

PERSONAL INFORMATION

Spartaco Santi



✉ spartaco.santi@cnr.it

🌐 <https://www.linkedin.com/in/spartaco-santi-26646ba2/>

🌐 https://www.researchgate.net/profile/Spartaco_Santi2

Gender M | Date of birth 19/05/1966 | Nationality Italian

POSITION HELD

Researcher for the National Reserach Council (CNR) at Institute of Molecular Genetics “Luigi Luca Cavalli-Sforza”, Unit of Bologna, Italy

EDUCATIONAL QUALIFICATION

Biologist

WORK EXPERIENCE

June 2009 - Present

Head of Digital Microscopy Center

Istituto Ortopedico Rizzoli, via di Barbiano 1/10, 40136 - Bologna

- Setting, maintenance and development of the present optical technology
- On-site training and assistance to biomedical researcher
- Organization of advanced courses

Facility Manager

March 2014 - Present

Coordinator of School of Microscopy (edition 1-4)

www.scuoladimicroscopia.it

- Organization
- Coordination between the speakers
- Speaker

Scientific Divulgation

2013

Qualified expert in the field of super resolution for the projec PON 3

Istituto Ortopedico Rizzoli, via di Barbiano 1/10, 40136 - Bologna

- Innovative technological platform
- Tissue engineering
- Strategic program

Scientific Advice

April 2009 - Sptember 2009

Scientific advisor for optical imaging (Unit NBT)

Italian Institute of Technology, Genoa

- Optical path configuration protocols and functionalization of TIRF microscopy
- Calcium imaging
- FRET

Scientific Advice

EDUCATIONAL AND TRAINING

- November 1995 - June 1996 **Post-Doc (CNR-NATO fellow)**
 Department of Biochemistry and Molecular Biology School of Medicine - Indianapolis (USA)
- May 1991 **Professional Qualification for Biologist**
 University of Bologna
- 13 March 1990 **Degree in Biological Science**
 University of Bologna
 ▪ 110 / 110 cum laude

PERSONAL SKILLS

Mother Tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Inglese	C1	C1	C1	C1	C1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user
 Common European Framework of Reference for Languages

Communication skills ▪ I have good communication skills acquired during my experience as head of ECM courses (Continuing Medical Education), courses for doctorates and students of the Summer Schools of the Golinelli Foundation

Organizational / managerial skills ▪ leadership
 ▪ I have good organizational and managerial skills acquired during my experience as Coordinator of the School of Microscopy

Professional skills ▪ Molecular mechanism of neurotrophins in synaptic plasticity and neurodegeneration
 ▪ Development of nanotechnology systems for the detection of endocytosis and exocytosis
 ▪ Neurodegenerative diseases: SCA3, Progressive Myoclonic Epilepsy, prion diseases
 ▪ Immunofluorescence
 ▪ Optical and confocal laser scanning microscopy
 ▪ Image processing, image analysis and colocalization techniques
 ▪ Nanotechnology of quantum dots and single molecule detection
 ▪ Live cell imaging
 ▪ Super-Resolution microscopy (STORM, SIM, TIRF)
 ▪ Clarification and fluid-dynamic techniques on spheroids and organoids
 ▪ Light Sheet microscopy and deep imaging techniques
 ▪ Transmission electron microscopy

Digital skills

SELF EVALUATION				
Information processing	Communication	Content creation	Safety	Problem solving
proficient	proficient	Independent	Independent	Independent

Levels: Basic user - Independent user - Proficient user
 Digital competences – Self-assessment grid

Sostituire con il nome dei certificati TIC

- Good command of software for image analysis generated by digital cameras
- Good command of software for 3D rendering
- Good command of software for image processing

Other skills

- Certificate BLS in First Aid

Driving licence

B

ADDITIONAL INFORMATION

Collaborations

University of Bologna, Italy
 University of Urbino, Italy
 University of Trento, Italy
 University of Modena and Reggio Emilia, Italy
 Istituto Scientifico Romagnolo per lo Studio e la Cura dei Tumori (Meldola, Italy)
 Istituto Ortopedico Rizzoli (Bologna, Italy)
 Department of Medicine, Memorial Sloan Kettering Cancer Center (New York, US)
 Scuola Normale Superiore (Pisa, Italy)
 Max Planck Institut fur Molekulare Genetik, (Berlin, Germany)
 Italian Institute of Technology, (Genoa, Italy)
 European Brain Research Institute Rita-Levi Montalcini (Rome, Italy)

Grants

2015: My First AIRC Grant - MFAG 2015. Collaborator. 175.000 €.
 2014: Conto capitale 2013 – Ministry of Health. Principal Investigator. 300.000 €.
 2010: Fondazione del Monte. Principal Investigator. 20.000 €.
 2007: PRIN. Member of the Unit of Prof. M.Canossa (University of Bologna), coordinated by Prof. A.Cattaneo
 2006: PRIN. Member of the Unit of Prof. M.Melli (University of Bologna), coordinated by Prof. G.Tocco. 47.000 €.
 2005: PRIN. Member of the Unit of Prof. M.Canossa (University of Bologna), coordinated by Prof. A.Cattaneo. 64.000 €.
 2003: Telethon Project GGP030248A. Responsible del 1° Center., coordinated by Prof. M.Melli. 155.500 €.
 2001: ASI IR143/01. Collaborator of the project . 40.000 €.
 1998: Telethon Project E711, Responsible 1° Center, coordinated by Prof. M.Melli. 196.000.000 lire.

- Teaching**
- 2018-2019: Summer School "Vedere per Credere", Fondazione Golinelli, Bologna.
- 2013: Staff training for the project PON 3 "Piattaforma Tecnologica Innovativa, Ingegneria Tissutale: Programma Rafforzamento Tissutale", Istituto Ortopedico Rizzoli, Bologna "Formazione di personale altamente qualificato nell'impiego e nella valorizzazione di infrastrutture e attrezzature di ricerca nel settore della teranostica e della medicina personalizzata".
- 2000 - 2011: 8-hour of practical exercises for the course : "Metodi fisici della biologia" held by Prof. Ferdinando Bersani, for Physics Degree - University of Bologna.
- 2009: 6-hour of laboratory exercises "Hands-On-Experiments" in the context of Workshop: "Principles of fluorescence techniques – Fluorescence Foundation". 29/6/2009 - 2/7/2009. Italian Institute of Technology, Genoa.
- 2008: "Analisi dell'immagine in microscopia Ottica" 10/12/2008. ECM course of the Ministry of Health. Istituto Ortopedico Rizzoli, Bologna.
- 2007: "Microscopia confocale spettrale in biologia" 05/10/07. XIII Scuola Nazionale di Scienza dei Materiali. Bressanone.
- 2005: "Corso di Aggiornamento in Microscopia Confocale" 16-17/12/2005. Associazione Nazionale Biotecnologi Italiani, Bologna.
- 2002 - 2003: "Confocal Microscopy" for the PhD from the University of Padua.
- 2004: Theoretical course of Optical and Electronic Microscopy of 18 hours at Istituto per la Sintesi Organica e la Fotoreattività (ISOF) CNR of Bologna diretto.
- 2003: Theoretical-practical course entitled: "Microscopia ottica, a fluorescenza e confocale" ECM course - Ministry of Health, held in three editions, of 20 hours, at Istituti Ortopedici Rizzoli di Bologna.
- 2002: Theoretical-practical 30-hour course entitled : "Image Processing" per la formazione del personale CNR IV-X livello, 13-17 April 2002.
- 2001: Supervisor of the Degree Thesis in Biological Sciences of the University of Bologna by Simona Pianetti, entitled : "Localizzazione nucleare della Cistatina B, una molecola coinvolta nell'Epilessia Mioclonica (EPM1)".
- 2001: Theoretical-practical 40-hour course entitled : "Microscopia ottica e confocale" for the training of CNR IV-X level personnel, 9-23 January 2001.
- 1999: Practical course entitled: "Apoptosi in ematologia" per la Scuola Superiore di Oncologia e Scienze Biomediche, 22-23 January 1999.
- 1994 - 1995: Practical course entitled: "Tecniche immunologiche applicate alla microscopia elettronica e confocale" for the "Scuola Superiore di Oncologia e Scienze Biomediche", 12-16 december 1994 and 16-20 January 1995.
- 1994: Practical course entitled: "Anticorpi Monoclonali IV corso" for the "Scuola Superiore di Oncologia e Scienze Biomediche", 21-25 November 1994.
- 1992: Practical course entitled: "Anticorpi Monoclonali '92 – Produzione ed impieghi in vitro e in vivo" for the "Scuola Superiore di Oncologia e Scienze Biomediche", 30 November 1992 / 4 December 1992.
- 1994 - 1995: Corse entitled : "Tecniche di indagine citologica ed ultrastrutturale" for the "Scuola Tecnici Laboratorio Biomedico del Servizio Sanitario Nazionale Regione Emilia-Romagna", 1994-95.
- 1993 - 1994: Corse entitled: "Tecniche di fitopatologia e patologia ultrastrutturale" for the "Scuola Tecnici Laboratorio Biomedico del Servizio Sanitario Nazionale Regione Emilia-Romagna", 1993-94.
- Seminars**
- 2019: "Strategie per Deep Imaging a confronto". School of Microscopy 4° Ed. IRST of Meldola.
- 2017: "Microscopia TIRF". School of Microscopy 3° Ed. Istituto Ortopedico Rizzoli of Bologna.
- 2015: "Colocalizzazione". School of Microscopy 2° Ed. TIGEM, Pozzuoli (NA).
- 2013-2015: "Impiego della microscopia per lo studio delle molecole recettoriali e l'integrazione ligando-recettore" Scuola di Farmacia; Biotecnologie e Scienze Motorie, University of Bologna (Unit

of Imola).

2014: "Colocalizzazione". School of Microscopy 1° Ed. Istituto Ortopedico Rizzoli of Bologna

2014: "Bio-Imaging: from resolution to super-resolution". Facoltà di Farmacologia University of Bologna (Unit of Imola).

2013: Staff training for Project PON 3 "Piattaforma Tecnologica Innovativa, Ingegneria Tissutale: Programma Rafforzamento Tissutale", Istituto Ortopedico Rizzoli, Bologna "Formazione di personale altamente qualificato nell'impiego e nella valorizzazione di infrastrutture e attrezzature di ricerca nel settore della teranostica e della medicina personalizzata"

2013: "Le 5 dimensioni della microscopia". Università Politecnica delle Marche (Dipartimento di Scienze Cliniche e Molecolari)

2011: "Bio-Imaging: from resolution to super-resolution". Facoltà di Ingegneria University of Bologna (Unit of Cesena).

2010: "Quantitative fluorescence microscopy". TREAT-NMD WP 8.2 meeting on exon skipping. Focus on dystrophin quantification. Oxford UK.

2009: "TIRF microscopy" nell'ambito del Workshop: "Principles of fluorescence techniques - Fluorescence Foundation". Italian Institute of Technology, Genova.

2009: "Meccanismi molecolari della neurogenesi dell'adulto" CNR-IGM of Pavia.

2000 – 2011: "Metodi fisici della biologia" for Physics Degree (University of Bologna).

2008: "Analisi dell'immagine in microscopia Ottica". Course ECM. Istituto Ortopedico Rizzoli, Bologna.

2007: "Sviluppo di sistemi di microscopia TIRF per lo studio della neurosecrezione". ISOF-CNR Area della Ricerca di Bologna

2007: "Measurement and Analysis of Fluorescence Imaging in Neuroscience". NanoMetrology 2007 - Metrologia per le Nanotecnologie. Torino

2006: "Imaging ottico in neurobiologia". CNR - Area della Ricerca di Bologna

2006: "Bio-Imaging: da Euclide al Caos". Facoltà di Ingegneria University of Bologna (Unit of Cesena)

2002 – 2011: "Fotochimica della fluorescenza" III, IV, V, VI, VII, VIII, IX e X Seminar Leica Microsystem. Microscopia Confocale e sue applicazioni.

2003: "Confocal Immunofluorescence Analysis of a Multiprotein Complex with Cystatin B in the Developing Rat Cerebellum" 25th International Epilepsy Congress, Lisbon, Portugal

2003: "Colocalization Analysis of the Prion Protein and Caveolin-1 in Confocal Microscopy" Workshop: "Cell surface: from molecules to shape" University of Urbino.

2003: "Microscopia ottica, a fluorescenza e confocale" Theoretical and practical courses of 60 hrs. Istituti Ortopedici Rizzoli of Bologna.

2002 – 2003: "Confocal Microscopy" for the Doctoral Degree (University of Padova)

2002: "Studio delle malattie neurodegenerative tramite Microscopia Confocale a Scansione Laser" Research Area of Bologna, CNR.

2001: "La microscopia confocale nello studio delle malattie neurodegenerative" INRCA of Ancona (corse Bio-Rad).

2000: "Analisi confocale della distribuzione subcellulare della proteina ATAXIN-3; una molecola coinvolta nella malattia di Machado-Joseph (SCA3) Istituto Tumori - Milano.

1994: "Nuclear Matrix: Structure and Functions" and "Confocal Microscopy: Principles and Application" Max-Planck-Institut für Molekulare Genetik of Berlino, Germany.

1994 – 1995: "Tecniche immunologiche applicate alla microscopia elettronica e confocale" Theoretical and practical course for the Scuola Superiore di Oncologia e Scienze Biomediche.

1994: "Anticorpi Monoclonali IV corso" Theoretical and practical course for the Scuola Superiore di Oncologia e Scienze Biomediche.

1993: "Applicazioni e problematiche nello studio di campioni biologici per la microscopia confocale" (course Microrama).

1992: "Combination of Image Analysis to Confocal Laser Scanning Microscope" University of Perugia (course COMETT).

1992: "Anticorpi Monoclonali '92 - Produzione ed impieghi in vitro e in vivo" Theoretical and practical course for the Scuola Superiore di Oncologia e Scienze Biomediche.

Tutoring 2015: Supervisor of the master thesis in Biological Sciences of the University of Bologna by Serena Starita.

2010 – 2011: Supervisor of the master thesis in Biological Sciences of the University of Bologna by Maria Pompa.

2003 - 2006: Tutor for a 36 months Telethon fellowship (project GGP030248A) Dr. Maja Dembic. 3 November 2003 – 2 November 2004.

2001: Supervisor of the Degree Thesis in Biological Sciences of the University of Bologna by Simona Pianetti, entitled: "Localizzazione nucleare della Cistatina B, una molecola coinvolta nell'Epilessia Mioclonica (EPM1)".

1998 - 1999: Tutor for a 12-month Telethon fellowship (project E711) Dr. Maria Antonella Tasca. 16 October 1998 – 15 October 1999.

Publications **115 Peer-reviewed articles - 45 Abstract - 13 Book chapters - 4.318 citations – h-index: 38 (SCOPUS)**

orcid.org/0000-0001-9856-7053

Awards 2010: Zeiss Award for the best application in LightSheet microscopy

2006: Leica Microsystem Srl for the best scientific report

2005: Nikon Instruments Spa Award for "Development and applications of TIRF microscopy with dual simultaneous detection channel"