



# University of São Paulo

## Polytechnic School of Engineering

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### PhD Research Opportunities at EPUSP

The Fracture Mechanics and Structural Integrity Research Laboratory (NAMEF) of the Polytechnic School of Engineering at the University of São Paulo (EPUSP) has openings for 3-year PhD positions (which may be extended to an additional year) to conduct research in the areas of fracture mechanics, fatigue and computational modeling of materials starting from August/2019 or September/2019. Of particular interest are candidates willing to conduct research in advanced assessment procedures for fracture and fatigue behavior in structural materials, including fracture and fatigue testing, and computational fracture mechanics, although candidates willing to conduct research in related areas relevant to structural integrity assessment procedures will also be considered. The research conducted at the Fracture Mechanics and Structural Integrity Group (NAMEF) focuses on the multidisciplinary structural engineering aspects of fracture and fatigue in load-bearing materials with emphasis on structural integrity and defect assessment procedures for critical structural components. Current R&D programs conducted at NAMEF focus on the development of robust procedures for integrity analyses of in-service structural components for the oil and gas industry, including specifically high pressure pipelines and submarine risers in deep water offshore fields in the Brazilian pre-salt area, and cover the following topics:

- *Fatigue crack propagation of short cracks*
- *Ductile fracture and crack growth resistance behavior of pipeline girth welds*
- *Fatigue evaluation of dissimilar girth welds for lined pipes*
- *Hydrogen embrittlement cracking in high strength steel alloys and weldments*

Eligible candidates should have received their B.S. or B.E. degrees within the past 5 years in Mechanical Engineering, Metallurgical Engineering, Materials Science or related areas. Good command in spoken and written English is highly desirable. Interested candidates should submit an application with a detailed CV to

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