

Position	Computational Electromagnetics (PhD)
Workplace:	Zurich, Switzerland
Company:	ETH (Swiss Federal Institute of Technology) Zurich in collaboration with the Foundation for Research on Information Technologies in Society (IT'IS)
Description:	<p>IT'IS is an independent non-profit research organization dedicated to improving and advancing the quality of people's lives by enhancing the safety and quality of emerging electromagnetic technologies. IT'IS primary activities include computational electromagnetics (CEM) in complex environments, computational life sciences (CLS) applied to devices in and around the human body, and the development of medical image-based, high-resolution computable whole-body anatomical phantoms.</p> <p>We are seeking a PhD candidate in CEM to achieve new breakthroughs in non-invasive material characterization, magnetic resonance imaging (MRI) implant safety, bioelectromagnetics, and partial differential equation (PDE) solvers. The position involves the development of novel CEM approaches to simulate the interactions between materials, including human tissue, with EM fields.</p>
Your Main Tasks:	<p>The PhD work can include one or more of the following:</p> <ul style="list-style-type: none"> • Development of new/ optimized algorithms for specific CEM models and/ or measurement instruments/ strategies • Performance and sensitivity analyses and validation & verification of the developed models using simulated and measured data • Engagement in various other EM modeling projects at IT'IS • Development support of a novel simulation platform
Education / Profile:	<ul style="list-style-type: none"> • MSc degree in electrical engineering, numerical mathematics, physics, or related field • Interest in and basic knowledge of bioelectromagnetics, EM theory and/ or EM simulation and optimization • Experience in EM modeling with a commercially available software • Experience in programming in C++, MATLAB and/ or Python • Excellent command of English, knowledge of German a plus • Required personality traits: self-motivation, discipline, high level of commitment, and flexibility • Excellent ability to work both independently and in a team

<p>What IT'IS offers:</p>	<ul style="list-style-type: none"> • State-of-the-art research infrastructure • Outstanding talented colleagues and interdisciplinary research teams • Cooperation with leading research laboratories worldwide • Vibrant workplace in the heart of Zurich • Flexible working hours
<p>Beginning:</p>	<p>As soon as possible</p>
<p>Application Process:</p>	<p>Applications should consist of:</p> <ul style="list-style-type: none"> • Cover letter including the position title and a statement addressing the selection criteria and outlining the motivation for applying for the position • Detailed CV • Copies of degree certificates and / or diplomas, including grades • Letters of recommendation <p>We look forward to receiving your complete resume materials as a single pdf file at: jobs@z43.swiss.</p> <p>For further information or to discuss the scope of this position, please contact Dr. Arya Fallahi (afallahi@itis.swiss) (phone +41 44 245 98 33).</p>
<p>Contact address:</p>	<p>Charlotte Roberts IT'IS Foundation Zeughausstrasse 43 CH-8004 Zurich Switzerland</p>