

## Curriculum Vitae – Laura Farina

### PERSONALIA

Name	<b>Laura Farina</b>
------	---------------------

### RESEARCH INTERESTS

<p>My main research interests are electromagnetism applied to medicine, with particular attention to the microwave ablation. I have an academic background in clinical and biomedical engineering. My current PhD research activity is focused on the experimental and numerical characterization of the electromagnetic, thermal and physical changes undergone by tissues treated with microwave ablation procedures. During my doctoral studies, I collaborated with engineers, physicists, biologists and physicians, in different laboratories working individually and in team.</p>
---

### RESEARCH EXPERIENCE

Nov 2013 – Feb 2017	<p><u>PhD student</u> in Information and Communications Technologies (ICT), Electromagnetism Curriculum Department of Information Engineering, Electronics and Telecommunications Sapienza University of Rome, Rome, Italy</p> <p>PhD dissertation Title: <i>Characterization of the physical and structural changes undergone by a biological tissue during microwave thermal ablation procedures</i> Supervisor: Prof. Ing. Marta Cavagnaro, PhD</p>
Nov 2012 – Dec 2016	<p><u>Visiting scholar</u> Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA), Rome, Italy</p> <p>Extensive experimental work conducted within the Laboratory of Bioelectromagnetism of the Division of Technologies for Human Health</p>
May 2015 – Oct 2015	<p><u>Visiting scholar</u> Hadassah Hebrew University Medical Centre, Jerusalem, Israel</p> <p>Extensive <i>ex vivo</i> experimental work conducted within the Applied Radiology Laboratory Technical and engineering support during clinical interventional procedures Supervisor: S. Nahum Goldberg, MD</p>
Nov 2012 – Dec 2014	<p><u>Visiting researcher</u> HS Hospital Service S.p.A., Aprilia (LT), Italy</p> <p>Extensive <i>ex vivo</i> experimental work conducted within the R&amp;D Laboratory</p>
Mar 2013– June 2013	<p><u>Volunteering researcher</u> Hadassah Hebrew University Medical Centre, Jerusalem, Israel</p> <p>Extensive <i>ex vivo</i> experimental work conducted within the Applied Radiology Laboratory</p>

### EDUCATION

Oct 2010 – July 2013	<p><u>Master of Science in Biomedical Engineering</u> (110/110) Faculty of Civil and Industrial Engineering Sapienza University of Rome, Rome, Italy</p> <p>Graduation Thesis Title: <i>Experimental characterization of tissue shrinkage during a microwave ablation procedure</i> Supervisors: Prof. Ing. Marta Cavagnaro, Prof. Dr. S.Nahum Goldberg</p>
Oct 2006 – July 2010	<p><u>Bachelor of Science in Clinical Engineering</u> (102/110) Faculty of Civil and Industrial Engineering Sapienza University of Rome, Rome, Italy</p> <p>Graduation Thesis Title: <i>Wireless remote patient monitoring systems</i> Supervisors: Prof. Ing. Francescaromana Maradei, PhD</p>
Sept 2001 – June 2006	<p><u>Scientific High School</u> (91/100) L.S.S. B. Croce, Rome, Italy</p>

## SCHOOLS, COURSES, GRANTS

May 2 – 6, 2016	School in Health Technology Assessment and Hospital Management, OPBG, Rome, Italy
April 10 – 17, 2016	Short Term Scientific Mission (STSM) Granted by COST MiMed TD 1301 Topic: <i>Characterization of dielectric properties of in vivo breast tumor model</i>
February 2 – 6, 2014	Hyperthermia & thermal ablation in cancer therapy ESHO School, Huntsham Court, UK

## SKILLS

MOTHER TONGUE	Italian
OTHER LANGUAGE	English: Excellent skills in writing, listening and reading. Good speaking level.
COMPUTER SKILLS	Daily use of Microsoft Office (Excel, Word, PowerPoint); good confidence with programming tools (Matlab), and numerical CAD (CST Microwave Studio, Comsol Multiphysics)
LABORATORY SKILLS	Good ability to interface with the laboratory facilities (VNA, power meters, power generators, temperature sensors, etc.)
PERSONAL SKILLS	Good ability to work both in team and independently, to communicate and familiarize with people, gained working in different laboratories with engineers, physicists and physicians.

## PUBLICATIONS

JOURNALS	<ul style="list-style-type: none"> <li>Lopresto V., Pinto R., <u>Farina L.</u>, Cavagnaro M., "Treatment planning in Microwave Thermal Ablation: clinical gaps and recent research advances", <i>Int. J Hyperthermia</i>, vol. 33, pp. 83-100, January 2017. DOI: 10.1080/02656736.2016.1214883.</li> <li>Amabile C., <u>Farina L.</u>, Lopresto V., Pinto R., Cassarino S., Tosoratti N., et al., "Tissue shrinkage in microwave ablation of liver: an ex-vivo predictive model", <i>Int. J Hyperthermia</i>, vol. 33, pp. 101-109, January 2017. DOI: 10.1080/02656736.2016.1208292.</li> <li>Pittella E., Nardecchia M., <u>Farina L.</u>, "Design of Microelectromagnets for Magnetic Particles Manipulation", <i>IEEE Transactions on Magnetics</i>, published online June 2016. DOI: 10.1109/TMAG.2016.2586026</li> <li><u>Farina L.</u>, Weiss N., Nissenbaum Y., Cavagnaro M., Lopresto V., Pinto R., et al., "Characterization of tissue shrinkage during microwave thermal ablation", <i>Int. J Hyperthermia</i>, vol. 30, pp. 419-428, November 2014. DOI: 10.3109/02656736.2014.957250.</li> </ul>
PROCEEDINGS & CONFERENCES	<ul style="list-style-type: none"> <li>Vannucci L., Rajsiglová I., Stakeheev D., Ceci P., Falvo E., Babic M., Kostiv U., Caja F., Krizan J., Vrba J., Vrba J. Jr, Vrba D., <u>Farina L.</u>, Lopresto V., Ruvio G., "Nanoconstructs for targeting the tumor microenvironment," 21st World Congress on Advances in Oncology (WCAO), Athens, Oct 6-8, 2016.</li> <li><u>Farina L.</u>, Cavagnaro M., "Tissue shrinkage in microwave thermal ablation," XXI Riunione Nazionale di Elettromagnetismo (RiNEM), Parma, September 12 – 14, 2016.</li> <li><u>Farina L.</u>, Lopresto V., Pinto R., D'Alessio D., Minosse S., Strigari L., et al., "CT study of the tissue shrinkage occurring during a microwave thermal ablation procedure," V Gruppo Nazionale di Bioingegneria (GNB Italian National Bioengineering Group), Napoli, June 20 – 22, 2016.</li> <li><u>Farina L.</u>, Amabile C., Lopresto V., Pinto R., Cavagnaro M., Cassarino S., et al., "An ex vivo study on the shrinkage occurring in bovine liver during microwave thermal ablation: carbonized vs coagulated tissue," Annual Meeting of BEMS and EBEA (BioEM), Ghent, June 5 – 10, 2016.</li> <li>Minosse S., D'Alessio D., Lopresto V., Pinto R., <u>Farina L.</u>, Cavagnaro M., et al., "CT-based monitoring of microwave thermal ablation", <i>Associaz. Italiana di Fisica Medica (AIFM)</i>, Perugia, February 25 – 28, 2016.</li> <li><u>Farina L.</u>, Lopresto V., Pinto R., D'Alessio D., Minosse S., Strigari L., Cavagnaro M., "The use of CT to improve the knowledge of the physical phenomena associated with microwave thermal ablation procedures", <i>International Conference on Electromagnetics in Advanced Applications (ICEAA – IEEE APWC)</i>, Torino, September 7 – 11, 2015.</li> <li>Lopresto V., Pinto R., D'Alessio D., Minosse S., Strigari L., <u>Farina L.</u>, Cavagnaro M., "CT-based characterization of ex vivo liver tissue undergoing microwave thermal ablation", 30th Annual Meeting of the European Society for Hyperthermic Oncology (ESHO), Zurich, June 24 – 27, 2015.</li> <li><u>Farina L.</u>, Amabile C., Nissenbaum Y., Cavagnaro M., Lopresto V., Pinto R. et al., "Ex vivo tissue shrinking in microwave thermal ablation", 9th European Conference on Antennas and Propagation (EuCAP), Lisbon, April 12 – 17, 2015.</li> <li><u>Farina L.</u>, Lopresto V., Pinto R., Cavagnaro M., "Dielectric and thermal properties of tissues undergoing microwave thermal ablation procedures," III Convegno Nazionale Interazione tra Campi Elettromagnetici e Biosistemi (ICEmB), Napoli, July 2 – 4, 2014.</li> <li><u>Farina L.</u>, Weiss N., Nissenbaum Y., Cavagnaro M., Lopresto V., Pinto R., et al., "Monitoring of tissue shrinkage during a microwave thermal ablation procedure," XX Riunione Nazionale di Elettromagnetismo (RiNEM), Padova, September 15 – 18, 2014.</li> <li><u>Farina L.</u>, Weiss N., Nissenbaum Y., Cavagnaro M., Lopresto V., Pinto R., et al., "Dynamic CT tracking of tissue shrinkage during microwave thermal ablation," <i>Panminerva Medica</i> vol. 56, no. 2, p. 40, 2014. ISSN 0031-0808, 29th Annual Meeting of the European Society for Hyperthermic Oncology.</li> </ul>