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| Lead institution: IPEN | |
| Supervisor name: Prof Dr Fabio C. Fonseca | Supervisor department: CCCH |
| Co-supervisor: | Co-supervisor department: |
| Co-supervisor email: | |
| Recipient: TO BE APPOINTED | Type: Post-Doctorate |
| Project title: Flow channel optimization of a PEM fuel cell | |
| Research theme area: Proton exchange membrane fuel cell / Flow channel optimization / Computational fluid dynamics | |
| <p>Aims</p> <p>The aim of this post-doctoral position is to train a future leader in flow channel optimization of proton exchange membrane fuel cells, with a focus on the application of experimental and numerical methods to fuel cell flows. The position will lead development of optimized designs of proton exchange membrane fuel cells.</p> | |
| <p>Objectives</p> <p>The Research Centre for Gas Innovation (RCGI) at the University of São Paulo aims to undertake research and development into new applications of gas as well as synergies between gas and other emerging technologies. In order to fulfil these goals, fuel cells have shown great potential. However, some challenges remain that still restrict their widespread use.</p> <p>The Research Centre for Gas Innovation (RCGI) is seeking candidates for a postdoctoral position with a PDJ fellowship from CNPq expected to start in March 2017. The multi-disciplinary position will work within a team of experimental and numerical simulation researchers to perform flow channel optimization of proton exchange membrane fuel cells.</p> <p>The primary objectives and roles of the position are to;</p> <ul style="list-style-type: none"> - simulate the flow field of PEMFCs by using multiphysics numerical methods. - optimize the flow field of PEMFCs. - validate numerical simulation results by using experimental methods. - write thorough documentation with the ability to stand up to independent peer review. - publish methodologies and results in high-impact peer-reviewed journals. - present research outputs at conferences, meetings, events, and provide input to brief papers and RCGI white papers. - play a constructive role in the numerical simulation team, providing input to initiatives outside their area of research, and aiding collaboration with external organisations. <p>This project would be well-suited to a highly quantitative individual with a 1st-class degree and PhD in engineering, science or mathematics. Experience and scientific independency in the electrochemical and/or fuel cell numerical simulation areas are highly desired. Programming skills will be beneficial alongside excellent communication. The successful applicant will join a team of leading multiphysics researchers with opportunities for collaboration worldwide. This project is expected to start in March 2017.</p> | |