


## PERSONAL INFORMATION Roberto Li Voti – Curriculum Vitae

 Sapienza Università di Roma  
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Enterprise	University	EPR
<input type="checkbox"/> Management Level	<input checked="" type="checkbox"/> Full professor	<input type="checkbox"/> Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
<input type="checkbox"/> Mid-Management Level	<input type="checkbox"/> Associate Professor	<input type="checkbox"/> Level III Researcher and Technologist
<input type="checkbox"/> Employee / worker level	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

## WORK EXPERIENCE

- From March 2022 to today Sapienza Università di Roma – Department SBAI  
**Full Professor** - Experimental Physics of Matter and Applications - GSD 02/PHYS-03
- From 2016 to March 2022 Sapienza Università di Roma – Department SBAI  
**Associate Professor** - Experimental Physics of Matter - SC 02/B1 – SSD FIS/01
- From 2001 to 2016 Sapienza Università di Roma – Department SBAI  
**Researcher** - Experimental Physics of Matter - SC 02/B1 – SSD FIS/01

## TEACHING EXPERIENCE

Teaching experience of 25 years at Sapienza Università di Roma in Physics.  
2003 – today - Physics Course for Management Engineering – 12 CFU  
2019 – today - Industrial Applications of photothermal and photoacoustic techniques – 3 CFU  
2020 – today - Thermal Radiation and IR Signature - Master "Optics and Quantum Information"-3CFU  
2013 – 2024 – Applied Physics at Medicine Faculty – 3 CFU  
2001 - 2002 - Physics Course for Information Engineering  
1999 - 2001 - Physics Course for Mechanical Engineering

## RESEARCH EXPERIENCE

Research themes are in the field of Optics, Nanophotonics, Nanophononics, Nanoplasmonics, Photoacoustic and Photothermal Science. Head of the photoacoustic and photothermal Lab at Department SBAI - Sapienza Università di Roma since 2005. Thirty-year research skills in photothermal deflection spectroscopy, photoacoustic spectroscopy, photothermal radiometry and infrared thermography. These techniques have been developed and applied to nondestructive testing of materials allowing to measure locally thermophysical properties.

**Keywords:** Optics, Quantum Optics, Photoacoustic and Photothermal Spectroscopy for NDE & NDT of metamaterials/nanomaterials.

## EDUCATION AND TRAINING

- from 2000 to 2001 Post-doc fellowship at Sapienza Università di Roma
- from 1997 to 1998 Post-doc fellowship by National Institute for the Physics of Matter (INFM) n°79 - A1.
- from 1996 to 1997 Post-doc fellowship by National Institute for the Physics of Matter (INFM) n°31-Sec.A
- From 1994 Specialty in Telecommunication by Ministero delle Poste e Telecomunicazioni
- from 1992 to 1996 Ph.D. Degree in Electromagnetism and Electrophysical Science at Sapienza Università di Roma EQF level 8
- Since 1992 Master Degree in Electronic Engineering magna cum laude at Sapienza Università di Roma EQF level 7

## PERSONAL SKILLS AND COMPETENCES

Mother tongue(s) Italian  
Other language(s) English (fluent)

## SCIENTIFIC SKILLS AND COMPETENCES

Author of more than 200 publications (more than 176 published papers on indexed Scientific Journals).  
National/International Conferences/Workshops: more than 40 Invited Lectures. more than 100 Oral presentations.  
Supervisor/co-supervisor of more than 50 University theses, and more than 10 Doctoral theses, both in Italian and foreign universities.  
Evaluator of Italian and foreign (Spain, France, Slovenia, Croatia, Thailand) PhD theses.  
Evaluator of Italian and foreign Research Projects

## RELEVANT ROLES

Head of Department (Basic and Applied Sciences for Engineering – SBAI) - Since May 2023  
Director of the Master in “Optics and Quantum Information” (Sapienza) - Since 2023  
Director of the Advanced Training Courses in “Foundation of Optics and Quantum Engineering” (Sapienza) – Since 2024  
Board of Directors of the International Photoacoustic and Photothermal Association (IPPA) since 2023  
Specially appointed Professor at Tokyo Institute of Technology, Japan (2020 and 2021)  
Officer of the Japan Society for Promotion of Science - Alumni Italy Association since 2024  
Accademia Angelico Costantiniana - Delegate for Science since 2015

## SAPIENZA COMMITTEE

Member of the Steering Committee of the Sapienza Centre “Hydro-Eco” - since 2024  
Member of Commissione Didattica di Ateneo since 2023  
Member of the Scientific Board of PhD in *Engineering and Applied Science for Energy and Industry* From 2016 – to 2025  
Member of the Scientific Board of PhD in *Mathematical Models for Engineering, Electromagnetics and Nanosciences* From 2025

## NATIONAL/INTERNATIONAL COMMITTEE

Member of the Committee for the Scientific National Habitation ASN for SC 02/B1 (2023/2025)  
Member of the International Scientific Committee of the Excellence Centre ENSEMBLE3 funded by EU – since 2019  
Member of the International Scientific Committee of the ICPPP since 2011

## MEMBERSHIP

Member of the European Physical Society (EPS)  
Member of the European Optical Society (EOS)  
Member of the Società Italiana di Ottica e Fotonica (SIOF)  
Member of the Defence Software Engineering Association

## MAIN RESEARCH PROJECTS PI / Co-PI / RESEARCH UNIT LAST 5 YEARS

Sapienza Research Unit project “STEALTH” funded by CEPOLISPE - From 2024 - today  
Co-PI PNRR project PE04- SPOKE 4 “National Quantum Science and Technology Institute- NQSTI” - From Dec 2022 - today  
Sapienza Research Unit - HORIZON 2020 “Ensamble3 - Centre of Excellence for nanophotonics, advanced materials and novel crystal growth-based technologies” (857543) – (2019 – 2026)  
Sapienza Research Unit project PNRM “METEORE” funded by Ministry of Defence - “Phase Change Metamaterials for secure satellite telecommunications” – From 2019 - today

Scientific Responsible of the research project PNRM "SCHERMA", Design, production and characterization of new materials for the manipulation of the emissivity" (2017-2021).

PI of the industrial research project "Development of radiometric techniques to measure the effective depth of cementation of steel" with Bifrangi SpA and MDM Metrosoft (2017 – 2020)

Task leader WP5 of PNRR project "AGRITECH" CN2-Spoke 9 - From 2022 - today

Coordinator of several Sapienza University research projects

Responsible for several executive protocols with foreign Institutes. Responsible for hosting several visiting professors (USA, Japan, China, Thailand, etc)

#### ADDITIONAL RELEVANT INFORMATION

CHAIR of INTERNATIONAL CONFERENCES	<ul style="list-style-type: none"><li>• 2023 - 2021 - 2018 - 2016 – 2014 - 2012 - 2010 Director of 7 editions of the <i>International Workshop on Photoacoustic and Photothermal techniques - International School of Quantum Electronics</i> at the Ettore Majorana Foundation and Centre for Scientific Culture (EMFCSC), Erice, Sicily.</li><li>• Co-Chair of International Summer School on Photoacoustic and Photothermal Technologies for NDT of materials (2021)</li><li>• Organizer and Co-Chair of Joint Symposium VI " NANOPHOXONICS AND NANOSCALE HEAT TRANSFER" at CLEO®/Europe – EQEC 2023 - Munich Germany: from 26.06.2023 to 30.06.2023</li><li>• Organizer and Co-Chair of Joint Symposium I "NANOPHONONICS" at CLEO®/Europe – EQEC 2021 - Munich Germany : from 21.06.2021 to 25.06.2021</li><li>• Organizer and Co-Chair of Joint Symposium IV "NANOSCALE HEAT PROCESSES" at CLEO®/Europe – EQEC 2019 - Munich Germany : from 21.06.2019 to 26.06.2019</li><li>• 2018 - 2015 – 2012 – 2009 -2006 -2003. Organization of the Session "Inverse Problems and NDE" in 6 editions of the <i>Symposia on Thermophysical Properties</i>, at Boulder Colorado NIST.</li></ul>
EDITORIAL ROLES AND RESPONSIBILITIES	<p>Since 2018 to 2023 Associate Editor of <i>International Journal of Thermophysics</i></p> <p>Since 2020 Editorial Board Member of several scientific journals (i.e. <i>Coatings</i>, <i>Nanomaterials</i>, etc)</p> <p>Since 2019: Expert and Scientific Monitor of the European Commission</p>
AWARDS	<p>2018 SPECIAL PRIZE "STARTUP INITIATIVE" of the INTESA SAN PAOLO INNOVATION CENTER group during the START CUP LAZIO 2018.</p> <p>2019 SPECIAL PRIZE LAZIO INNOVA - IV COMPETITION JOIN FOR THE COMPANY.</p>
PATENTS	Patent n.102021000007148
STARTUP	Founder of the Startup: New Thermal & Optical noninvasive Technologies X Testing S.R.L. – NEWTON TXT. The purpose is the development of products with high technological value based on optical and infrared technologies, and on photothermal and photoacoustic methods useful for the quality control of materials. (2019-2024)

10 MOST RELEVANT  
PUBLICATIONS  
of the last 10 years

**Total number of publications in peer-review journals : 176 on Scopus - H index : 30 (Scopus)**

1. Yao, C.; Leahu, G.; Holicky, M.; Liu, S.; Fenech-Salemo, B.; Lai, May Ching; Larciprete, M.C.; Ducati, C.; Divitini, G.; **Li Voti, R.**; Sibilia, C.; Torrisi, F. Thermally Conductive Hexagonal Boron Nitride/Polymer Composites for Efficient Heat Transport, *Advanced Functional Materials* (2024).  
<https://doi.org/10.1002/adfm.202405235>
2. **Li Voti R.**; Agharahimli K.; Misano M.; Larciprete M.C.; Leahu G.; Bovino F.A.; Sibilia C.; Cesca T.; Mattei G.; Lupo F.V.; Macaluso R. Optothermal characterization of vanadium dioxide films by Infrared Thermography, *International Journal of Thermal Sciences* **197**, 108832 (2024).
3. Petronijevic E.; Cesca, T.; Scian, C.; Mattei, G.; **Li Voti, R.**; Sibilia, C.; Belardini, A, Extrinsic chirality tailors Stokes parameters in simple asymmetric metasurfaces, *Nanoscale* **16**, 16477 (2024).
4. E. Petronijevic, M. Tomczyk, A. Belardini, P. Osewski, P. Piotrowski, M. Centini, G. Leahu, **R. Li Voti**, D.Pawlak, C. Sibilia, M. Larciprete, Surprising Eutectics: Enhanced Properties of ZnO-ZnWO<sub>4</sub> from Visible to MIR, *Advanced Materials*, **35**, 2206005 (2023).
5. **Roberto Li Voti**, Mario Bertolotti, Thermal waves emitted by moving sources and the Doppler effect, *International Journal of Heat and Mass Transfer*, **176**, 121098 (2021).
6. **Li Voti R.** Leahu G. Sibilia C., Matassa R., Familiari G., Cerra S., Salamone T.A., Fratoddi I., Photoacoustics for listening to metal nanoparticle super-aggregates, *Nanoscale Advances* **3**, 4692 - 470121 (2021).
7. Cesca, T., Scian, C., Petronijevic, E., Leahu, G., **Li Voti, R.**, Cesarini, G., Macaluso, R., Mosca, M., Sibilia, C., Mattei, G., Correlation between in situ structural and optical characterization of the semiconductor-to-metal phase transition of VO<sub>2</sub> thin films on sapphire, *Nanoscale* **12**, 851-863 (2020).
8. Osewski, P., Belardini, A., Centini, M., Valagiannopoulos, C., Leahu, G., **Li Voti, R.**, Tomczyk, M., Alù, A., Pawlak, D.A., Sibilia, C., *Advanced Optical Materials*, **8**, 1901617 (2020).
9. Belardini, A., Centini, M., Leahu, G., Hooper, D.C., **Li Voti, R.**, Fazio, E., Haus, J.W., Sarangan, A., Valev, V.K., Sibilia, C. Chiral light intrinsically couples to extrinsic/pseudo-chiral metasurfaces made of tilted gold nanowires, *Scientific Reports*, **6**, 31796 (2016).
10. Osamu Matsuda, Maria Cristina Larciprete, **Roberto Li Voti**, and Oliver Wright, Fundamentals of picosecond laser ultrasonics, *Ultrasonics*, **56**, 3-20 (2015).

**Il sottoscritto, consapevole che – ai sensi dell’articolo 76 del D.P.R. n. 445/2000 – le dichiarazioni mendaci, la falsità negli atti e l’uso di atti falsi sono puniti ai sensi del Codice penale e delle leggi speciali, dichiara che le informazioni rispondono a verità.**

**Il sottoscritto, in merito al trattamento dei dati personali, esprime il proprio consenso al trattamento degli stessi per le finalità e con le modalità di cui al decreto legislativo 30 giugno 2003, n. 196, come modificato dal decreto legislativo 10 agosto 2018, n. 101, recante Disposizioni per l'adeguamento della normativa nazionale alle disposizioni del Regolamento (UE) 2016/679 del Parlamento europeo e del Consiglio, del 27 aprile 2016, relativo alla protezione delle persone fisiche con riguardo al trattamento dei dati personali, nonché alla libera circolazione di tali dati e che abroga la direttiva 95/46/CE (Regolamento Generale sulla Protezione dei dati).**

Rome, December 23<sup>rd</sup>, 2024

Roberto LI VOTI