

Maria Laura Blefari

INDUSTRY WORK EXPERIENCE

AbbVie, Cambridge, MA

2024 – at present

Principal Research Scientist II (Ass. Director), Precision Medicine NeuroScience

- **Leading imaging and fluid biomarkers strategy and operations in clinical development**

BIOGEN DIGITAL HEALTH, Cambridge, MA

2021 – 2023

Senior Manager, Research Network Science Strategy & Operations

- **Led Technical Teams with Strategic Focus:** Strategically prioritized projects and adeptly managed software engineers, ensuring alignment with organizational goals to achieve maximum return on investment in the ever-changing business landscape.
- **Exemplified Leadership in Matrix Teams:** Demonstrated strong leadership in guiding matrix teams, skillfully prioritizing clinical projects and managing diverse, multi-disciplinary teams. Enhanced interdisciplinary communication and collaboration, fostering a holistic problem-solving approach within the dynamic context of a constantly evolving business environment.
- **Championed Data Access Initiatives:** Spearheaded the development of initiatives aimed at optimizing imaging data sharing, resulting in increased efficiency and scalability. Successfully accelerated access to data, aligning seamlessly with both business and scientific objectives both within and beyond the organization. Collaborated closely with the Data Technology & AI division to design scalable data infrastructure and processes.
- **Drove Scientific Advancements and Elevated MS Standard of Care:** Served as a Subject Matter Expert for MRI and quantitative MRI metrics, ensuring the generation of high-quality Real World Clinical Data, contributing to scientific breakthroughs, and enhancing the standard of care for Multiple Sclerosis.
- **Showcased Exemplary Project Management Proficiency:** Exhibited outstanding expertise throughout the project management lifecycle, demonstrating exceptional leadership qualities. Maximized return on investment by fostering high-performing teams, consistently ensuring timely and budget-compliant project completion, and upholding a standard of excellence in every phase of project execution.

BIOGEN, Cambridge, MA

2018 – 2021

Imaging Scientist, Real World Research Network

- **Ensured Seamless Imaging Data Management Quality Assurance and Compliance:** Oversaw daily imaging operations, troubleshooting data flows from Health Care Institutions, collaborating with experts to resolve issues. Accountable for MRI and QA/QC processes, ensuring data accuracy and reliability.
- **Achieved Seamless MRI Quantitative Software Deployment in Clinical Care:** Orchestrated a diverse, distributed team comprising Hospital IT professionals, clinicians, imaging vendors, software engineers, and scientists by fostering collaboration and synergy among varied expertise.
- **Drove Key Aspects of MRI Quantitative Software Deployment:** Played a pivotal role in shaping the go-to-market decision by ensuring operational excellence in the clinical validation of MRI quantitative software. Led efforts to drive efficiency and effectiveness, demonstrating strategic foresight and managerial acumen.

- **Optimized Operations through Continuous Improvement Strategies:** Developed and implemented Standard Operating Procedures (SOPs) in collaboration with key partners, ensuring streamlined processes and efficient operations. Established a culture of continuous improvement, leading to the evolution of SOPs and strategic enhancements.
- **Managed Comprehensive Imaging-Related Processes:** Held responsibility for overseeing communications, setup, training, documentation, and reporting of all imaging-related aspects of Real World Data projects. Demonstrated meticulous attention to detail and organizational expertise in managing diverse operational components.
- **Ensured Data Integrity through Rigorous MRI Validation:** Led MRI-related validation processes with accountability, facilitating seamless data sharing among stakeholders. Implemented rigorous validation methods, ensuring the accuracy and reliability of MRI data.

WORLD CARE CLINICAL, LLC, Boston, MA

2016 – 2017

Consultant

- **Contributed to the acceleration of research outcomes through Specialized Expertise:** Provided specialized guidance on fMRI analysis at the 3T MRI of the Martinos Center, expediting data collection and interpretation. Facilitated efficient research processes, ensuring timely results in a pilot project.
- **Demonstrated Thought Leadership and Expertise through Webinar Presentation:** Co-presented a webinar titled "*Functional Brain Imaging Using MRI: An Emerging Tool for Drug Development and Clinical Trials*" ([link](#)). Contributed to knowledge dissemination, demonstrating thought leadership and communication skills in a consultant capacity.

ACADEMIA WORK EXPERIENCE

EPFL, Center for Neuroprosthetics, Switzerland

2012 – 2015

Postdoctoral Researcher (50% employment) Defitech Chair in Brain-Machine interface

- **Expanded Research Capabilities through Advanced EEG-fMRI Setup:** Successfully established a simultaneous EEG-fMRI setup at the 3T MRI facilities of Lausanne University Hospital and Geneva Campus Biotech. This technological advancement significantly broadened the lab's research scope, enabling in-depth exploration and analysis in the field of Brain-Machine Interface studies.
- **Distinguished Leadership through Student Mentorship:** Demonstrated leadership by coaching and

mentoring two PhD and Master students, actively contributing to their growth and success in their respective careers. Guided their research efforts and provided valuable insights, fostering a collaborative and nurturing academic environment.

- **Innovated fMRI Analysis Techniques:** Devised novel fMRI analysis which revealed features underlying proficiency in EEG-based Brain-Machine Interface and how those features can be shaped to enhance decoding/control.

EPFL, Center for Neuroprosthetics, Laboratory of Cognitive Neuroscience, Switzerland

2012 – 2015

Postdoctoral Researcher (50% employment)

- **Pioneered Real-time fMRI Neurofeedback at Cutting-edge Facility:** Initiated and led the implementation of real-time fMRI neurofeedback techniques at 7T MRI scanner. This pioneering effort represented a significant advancement in the field, enabling real-time analysis and feedback during imaging sessions, contributing to nuanced understanding and enhanced research methodologies.
- **Led Innovative 7T MRI Research:** Designed and led multifaceted experimental protocols using the 7T MRI scanner to explore interoceptive and exteroceptive stimuli's impact on bodily self-consciousness. Delved into participants' subjective experiences, providing valuable insights into human perception and consciousness complexity.
- **Contributed to Research for Prosthetic Limb Research:** Developed and executed experimental protocols with a focus on characterizing the primary motor cortex in transtibial amputees. Utilized advanced fMRI measurements and group-level analysis techniques, contributing pivotal data for prosthetic limb technology and rehabilitation. Demonstrated the synergy between neuroscience advancements and practical healthcare applications.

ETH ZURICH, Zurich, Switzerland

2010 – 2012

Research Assistant, Rehabilitation Engineering Laboratory

- **Championed Real-time fMRI Neurofeedback Studies and Fundamental Brain Mechanisms for Stroke Rehabilitation:** Led groundbreaking research on real-time fMRI neurofeedback, deepening the understanding of brain mechanisms in motor control. Investigated fundamental brain processes driving motor behavior changes, laying the groundwork for innovative stroke rehabilitation strategies, and shaping the lab's future research direction.

SCUOLA SUPERIORE, Sant' Anna di Pisa, Italy

2008 – 2011

Researcher Assistant

- **Advanced Brain-Computer Interface (BCI) Technology:** Developed a specialized BCI2000 module, streamlining the software's functionality for enhanced utility in brain-computer interface research. This instrumental module facilitated diverse BCI experiments.
- **Designed and Executed EEG-based Robotic Hand Control Experiments:** Designed, explored, and interpreted experiments controlling robotic hands through EEG-based Brain Machine Interface. The results significantly contributed to neurotechnology advancements. Played a vital role in the research team, enhancing the understanding of cutting-edge applications.

CERTIFICATION

- Project Management Professionals (on the way to becoming certified from the Project Management Institution)
- Business Acumen (LinkedIn certificate)
- Creating a Program Strategy (LinkedIn certificate)

EDUCATION

Ph.D., with honors in Biorobotics, Scuola Superiore Sant'Anna di Pisa, Italy, 2011

M.Sc., in Biomedical Engineering, Campus Bio-medico University di Roma, Italy, 2008

B.S., in Biomedical Engineering, Campus Bio-medico University di Roma, Italy, 2004