

# Doctoral Program in Mechanical Engineering University of Chile

The purpose of the Doctoral Program in Mechanical Engineering at the University of Chile is to educate highly qualified engineering scholars with solid scientific and technological foundations, capable of addressing complex research and applied engineering problems, and solving them independently, thus expanding the frontiers of knowledge in the field of Mechanical Engineering.

## RESEARCH AREAS

- Reliability, Maintenance and Physical Assets Management.
- Mechanical Behavior of Materials, Advanced Manufacturing and Robotics.
- Fluid Mechanics, Energy and Heat Transfer.
- Solid Mechanics.

## CORE COURSES

- Mechanical Behavior of Materials.
- Fluid Mechanics and Heat Transfer.
- Continuum Mechanics.
- Numerical Methods in Mechanical Systems.
- Thesis Project Workshop.
- Workshop on Teaching and Learning in Higher Education.

## ELECTIVE COURSES

- Aerodynamics.
- Deep Learning in Failure Diagnosis and Prognosis.
- Combustion of Gaseous Reactive Systems.
- Structural Dynamics.
- Electromechanical Devices for the Conversion and Transport of Energy.
- Digital Manufacturing.
- Computational Fluid Mechanics.
- Advanced Materials for Solid Cells in Energy Conversion.
- Advanced Methods in Computational Solid Mechanics.
- Finite Element Method in Applied Mechanics
- Experimental Methods in Fluid Dynamics
- Signal Processing and Machine Learning in Predictive Maintenance.
- Powder Metallurgy.
- Thermal Radiation.
- Advanced Topics in Elasticity.
- Wave Turbulence.

## CONTACTS

Program coordinator, Professor **Enrique López D.**

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## FACULTY

### Ali Akbari F.

Dr. University of Concepción, Chile 2013.

### Roger Bustamante

Ph.D. University of Glasgow, Scotland 2007.

### Williams Calderón M.

Ph.D. University of Notre Dame, USA 2009.

### Juan Carlos Elicer C.

Dr. University of Poitiers, France 1989.

### Claudio Falcon

PhD in Physics from the Université Paris VI Pierre et Marie Curie, France 2008.

### Rodrigo Hernández P.

Dr. in Physics ENS Lyon U. Claude Bernard, France 1999.

### Enrique López Droguett

Ph.D. University of Maryland, USA 1999.

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Dr. Catholic University of Leuven, Belgium 2010.

### Alejandro Ortiz B.

Ph.D. University of California, Davis, USA 2011.

### Rodrigo Pascual J.

Ph.D. University of Liege, Belgium 1999.

### Álvaro Valencia M.

Dr. University of the Rhur, Bochum, Germany 1992.

### Juan Cristóbal Zagal M.

Dr. University of Chile, Chile 2007.

## ADMISSION REQUIREMENTS:

Academic degree of Bachelor of Science and / or Engineering Sciences.

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