissati dal MEF;
- Archiviazione documenti amministrativi;
- Assistenza continua e supporto al personale utente;
- Assistenza continua ai fornitori volta alla risoluzione delle problematiche connesse alla commessa e alla fatturazione.

Assicuro il coordinamento, nell'ambito delle direttive ricevute, dell'attività di contabilità dei fornitori collaborando con il Segretario Amministrativo per la buona riuscita del procedimento amministrativo che si chiude con la mia attività.

Grazie all'esperienza acquisita negli anni ho potuto contribuire attivamente ai lavori del *What Next TTA* svoltosi negli anni 2017-2018 con l'intento di realizzare un cambio di visione dell'attività amministrativa in grado di essere sempre al passo con l'eccellenza scientifica dell'Ente.

Ho fatto parte di vari gruppi di lavoro per l'esecuzione delle simulazioni in ambienti di test per l'avvento della fatturazione elettronica, del mandato elettronico.

Penso che la formazione rappresenta parte integrante della mia attività lavorativa e della mia crescita personale umana e professionale ed è per questo che partecipo costantemente a vari corsi che mi hanno permesso di aggiornarmi sulle tematiche inerenti strettamente il mio lavoro e anche di conseguire competenze linguistiche, tecniche, informatiche, sicurezza sul lavoro, pari opportunità e rendicontazione di progetti europei.

In Fede

8.9.2021

STEFANO LUPI

Curriculum Vitae

Part I – General Information

Full Name	Stefano Lupi
Citizenship	Italian
E-mail	stefano.lupi@uniroma1.it
website	https://sites.google.com/uniroma1.it/sapienza-terahertz/home
Spoken Languages	Italian (mother language), English (fluent), French (fluent)

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,...)
University graduation	1989	Sapienza University of Rome	110/110 cum laude, Laurea Thesis: "Infrared Spectroscopy on the CD ₄ Molecular Quantum Solid";
Post-graduate studies	1989	Sapienza University of Rome	Six months post-graduate fellowship of GNSM-CNR for spectroscopic studies on molecular solids;
PhD in Physics	1990-1992	Sapienza University of Rome	PhD fellowship on " An Infrared Study of High-Tc Superconductors in their Normal Phase", at the Department of Physics, Sapienza University of Rome;
Post-Doc fellowship in the EU research program "Human Capital and Mobility"	1993-1995	LURE laboratory of the University of Paris-Sud, France;	Infrared Synchrotron radiation investigation of High-Tc Superconductors;
Post-Doc fellowship	January 1996-June 1996	LURE laboratory of the University of Paris-sud, France;	Infrared Synchrotron radiation investigation on strongly correlated electronic systems;

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
1996	2004	Department of Physics, Sapienza University of Rome;	Permanent Researcher
2005	Now	Department of Physics, Sapienza University of Rome;	Permanent Associate Professor
2013	2024		National Scientific Qualification to Full Professor in Experimental Physics of Matter, 02/B1 ABILITAZIONI 2012, 2016

III B – Other Appointments

Start	End	Institution	Position
2015	2017	MEPHI University Moscow;	Associate Professor
February 2016	October 2016	Department of Physics, University Statale Milano;	Visiting Professor
June 2010	October 2010	Max Planck CFEL Laboratory, Hamburg University, Germany;	Visiting Professor
November 2009	March 2010	Elettra Sincrotrone Trieste	Visiting Professor
October 2001	March 2002	University of Paris-sud, Paris, France;	Visiting Professor

Part IV Scientific Responsibilities

1. Responsible of the international project “3-Dimensional Graphene: Applications in Catalysis, Photoacoustics and Plasmonics” of MAECI Italy-China scientific cooperation program (2019-2021);
2. Responsible of the international project “Linear, non-linear, and time-resolved Terahertz spectroscopy using the latest radiation sources” of MAECI Italy-Japan scientific cooperation program (2017-2019);
3. Responsible of the international project “Valutazione dell'effetto immunogenico di nanoparticelle superparamagnetiche (YFe₂O₃@Ag) come piattaforma per lo sviluppo e il controllo di adiuvanti nei vaccini” of CNR-NRC Italy-Egypt scientific cooperation program (2018-2020);
4. Responsible of SapienzaTerahertz Laboratory (Frequency and Time Domain Terahertz Spectroscopy) at the Department of Physics, Sapienza University of Rome, Italy: <https://sites.google.com/uniroma1.it/sapienza-terahertz/home>;
5. Responsabile of WP13-Task2 “3D Graphene” of international project Graphene Flagship Core 2 (2018-2020);
6. Responsible of the “Material Science” branch line (CNR-IOM) of the SISSI infrared and terahertz beamline at the Elettra Synchrotron, Trieste, Italy;

7. Responsible of the SL_FEMTOTERA terahertz beamline at the SPARC_LAB LNF-INFN, Frascati, Italy;
8. Co-Responsible of the TERA FERMI terahertz beamline at FERMI@Elettra free electron laser, Trieste, Italy;

Part V –A Teaching experience at Sapienza

Year	Institution	Lecture/Course
Since 2005	Department of Physics, Sapienza University of Rome;	Spectroscopic and Nanophotonics Methods for Condensed Matter Physics;
Since 2016	Department of Scienze della Terra, Sapienza University of Rome;	Mechanics and Thermodynamics, Laurea Triennale;
Since 2010	PhD Lectures at Department of Physics, Sapienza University of Rome;	Spectroscopy on exotic electronic materials;
2011-2015	Department of Physics, Sapienza University of Rome;	Struttura della Materia, Laurea Triennale;
2008-2011	Department of Physics, Sapienza University of Rome;	Ottica e Laboratorio, Laurea Triennale;
2004-2008	Department of Physics, Sapienza University of Rome;	Laboratorio di Meccanica, Laurea Triennale;
1999-2000	Department of Physics, Sapienza University of Rome;	Esperimentazione Fisica I, Laurea quadriennale

Part V –B Abroad teaching experiences

Since 2007	Lectures in the International School of Synchrotron Radiation, Duino, Trieste, Italy;	Infrared Synchrotron Radiation: From the production to the use;
Since 2015	Lectures at MEPHI University, Moscow, Russia;	Infrared and Terahertz Spectroscopy on Strongly Correlated Electron Systems;
2000-2008	Lectures for the PhD in Physics, in the Department of Physics, Salerno University	Infrared and Terahertz Spectroscopy on Strongly Correlated Electron Systems;

Part VI – Student Tutoring

Post-Doc Students

1. Salvatore Macis: Physics Department, Sapienza University;
2. Benjamin Briere: CNR-IOM Beamline SISSI@Elettra;
3. Federica Piccirilli: CNR-IOM Beamline SISSI@Elettra;
4. Sen Mou: TERA INFN;

5. Annalisa D'Arco: TERA INFN;
6. Francesco De Nicola: Graphene Flagship;
7. Flavio Giorgianni: INFN-Sezione Roma1;
8. Odeta Limaj: Physics Department, Sapienza University;
9. Andrea Perucchi: CNR-IOM Beamline SISSI@Elettra;

PhD Students

1. Luca Tomarchio, Thesis: "Linear and non linear Terahertz Spectroscopy on Topological Materials";
2. Marte Autore, Thesis: "Terahertz and infrared study of Topological Insulators";
3. Fausto D'Apuzzo, Thesis: "Materials for infrared and terahertz plasmonics";
4. Maddalena Daniele, Thesis: "Infrared, Dynamic light scattering and rheology of biocompatible gels";
5. Flavio Giorgianni, Thesis: "Developments of advanced Terahertz sources for nonlinear and time-resolved terahertz spectroscopy";
6. Odeta Limaj, Thesis: "Investigation of terahertz and mid-infrared metamaterials";
7. Irene Lo Vecchio, Thesis: "Metal to insulator transitions in strongly correlated oxides investigated by infrared and angle resolved photoemission spectroscopy";
8. Gihan Khmel, Thesis: "Investigation of structure-function relationship of biomolecules, using infrared spectroscopy, thermodynamics, Brewster angle microscopy analysis";
9. Leonetta Baldassarre, Thesis: "Optical properties of vanadium oxides";
10. Paola Di Pietro, Thesis: "Optical properties of Bismuth-based Topological Insulators";
11. Daniele Nicoletti, Thesis: "An infrared study of metallic-phase instabilities driven by temperature and doping in superconducting cuprates";
12. Chiara Mirri, Thesis: "Exotic superconductors: an infrared spectroscopy study";
13. Matteo Valentini, Thesis: "Infrared and Raman spectroscopy of cobaltites";

Graduate Students (Laurea Thesis)

1. Eleonora Bonaventura, Thesis: "Optical Properties of stanene";
2. Marta Di Fabrizio, Thesis: "Biomedical Imaging by Terahertz Spectroscopy";

3. Luca Tomarchio, Thesis: “Terahertz and Optical Properties of Weyl Materials”;
4. Fausto D'Apuzzo, Thesis: “Mid-infrared biosensing based on plasmonic devices”;
5. Stefania De Rosa, Thesis: “Optical spectra of silicene”;
6. Valeria Giliberti, Thesis: “Risposta elettromagnetica dai terahertz all'infrarosso di metamateriali innovativi”;
7. Flavio Giorgianni, Thesis: “Metamateriali superconduttori”;
8. Yan Huanyu, Thesis: “An apparatus for optical pump-terahertz probe spectroscopy”;
9. Irene Lo Vecchio, Thesis: “NMR and photoemission study of the electronic phase coexistence in V_2O_3 Mott-Hubbard insulator”;
10. Andrea Marchese, Thesis: “Optical and terahertz properties of Dirac materials”;
11. Mattia Rattà, Thesis: “Manipolazione della superconduttività nel FeSeTe con campi terahertz intensi”;
12. Andrea Rovere, Thesis: “Spettroscopia non lineare su Isolanti Topologici”;
13. Alba Piacenti, Thesis: “Plasmonic excitations in nanoporous graphene”;
14. Roberto Provenzano, Thesis: “infrared spectroscopy of microporous graphene”;
15. Giorgia Sparasassi, Thesis: “Study of the insulator to metal transition in thin films and single crystals of vanadium dioxide”;
16. Andrea Starace, Thesis: “Dispositivi plasmonici infrarossi con metalli convenzionali e non: il caso dell’Au e dell’ITO”;
17. Lorenzo Tenuzzo, Thesis: “Photoacoustic based graphene”;
18. Marta Autore Thesis: “Infrared spectroscopy of charge-ordered cuprates”;
19. Leonetta Baldassarre, Thesis: “Effetti dell’ordinamento di carica nella conducibilità infrarossa del cobaltato di sodio Na_xCoO_2 ”;
20. Elisa Borfecchia, Thesis: “Spettroscopia Infrarossa di catene artificiali di DNA”;
21. Paola Di Pietro, Thesis: “Proprietà ottiche del cuprato superconduttore $Sr_{2-x}CuO_2Cl_2$ nel limite di lacune diluite”;
22. Odeta Limaj, Thesis: “Proprietà ottiche del superconduttore ad alta temperatura di transizione $Bi_2Sr_{2-x}La_xCuO_6$ ”;
23. Daniele Nicoletti (Calvani, Lupi), Thesis: “Studio della transizione metallo-isolante negli ossidi di vanadio V_3O_5 e V_2O_3 mediante spettroscopia infrarossa”;

24. Francesco Vitucci, Thesis: “Transizioni isolante-metallo indotte dalla temperatura e dalla pressione in manganiti doppie”;

Undergraduate Students (Dissertazione Thesis)

1. Andrea Altamura, Dissertazione Thesis: “Produzione e uso della radiazione terahertz”;
2. Marco Campetella, Dissertazione Thesis: “Ottica con materiali ad indice di rifrazione negativo”;
3. Matteo Chiaverini, Dissertazione Thesis: “Proprietà infrarosse del diossido di vanadio”;
4. Fausto D'Apuzzo, Dissertazione Thesis: “Proprietà infrarosse di materiali plasmonici”;
5. Flavia D'Arpino, Dissertazione Thesis: “Materiali con indice di rifrazione negativo”;
6. Odeta Limaj, Dissertazione Thesis: “Ottica dei metamateriali”;
7. Irene Lo Vecchio, Dissertazione Thesis: “Ottica con metamateriali plasmonici”;
8. Daniele Nicoletti, Dissertazione Thesis: “Lo spettro infrarosso del cobaltato di sodio Na_xCoO_2 ”;
9. Gianluca Musarra, Dissertazione Thesis: “Al di là del limite di diffrazione”;
10. Andrea Petrella, Dissertazione Thesis: “L'effetto Fano”;
11. Mattia Rattà, Dissertazione Thesis: “Spettri di assorbimento IR di acidi verdi”;
12. Paolo Rissone, Dissertazione Thesis: “La fase di Berry”;
13. Nicola Parente, Dissertazione Thesis: “Aspetti di risonanza Fano in sistemi interagenti”;
14. Paolo Sciortino, Dissertazione Thesis: “Fisica dei metamateriali ottici”;
15. Laura Schade, Dissertazione Thesis: “La fase di Berry”;
16. Daniele Vannicola, Dissertazione Thesis: “Teoria ed esperimenti sull'indice di rifrazione negativo”;
17. Nicola Zilli, Dissertazione Thesis: “Proprietà infrarosse di materiali plasmonici”;

Part VII Scientific Management Responsibilities and scientific associations

1. Member of committee ConScienze Price (2020);
2. Member of exam commission for a technologist position INFN (2020);
3. Member of doctoral committee “Fisica degli Acceleratori” (2018-Now);

4. President of the exam commission for a position of administrative assistant INFN (2019);
5. Member of the PhD final-examination committee in Scienze della Terra, curriculum “Cultural Heritage”, Sapienza University (2017);
6. Member of doctoral committee “Modelli Matematici per l'Ingegneria, Elettromagnetismo e Nanoscienze” (2010-Now);
7. INFN Scientific association (2010-Now);
8. CNR-IOM Scientific association (2002-Now);
9. Elettra Sincrotrone Trieste association (2002-Now);
10. RUP (Responsabile Unico Procedura) of several administrative tenders for INFN and Elettra;
11. Responsible of the didactic laboratory of the Department of Physics B. Pontecorvo (2006-2011);
12. Member department committee “Borse Perfezionamento Estero” (2012-2015);
13. Member department committee “Studio-Lavoro” (2010-2013);

Part VIII-Reviewer Activity

1. MIUR Reprise projects, Italy;
2. Gordon and Betty Moore Foundation projects, USA;
3. National Science Centre projects, Poland;
4. German Research Foundation projects, Germany;
5. Reviewer of Nature, Nature Communications, Nature Physics, Phys. Rev. Letters, Phys. Rev. B, ACS Nanoletters, ACS Nano;

Part IX - Society memberships, Awards and Honors

Year Title

Since 2019	Member of the Scientific Committee of the IRMMW (International Conference on Infrared, Millimeter and Terahertz Waves) Conference;
Since 2018	Member of the Scientific Committee of the LEES (Low-Energy Electrodynamics of Solids) Conference;
Since 2011	Member of the Scientific Committee of the WIRMS (Infrared Microscopy and Spectroscopy with Accelerator Based Sources) Conference;
Since	Member of the Scientific Committee of the SuperFox (Superconductivity and

2012	Functional Oxides) Conference;
2014-2017	Member of Proposal Committee “Matter & material properties: Structure, Organisation Characterisation, Elaboration” of Soleil Synchrotron;
2008-2010	Member of Council Committee of the CNR/INFN-COHERENTIA Research Institute

Part X – Organized Conferences

2019	Chair of the Terahertz Sapienza Workshop, December, 10-11, 2019, Rome, Italy;
2019	Chair of Terahertz Radiation Session, PIERS International Conference, June, 17-19, 2019, Rome, Italy;
2018	Co-Chair of the 3D-Graphene Workshop, LNF-INFN, October, 1-2, Frascati, Italy;
2018	Chair of the 13th edition of the International LEES Conference (Low Energy Electrodynamics of Solids) June, 24-29 2018, Portonovo (Ancona), Italy;
2017	Chair of the Workshop TERADAYS, on applications of terahertz radiation in High-Energy Physics, April 2017, Rome, Italy;
2016	Co-Chair of the International Workshop SAFE (Smaller And FastEr: Infrared and Terahertz Spectral-Imaging at the Nanoscale with Synchrotron Radiation and Free Electron Laser Sources), December 2017, Trieste, Italy;
2014	Chair of the International Workshop SuperFox (Superconductivity and Functional Oxides), September 2014, Rome, Italy;
2013	Co-Chair of the China-Italy bilateral Workshop on new generation infrared sources, December 2013, Beijing (China);
2011	Chair of the 6th International Workshop on “Infrared Microscopy and Spectroscopy with Accelerator Based Sources (WIRMS-2011)”, September, 2011, Trieste, Italy;
2004	Co-Chair of the International Workshop on “Infrared Microscopy and Spectroscopy with Advanced Light Sources”, October 2004, Trieste, Italy;

Part XI - Funding Information as PI-principal investigator

Year	Title	Program	Grant value
2018-2021	TERA: Terahertz-ERA	Call Gruppo V INFN	634,5 k€
2018-2020	Graphene-Flagship	WP13-Core2	110 k€
2019-2021	3-Dimensional Graphene: Applications in Catalysis, Photoacoustics and Plasmonics;	MAECI Executive Program of cooperation in the field of science and technology, Italy-China;	152 k€ in 2019-2020
2017-2019	Linear, non-linear, and time-resolved Terahertz spectroscopy using the latest radiation sources;	MAECI Executive Program of cooperation in the field of science and technology, Italy-Japan;	121 k€

2017-2018	THz&RD: Terahertz Research and Developments: Biomedicine Imaging with Terahertz Radiation;	Gruppo-V INFN	119,5 k€
2018-2020	“Valutazione dell'effetto immunogenico di nanoparticelle superparamagnetiche (YFe ₂ O ₃ @Ag) come piattaforma per lo sviluppo e il controllo di adiuvanti nei vaccini”	CNR-NRC Executive Program of cooperation in the field of science and technology, Italy-Egypt	15 k€
2013-2016	Infrared and Terahertz Spectroscopy at the SISSI and TERA FERMI facilities;	EUROFEL-CNR Activities	150 k€
2013-2015	Terahertz Pump-Probe Spectroscopy: SL_FEMTOTERA	Gruppo-V INFN	250 k€
2011-2013	Terahertz Ultrashort Electron Beam Diagnostic: TERASPARC	Gruppo-V INFN	163 k€
2012	Fundamental properties and Applications of 2-Dimensional Dirac Electron Gases in Topological Insulators	Progetto Ricerca Sapienza	50 k€
2009	Pump-Probe Terahertz Spectroscopy	Sapienza AST	10 k€
2007	Infrared Spectroscopy on materials of Physical, Geological, and Chemical interest at high-pressure	Sapienza Grandi e Medie Attrezzature	60 k€
2005	Metal-Insulator Transition in Cuprates	Ateneo Sapienza	20 k€
2004	Developments of an Infrared Synchrotron Beamline at the Elettra Synchrotron, Trieste, Italy	Elettra Sincrotrone/CNR	1 M€

Total funding as PI 2,855 M€

Part XII – Research Activities

The research activity developed in these years has been focalized on the exotic low-energy excitations in condensed matter physics ranging from Dirac electrons in Topological Insulators and graphene, High-Tc superconductors, strongly correlated electronic systems, plasmonics, metamaterials, and Biophysics.

Specific electromagnetic sources in the Terahertz (THz) and Infrared (IR) spectral range, have been built for investigating the optical properties of these system and, in the most of cases, those sources have been also open to external users. Recently high-intensity THz radiation has been produced for efficiently accelerate electrons for high-energy physics experiments.

In the following I will summarize my activities and the main achieved results.

1. The low-energy electrodynamics of exotic electronic materials based on Dirac and Weyl electrons and their applications for non-linear terahertz optics, plasmonics, terahertz detectors and photoacoustic.

Most of materials in condensed matter physics are characterized by low-energy electronic excitations showing a quadratic energy/momentum dispersion (Schrodinger electrons).

Only recently, electrons with a linear energy/momentum (relativistic) dispersion (massless Dirac carriers), have been discovered first in graphene, and after in Topological Insulators and Weyl systems, and their potentialities in the fields of plasmonics and photonics have been readily recognized, leading to different applications in active and tunable optical devices.

Our recent research concerns the applications of Dirac electronic systems in terahertz optics in which we discovered a saturable absorption effect and tunable plasmon excitations in Topological Insulators.

Another research regards the plasmonic absorption in three-dimensional nanoporous graphene, where a Nature Communications paper has been published at the beginning of 2017. A patent has been also submitted on the use of the three-dimensional graphene for photoacoustic and terahertz detector applications [European Patent Nr. 16 189 004.1].

Stefano Lupi is the responsible of the laboratory SapienzaTerahertz at the Department of Physics, Sapienza University, Rome, Italy (<https://sites.google.com/uniroma1.it/sapienza-terahertz/home>), which includes 3 post-docs, 2 PhD students, 1 associate professor;

2. The optical, infrared and terahertz properties using conventional and synchrotron radiation of strongly correlated electronic materials as High-Tc superconductors (HCTS), transitional metal oxides (TMO) and 2D dimensional electron gases (2DEG);

Strongly correlated electronic materials (HCTS, TMO and 2DEG) represent one of the most important class of unconventional systems in Solid State Physics. Those systems are often characterized by a strong interplay of lattice, orbital, charge and spin degrees of freedom. Their similar energy scales determine competing ground states spanning from superconductivity, charge-ordering insulators, bad-metals etc etc. A transformation among those states can be obtained by changing external parameters like temperature, pressure and doping and this often corresponds to a Metal-to-Insulator Transition (MIT).

As a MIT strongly affects the low-energy electrostatics, spectroscopic measurements from THz to UV may furnish information about:

- The optical conductivity as a function of frequency;
- The spectral weight of the Cooper condensate;
- The charge-ordering gap;
- The phononic excitations;
- The bosonic glue in superconductors;
- The low-energy modes associated to charge-ordering, Spin-Density-Wave and Charge-Density-Wave instabilities;

In the HCTS, for instance, we studied the $-T$ vs doping x - phase diagram both in $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_4$ electron-doped and in $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ and $\text{Bi}_{2-x}\text{La}_x\text{SrCuO}_6$ hole-doped materials. This investigation suggests that in the HCTS normal phase incoherent and coherent charge carriers coexist in the Cu-O planes. The strong correlation also influences at high-temperature the charge electrostatics. Here, we observed for the first time a strong renormalization of the Fermi-liquid and a tendency of reduction of quasi-particles coherence. Through the optical spectral weight dependences on T , we obtained a quantitative measurement of electronic correlation in many materials.

Frequency domain spectroscopic studies have been also extended in the time domain showing the presence of two bosons in the superconducting glue through fs-based pump-probe spectroscopy. THz spectroscopy provided the possibility to measure the Cooper gap and the superconducting properties in new superconductors like cuprates, MgB_2 , boron-doped diamond, pectines and K_3C_{60} . Our measurements demonstrated, for instance, that diamond is a weak-coupling system showing a

s-wave gap symmetry and in K_3C_{60} superconductivity can be enhanced by optically pumping specific phonon modes. Another fruitful field of research concerns the physics of Transition Metal Oxides and strongly correlated systems. On this ground, we investigated the MIT through a combination of different experimental techniques: Raman, Photoemission, Infrared, performed in extreme conditions High-Pressure/High-Low Temperature. In particular, we revealed a metallic state induced in VO_2 above 15 GPa, in its monoclinic phase. In V_2O_3 , we observed for the first time a mesoscopic electronic phase separation across the MIT induced by pressure and temperature.

3. Plasmonics and Metamaterials.

A major role in metal optics is played by meta and plasmonic materials. These artificial systems can be fabricated by electron lithography and show several properties like super-transmittance, localization of electromagnetic field on sub-wavelength spatial scales, strong dependence of optical response to a small variation of physical properties at interfaces. We built-up a mid-IR plasmonic sensor which is sensitive to femtomoles of organic molecules. We also investigated THz plasmonic materials in order to probe the collective modes of macromolecules. We also studied the THz plasmonic response of metamaterials based on unconventional metals like HCTS and Topological Insulators, as their strong dependence on temperature and applied electric field, provides the possibility to modulate their plasmonic response. Moreover, we are studying the 2DEG forming at oxide interfaces. These gases could have interesting applications for tunable plasmonics.

4. The development of new sources and new instrumentations for infrared and terahertz spectroscopy.

Most of the low-energy excitations characterizing the ground states of exotic materials (see above) fall in the Terahertz and Infrared spectral range. Their spectroscopic investigation in frequency and time domain asks for new radiation sources providing high-brilliance, an improved temporal and spatial stability and a sub-ps time resolution.

In this regard, Infrared Synchrotron Radiation (IRSR) coupling high-brilliance with a large spectral coverage has completely modified Infrared Spectroscopy and Microscopy, providing the possibility to perform previously unexplored experiments:

- Spectroscopy and Micro-Spectroscopy using diamond anvil cells for high-pressure experiments in the 10-100 GPa range;
- Micro-Chemical analysis of non-homogeneous systems;
- Spectroscopy of biological materials on the cellular spatial scales;
- Spectroscopy and spectromicroscopy on Geology and Cultural Heritage;

The SISSI beamline at ELETTRA, which collects both standard and edge radiation from a bending magnet, is one of the most performant infrared beamline in Europe. SISSI has been projected, mounted and characterized in the last years by S. Lupi through a collaboration between ELETTRA-Sincrotrone Trieste, INFN/CNR and University of Rome La Sapienza (see CNR declaration).

SISSI provides the possibility to perform spectroscopy and microspectroscopy measurements at the diffraction limit in the infrared range. The brilliance gain of SISSI has been used for reflectivity measurements at high pressure in diamond anvil cells and for infrared imaging in Biophysics. Recently, IRSR has been extended to low frequency in order to cover the THz region where a flux gain of about 4 order of magnitude with respect to conventional sources has been achieved. Steady-state THz radiation is extremely important for investigating the low-energy excitations in many field of science like collective modes in macromolecules, coherent modes in superconductors and CDW/SDW materials, the superconducting gap in exotic superconductors, etc, etc (see above).

Recently we have added to the beamline a Nano-Spectroscopy facility based on Tip-Enhanced AFM scanning probe system which provides from THz to IR a spatial resolution well beyond the diffraction limit down to nearly 20 nm.

S. Lupi is responsible of the material science branch of the SISSI Infrared beamline at Trieste (see CNR declaration).

Recently high-power, sub-ps pulsed THz radiation has been realized to play a fundamental role in pump-probe and non-linear experiments. Indeed, sub-ps THz pulses can be used to a resonantly pumping of low-energy modes and studying their relaxation towards the equilibrium. At high-intensity, this radiation may be used to modify the ground state of systems, providing a pure quantum control of matter.

On this ground we started the FEMTOTERA project for extracting and using the THz radiation at the Free Electron Laser SPARC-INFN in Frascati, Italy. Through this project, within a collaboration between INFN and University of Rome La Sapienza, we produced 100 fs/25 microJoule pulsed THz radiation. This THz source is strongly competitive and THz Pump-THz Probe experiments have been performed and others are on going.

S. Lupi has in charge the scientific activity of the THz project in Frascati, Italy.

A new Terahertz project has been proposed to the Fermi@Elettra free electron laser in 2010. This project that concerns the development of a Terahertz beamline at the Fermi machine has been approved in 2013 and financed through a collaboration among CNR and ELETTRA. The THz beamline TERA-FERMI emits THz pulses with a time duration of 50 fs, covering a spectral range up to 10 THz. The energy per pulse reached 100 microJ, which corresponds to a THz electric field of about 10 MV/cm (the atomic electric field). The beamline has been open to external users in January 2017.

S. Lupi is co-responsible of the scientific activity of the THz project at Fermi.

5. The infrared and terahertz investigation of materials with biophysical interest;

We have been studied mid-IR spectra of monolayers and bilayers of binary mixing of phospholipids in order to obtain information on the phase separation phenomena existing in these systems. Moreover, we have investigated the modification of enzyme secondary structure in proteins attached to nanocarriers. Recently, I proposed a project for using THz and Near-IR radiation for biomedical imaging on skin-cancer. This project has been financed by INFN (see above).

6. THz Acceleration: The TERA Project;

Recently through a competitive CALL (PI Stefano Lupi), INFN funded a project for producing and using a highly intense THz radiation (THz electric field up to 50 MV/cm) for accelerating electrons. Indeed, the long wavelength of THz radiation (100 μm) and the associated huge THz field may provide the possibility to strongly increase the acceleration efficiency for electrons allowing the developing of short accelerators useful in many applications, for instance in biomedicine. This project has been financed with 800 k€ in three years and the TERA Laboratory has been founded through a collaboration between Sapienza University and INFN in Rome.

S. Lupi is responsible of this project (see INFN declaration).

Part XIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [International]	296	SCOPUS	1989	2020
Numbers of Talk in	2		1989	2020

International Conferences/Workshops	Plenary+75 Invited+14 Contributed			
Book Chapter [scientific]	4	ISI+SCOPUS	1989	2020

Total Impact Factor (1989-2021)	1053
Average Impact Factor/Paper	3.55
Total Citations	4863
Average Citations/Paper	16.42
h-index (SCOPUS)	38

Among publications:

1 Nature;
 1 Nature Nanotechnology;
 2 Nature Physics;
 6 Nature Communications;
 1 Advanced Functional Materials;
 3 Nano Letters;
 1 ACS Nano;
 20 Phys. Rev. Letters;
 1 Applied Materials Today;
 1 Nanoscale;
 1 Advanced Optical Materials;
 3 ACS Photonics;
 8 Nature Scientific Reports;

Invited Talks (2006-2020)

- 12th International Hasselt Diamond Workshop, February 28-March 2, 2007, Hasselt University, Belgium, Synchrotron Infrared Experiments on Superconducting Diamond and related materials
- SILS 2007, July, 6-8 2007, Camerino, Italy, Extraction of Coherent Synchrotron Radiation from a LINAC for Terahertz Spectroscopy
- Synchrotron Radiation School 2007, Duino, Trieste, Italy, Infrared Synchrotron Radiation: Spectroscopy And Microscopy
- LEES 2008, June 30 - July 4, 2008 Vancouver, Canada, Low-Energy Electrodynamics and Metal to Insulator Transition in strongly correlated Vanadium Oxides
- SILS 2008, June 26-28, 2008, Palermo, Italy, How to produce broad-band *sub-ps* low-energy pulses at UV and X-Ray FELs?
- META Conference, 2008, Growth and optical characterization of Metamaterials for THz applications
- Synchrotron Radiation School 2009, Grado, Trieste, Italy, Infrared Synchrotron Radiation: Spectroscopy And Microscopy

8. SILS 2009, 24-26 June, 2009, Camerino, Italy, Infrared synchrotron radiation spectroscopy at high-pressure in exotic materials
9. CIMTEC 2010, June 6-18, 2010, Montecatini Terme, Italy, Terahertz Spectroscopy of Superconductors
10. ETACM Meeting 2010 October 6 – 8, 2010, Anacapri, Naples, Italy, Observing The Mott Transition In V_2O_3 at the Microscale
11. IRMMW-THz 2010, September 5-10 2010, Rome Italy, Production of High Power Terahertz Radiation through the Free-Electron Laser
12. LEES 2010, July 5-10, 2010, Switzerland, Low Energy Electrodynamics and Metal to Insulator Transition in V_2O_3
13. Synchrotron Radiation School 2011, Grado, Trieste, Italy, Infrared Synchrotron Radiation: Spectroscopy And Microscopy
14. LEES 2012, July 22-27, 2012, Napa Valley, California, USA, Optical Properties of Bismuth-based Topological Insulators
15. Workshop on High-Field THz Science, October 8-9, 2012, University of Pécs, Hungary, Linear and Pump-Probe applications of THz Spectroscopy: The case of Elettra, Bessy-II, and SPARC
16. ESCA 2012, 18 - 22 November 2012, Hurghada, Red Sea, Egypt, Raman and I. R. Characterizations of Protein and Bio-Molecular Materials
17. MAMA Conference, March 20-22, 2012, Vieste, Italy, Electronic Phase Separation and Metal-to-Insulator Transition in V_2O_3 Mott-Hubbard material
18. Synchrotron Radiation School 2013, Grado, Trieste, Italy, Infrared Synchrotron Radiation: Spectroscopy And Microscopy
19. FisMat 2013 9-13 September 2013, Milano, Italy, Plasmonics Excitations in Topological Insulators
20. MAMA Trend Conference, May 20-23, 2013, Sorrento, Italy, Plasmonic Excitations in the Topological Insulators
21. Italo/Chinese Bilateral Workshop, December 4-5, 2013, Beijing, China, Infrared and Terahertz steady-state and time-resolved experiments with Storage rings and Free Electron Lasers
22. SIF, September 24-26, 2013 Trieste, Italy, Linear and Pump-Probe Terahertz Spectroscopy: The case of Elettra and SPARC
23. TeraHertz Science and Technology 2014 EOS – EUROPEAN OPTICAL SOCIETY, May 11-14, 2014, Camogli, Italy, Terahertz Plasmonic Excitations in Topological Insulators
24. LEES 2014, June 29-July 4, 2014, Loire Valley, France, Plasmonic Excitations in Topological Insulators
25. Workshop Magnetism at Large Scale Facilities November 24-25, 2014 CNR Roma, Italy, Behavior of Dirac plasmons under a strong magnetic field in topological insulators
26. THz-Arte, December 2-3, 2014, Frascati-ENEA, Italy, Terahertz Bio-Sensing based on Extraordinary Transmission Devices
27. 8th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics Metamaterials 2014, 25-30 July, Copenhagen, Denmark, Terahertz Plasmonic Excitations in Bi_2Se_3 Topological Insulator
28. FisMat 2015, September 28 - October 2, 2015, Palermo, Italy, Dirac Plasmonic Excitations In Topological Insulators
29. THz Workshop, November 15-18, 2015, Mephi University, Russia, Terahertz Radiation for Frequency and Time-Resolved Spectroscopy at SPARC-LAB Facility
30. Nanoscience and Nanotechnology Conference, INFN-LNF September 28-October 2, 2015, Frascati, Rome, Italy, Low-Energy Excitations in Topological Insulators
31. NEEM 2015 Workshop, October 12-14, 2015, Rome, Italy, Plasmons in 3D Nanoporous Graphene

32. RAIN Conference, July 13-15, 2015, Rome CNR, Terahertz Spectroscopy and Imaging
33. SIF, October 27-30, 2015, Napoli, Italy, Insulator-to-Metal Transition and Magnetism in Oxides
34. Synchrotron Radiation School 2015, Grado, Trieste, Infrared Synchrotron Radiation: Spectroscopy And Microscopy
35. *ACSIN 2016* 13th International Conference on Atomically Controlled Surfaces, Interfaces and Nanostructures. October 9-15, 2016, Frascati, Rome, Italy, Terahertz Optical Properties Of Topological Insulators
36. LEES 2016, May 29 - June 3, 2016, Japan, Non-Linear Terahertz Behavior of Bi₂Se₃ Topological Insulators
37. Ugo Fano Symposium, 19-21 October 2016, CNR-Rome, Italy, Fano Effects In Exotic Electronic Materials: From Light To Sound
38. SILS 2016, September 21-23, 2016, Bari, Italy, Highly-Intense and Sub-ps Linac-Based Terahertz Sources for Non-Linear and Pump-Probe Spectroscopy
39. SuperFox 2016, September 19-21, 2016, Politecnico Torino, Italy, 3D Graphene
40. Advanced Accelerator & Radiation Physics Workshop, December 7-8, 2016 Moscow, Russia, Terahertz Radiation for Linear and Non-Linear Spectroscopy in Condensed Matter Physics
41. Synchrotron Radiation School 2017, Muggia, Trieste, Italy, Synchrotron and Free Electron Laser based Infrared and Terahertz Studies in Condensed Matter
42. Superfluctuations 2017, September 6–8, 2017, San Benedetto del Tronto, Italy, Non Linear Electrodynamic Response in Dirac Electron Materials
43. 21th International Conference on Solid State Ionics, June 18-23, 2017, Padova, Italy, Sound and Light in 3D Graphene
44. ICFO, January 18, 2017, Barcelona, Spain, Light and Sound in Three-Dimensional Graphene
45. CLEO 2018 San Jose Convention Center, San Jose, CA, USA, Dirac Plasmons in Topological Insulators
46. N2D Workshop July 30-August 3, 2018, San Sebastian, Spain, Dirac Plasmons in Topological Insulators and 3D Graphene
47. 3D Graphene Workshop, October 1-2, 2018, Sapienza University of Rome, Italy, Terahertz and Infrared Plasmonic Absorption of 3-Dimensional Nano Porous Graphene
48. Photonics North 2018, June 5-7, 2018 Montreal, Canada, Non Linear Electrodynamic Response in Dirac Electron Materials
49. EMN Conference, September 3-7, 2018 San Sebastian, Spain, Non-Linear Terahertz Properties of Topological Insulators
50. Superfluctuations 2018, September 5–7, 2018, San Benedetto del Tronto, Italy, Non Linear Terahertz Response of Exotic Electronic Materials
51. Frontiers On Quantum Matter, June 11-15, 2018, Frascati, Rome, Italy, Linear and Non Linear Terahertz Photonics Based On Topological Matter
52. FisMat 2019, September 30-October 4, 2019, Catania, Italy, High Intensity Terahertz and Mid-Infrared Radiation: Opportunity for Condensed Matter Physics
53. META 2019 July 23 – 26, 2019, Lisbon, Portugal, Non Linear Single-Particle and Plasmonic Terahertz Properties of 3D Topological Insulators
54. Workshop for NSFC NSFC-MAECI, November 26, 2019 Beijing, China, Sound and Light in 3D Graphene
55. Synchrotron Radiation School 2019, Muggia, Trieste, Italy, Synchrotron and Free Electron Laser based Infrared and Terahertz Studies in Condensed Matter
56. SILS 2019, 9-11 September, 2019, Camerino, Italy, High-Intensity Terahertz and Mid-Infrared Radiation: Production and Opportunities in Condensed Matter Research;

57. SILS 2019 Workshop on Coherence, 9-11 September, 2019, Camerino, Italy Terahertz and Infrared Synchrotron Radiation: Coherence helps its use?
58. Superfluctuations 2019, September 2-4, 2019, University of Padova, Italy, Sound and Light in 3D Graphene
59. SuperFox 2020, February 10-12, 2020, Santa Margherita Ligure, Italy, Ultrafast Manipulation of Matter By Extreme Terahertz Fields
60. Frontiers in Quantum Materials for Quantum Computing, October 26-27, 2020, Russian Center for Science and Culture, Rome, Italy, Linear and non linear terahertz photonics based on topological matter
61. APS Mid-Atlantic Conference, 4-6 December, 2020, online conference USA, Linear and Unlinear Terahertz Behavior of Topological Insulators Materials

Part XIV- Patent

I have a patent (European Patent Nr. 16 189 004.1) on:

Transducer for electromagnetic and thermo-acoustic wave based on three dimensional graphene structure

Part XV– Selected Publications

1. Terahertz Tuning of Dirac Plasmons in Bi₂Se₃ Topological Insulator

P. Di Pietro, N. Adhlakha, Piccirilli, A. Di Gaspare, J. Moon, S. Oh, Di Mitri, S. Spampinati, A. Perucchi, S. Lupi

Physical Review Letters 124, 226403 (2020), DOI: 10.1103/PhysRevLett.124.226403

2. Overcoming the thermal regime for the electric-field driven Mott transition in vanadium sesquioxide

F. Giorgianni, J. Sakai, and S. Lupi

Nature Communications 10, 1159 (2019), <https://doi.org/10.1038/s41467-019-09137-6>

3. Optical Conductivity of Two-Dimensional Silicon: Evidence of Dirac Electrodynamics

C. Grazianetti, S. De Rosa, C. Martella, P. Targa, D. Codegoni, P. Gori, O. Pulci, A. Molle, and S. Lupi

Nano Lett. 18, 7124 (2018), DOI: 10.1021/acs.nanolett.8b03169

4. Reshaping the phonon energy landscape of nanocrystals inside a terahertz plasmonic nanocavity

Xin Jin, A. Cerea, G. C. Messina, A. Rovere, R. Piccoli, F. De Donato, F. Palazon, A. Perucchi, P. Di Pietro, R. Morandotti, S. Lupi,

F. De Angelis, M. Prato, A. Toma, and L. Razzari

Nature Communications 9, 763 (2018), DOI: 10.1038/s41467-018-03120

5. High-Efficiency and Low Distortion Photoacoustic Effect in 3D Graphene Sponge

F. Giorgianni, C. Vicario, M. Shalaby, L. D. Tenuzzo, A. Marcelli, T. Zhang, K. Zhao, Y. Chen, C. Hauri, and S. Lupi

Adv. Funct. Mater., 28, 1702652 (2018), DOI: 10.1002/adfm.201702652

6. Terahertz and mid-infrared plasmons in three-dimensional nanoporous graphene

F. D'Apuzzo, A. R. Piacenti, F. Giorgianni, M. Autore, M. Cestelli Guidi, Marcelli, U. Schade, Y. Ito, M. Chen, and S. Lupi

Nature Communications 8, 14885 (2017) DOI: 10.1038/ncomms14885

7. Mottness at finite doping and charge instabilities in cuprates

S. Peli, S. Dal Conte, R. Comin, N. Nembrini, A. Ronchi, P. Abrami, F. Banfi, G. Ferrini, D. Brida, S. Lupi, M. Fabrizio, A. Damascelli, M. Capone, G. Cerullo and C. Giannetti
Nature Physics 13, 806 (2017), DOI: 10.1038/NPHYS4112

8. Possible light-induced superconductivity in K_3C_{60} at high temperature

M. Mitrano, A. Cantaluppi, D. Nicoletti, S. Kaiser, A. Perucchi, S. Lupi, P. Di Pietro, D. Pontiroli, M. Riccò, S. R. Clark, D. Jaksch and A. Cavalleri,
Nature 530, 461 (2016), DOI:10.1038/nature16522

9. Strong nonlinear terahertz response induced by Dirac surface states in Bi_2Se_3 topological insulator

F. Giorgianni, E. Chiadroni, A. Rovere, M. Cestelli-Guidi, A. Perucchi, M. Bellaveglia, M. Castellano, D. Di Giovenale, G. Di Pirro, M. Ferrario, R. Pompili, C. Vaccarezza, F. Villa, A. Cianchi, A. Mostacci, M. Petrarca, M. Brahlek, N. Koirala, S. Oh and S. Lupi
Nature Communications 7, 11421 (2016), DOI: 10.1038/ncomms11421

10. Snapshots of the retarded interaction of charge carriers with ultrafast fluctuations in cuprates

S. Dal Conte, L. Vidmar, D. Golež, M. Mierzejewski, G. Soavi, S. Peli, F. Banfi, G. Ferrini, R. Comin, B. M. Ludbrook, L. Chauviere, N. D. Zhigadlo, H. Eisaki, M. Greven, S. Lupi, A. Damascelli, D. Brida, M. Capone, J. Bonca, G. Cerullo and C. Giannetti
Nature Physics 11, 421 (2015), DOI:10.1038/nphys3265

11. Spectral Weight Redistribution in $(LaNiO_3)_n/(LaMnO_3)_2$ Superlattices from Optical Spectroscopy

P. Di Pietro, J. Hoffman, A. Bhattacharya,² S. Lupi, and A. Perucchi
Phys. Rev. Lett. 114, 156801 (2015), DOI: 10.1103/PhysRevLett.114.156801

12. Squeezing terahertz light into nanovolumes: nanoantenna enhanced terahertz spectroscopy (NETS) of semiconductor quantum dots

A. Toma, S. Tuccio, M. Prato, F. De Donato, A. Perucchi, P. Di Pietro, S. Marras, C. Liberale, R. Proietti Zaccaria, F. De Angelis, L. Manna, S. Lupi, E. Di Fabrizio, L. Razzari
Nano Letters 15, 386, (2015), DOI: 10.1021/nl503705w

13. Observation of Dirac plasmons in a topological insulator

P. Di Pietro, M. Ortolani, O. Limaj, A. Di Gaspare, V. Giliberti, F. Giorgianni, M. Brahlek, N. Bansal, N. Koirala, S. Oh, P. Calvani and S. Lupi,
Nature Nanotechnology 8, 556 (2013), DOI: 10.1038/NNANO.2013.134

14. Optical Properties of $(SrMnO_3)_n/(LaMnO_3)_n$ Superlattices: An Insulator to Metal Transition observed in the Absence of Disorder

Perucchi, L. Baldassarre, A. Nucara, P. Calvani, C. Adamo, D. G. Schlom, P. Orgiani, L. Maritato, and S. Lupi
Nano Letters, 10, 4819 (2010), DOI: 10.1021/nl1022628

15. A microscopic view on the Mott transition in Chromium-doped V_2O_3

S. Lupi, L. Baldassarre, B. Mansart, A. Perucchi, A. Barinov, P. Dudin, E. Papalazarou, F. Rodolakis, J.-P. Rueff, J.-P. Itié, S. Ravy, D. Nicoletti, P. Postorino, P. Hansmann, N. Parragh, A. Toschi, T. Saha-Dasgupta, O. K. Andersen, G. Sangiovanni, K. Held^{and} M. Marsi
Nature Communications 1, Article number: 105 DOI:10.1038/ncomms1109 (2010)

16. High-Temperature Optical Spectral Weight and Fermi-liquid Renormalization in Bi-Based Cuprate Superconductors

D. Nicoletti, O. Limaj, P. Calvani, G. Rohringer, A. Toschi, G. Sangiovanni, M. Capone, K. Held, S. Ono, Yoichi Ando, and S. Lupi
Phys. Rev. Lett. 105, 077002 (2010), DOI: 10.1103/PhysRevLett.105.077002

Rome, 14/7/2021

Stefano Lupi