Resumé

Marco Antonio Silva Picanço

Mechanical Engineer, Dr. Eng.

Personal Information:

Living: Florianópolis, Santa Catarina, Brazil
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Professional History:

2019–now **Baker Hughes / Nexus Controls** **RJ - RJ**

Focus:

- Axial & Centrifugal Compressor Controls systems Control software development team.
    - Platform migration & Software porting

2015–now G**eneral Electric / Oil & gas / M&C** **RJ - RJ**

Senior Engineer (Controls Solution)

Focus:

- Axial & Centrifugal Compressor Controls systems Control software development team.
- Patent Filled: "SYSTEMS AND METHODS FOR OPERATING A COMPRESSION SYSTEM"
  US20180163736

2011–2015 **General Electric / Oil & gas / M&C** **RJ - RJ**

Lead Field Application Engineer (Controls Solution)

Focus:

- Gas Turbine, Steam Turbines and Axial & Centrifugal Compressor Controls systems;
- Application development, Technical solution design and end user technical clarification;
- Sales and Commercial technical support.

2009–2010 Odebrecht Plantas Industriais Triunfo -RS

Mechanical Engineer (Green Ethylene Project)

Focus:

- Responsible for Centrifugal compressors Erection (charge Gas and Propylene) Green Ethylene Project at BRASKEM
- Responsible for all Rotating Equipment erection.
- Responsible for all static process equipment erection.
- Responsible for lift and rigging support

2008–2009 Dresser-Rand Campinas -SP

Field Service Engineer

Focus:

- Onshore turbomachinery engineer and Contract Coordination at
- Petrobras UN-RIO field. (P53,P54 and P50)
    - Assisted Operation and Maintenance of the DR compression train.
    - Surge control system effectiveness evaluation using field data and Process simulation tools.
    - On-line Operation and Condition and performance monitoring using PI operational data and System One.
    - Participation at the Workgroup for Condition Based
    - Maintenance Plan for Motor Compressors P-53 [UO-RIO]
    - Spare-parts stock recommendation and resupply parameters for Motor Compressors P-53 [UO-RIO]
    - RCA analysis for unplanned outages and shutdowns. P-53 [UO-RIO]

- Technical Advisor for centrifugal compressor overhaul (FSE)
- Technical support at the long term contract on steam turbines and reciprocating compressors maintenance at Petrobrás Refinery Duque de Caxias (REDUC).
- Maintenance Planning And Maintenance Plan Effectiveness analysis Asset reliability and availability analysis.

2007–2008 SCGAS–Comp. de Gas de Santa Catarina Florianópolis-SC

Operations and Maintenance Senior Engineer (1st place on public exam)

- Development of flow meters Calibration and maintenance plan.
- Flow Measurement Stations reliability analysis using MontCarlo methods.
- Reliability Center Plan for flow measurement stations

2004-2006 UNERJ – Centro Univ. de Jaraguá do Sul Jaraguá do Sul, SC
Professor

- Teaching Classes:
  - Fluid Dynamics 1 and 2
  - Vibration and Acoustics
  - Turbomachinery
- Undergraduate research projects advisor:
  - Design and construction of a Micro wind turbine (150W) with axial flux generator. 2005; Ilka Bringhent- Scientific Initiation Student (Mechanical Engineering undergrad) - CatolicaSC (former UNERJ);
  - Rolling bearing failure mode analysis and diagnostic at progressive cavity pumps. 2005; Scientific Initiation Student (Mechanical Engineering undergrad) - CatolicaSC (former UNERJ);
  - Design and test Stepper motor CNC axis control board for mini router milling machine; 2005; Maico Jonas Taube; Scientific Initiation Student (Mechanical Engineering undergrad) - CatolicaSC (former UNERJ);
  - Axial and Radial blowers test rig; 2005; Waldir Quost Junior and Gilson Gaedtek Scientific Initiation Students (Mechanical Engineering undergrad) - CatolicaSC (former UNERJ);

2003 Turbotech Engenharia ltda Salvador, BA

Field Service Engineer

- Freelancer at Ultrafértil (Araucária-PR) Overhaul.

1998–2000 Copene – Petroq. do Nordeste (now BRASKEM) Camaçari, BA

Ethylene plant Turbomachinery engineer

- Quality programs TPM and TQC.
- Predictive and Preventive Maintenance programs.
- Reliability Centered Maintenance Plan for a Propylene Centrifugal Compressor and Steam Turbine.
- Teaching: Medium and low Power Steam Turbine safety and operation course.
- Contract negotiation.

- Overhauls medium and low power turbo-machinery.
- Revamp technical discussions with OEM for the ethylene, propylene and cracked gas compressors (DRESSER-RAND) and steam turbine (GE) at the Ethylene Plant II.

1995–1998 CEMAN – Central de Manutenção Camaçari, BA

Filed Service Engineer @ TURBOMEC (turbomachinery division)

- Field Engineer on a 42MW FUJI Steam Turbo Generator Overhaul at COPENE Camaçari-BA.
- ABB Steam Turbines drivers for the ethylene, propylene and cracked gas compressors overhauls at the Ethylene Plant II at COPENE.
- Combustion Chamber and Gas Path Revision on FRAME 6 EGT/GE GAS-TURBINES at COPENE.
- Field Experience on plant-wide overhauls at petrochemical, oil and gas and cement plants. Ex. Petrobrás, FAFEN (Bahia and Sergipe), CPC (Camaçari-Ba and Maceió-Al), Pronor, Usiba.
- Machinery and Plant Overhaul Planning and Scheduling using MSPROJECT and PRIMAVERA.
- Contract negotiation and price composing for field and shop services.
- Participation of Woodward Steam turbine controls courses.
- Overhauls on medium and low power turbo-machinery including centrifugal and reciprocating compressors, blowers, pumps, electrical motors.

1993–1994 CEMAN – Central de Manutenção Camaçari, BA

TurboMachinery Engineer (Internship)

- 5S quality program.
- Maintenance engineering solving critical problems on turbomachineries for several petrochemical companies ex: COPENE, Petrobrás, Pronor. CPC, FAFEN...
- Modifications on the “working hours” tracking software.

1992–1993 PROMON Engenharia Salvador, BA
TurboMachinery Engineer (Internship)

- Project Management for Petrochemical Plants Turbo machinery
- (Material Requisition,
- Purchase Invoices and Equipment Data-Sheets).
- ISO 9000 qualification process.
- Calculations of a screw compressor revamp for USIBA/GERDAL.

Educational History:

2020 MITxPRO - Machine Learning, Modeling and Simulation: Engineering Problem -solving in the age of AI – Module I and II

2017 Introduction do Machine Learn Udacity WebCourse

2016 Statistical Learning Stanford Lagunita WebCourse

2000–2006 Federal University of Santa Catarina Florianópolis, SC
Doctoral Degree Mechanical Engineer [Thermal Sciences]
Thesis: Two-phase annular flow in convective boiling at micro- finned and smooth tubes

1994–1999 Federal University of Santa Catarina Florianópolis, SC
Master's Degree Mechanical Engineer [Control of Mechanical Systems]
Thesis: Fuzzy logic control for a pneumatic servo-system.

1988–1994 Federal University of Bahia Salvador, BA
Graduated Mechanical Engineer.

General Skills Information:

- Good knowledge on Turbo and reciprocating machinery (and auxiliaries systems) design and maintenance.
- Turbomachinery design: centrifugal pumps, gas turbines, steam turbines and centrifugal compressors.
- Rotordynamics and vibration Analysis.
- Good knowledge on mechanical and process control systems.
- Good Knowledge on Steam turbine and Gas Turbine Control systems.
- Good Knowledge on centrifugal compressors anti-surge systems.
- Good knowledge of Industrial Instrumentation and Electronics
- PLC programming,
- Process modeling and simulation
- Project Management, Planning, Execution and Tracking using specific software (MS PROJECT and PRIMAVERA).
- C, C++ and Python programming.
- Data-acquisition and hardware interfacing
- Basic on Digital Signal Processing.
- MATLAB/SCILAB, HYSYS, CFX and Fluent. (Scientific Computing & Simulation)
- Machine Learning and prognostics (now studying Keras/TensorFlow on GPUs)
- English – Speak (good), Read (good), Write (good).
- Spanish – Speak (medium) Read(good)

Publications:

PICANÇO, M. A. S. ; Passos, Julio Cesar ; Bandarra Filho, Enio . Heat Transfer Coefficient Correlation for Convective Boiling Inside Plain and Microfin Tubes Using Genetic Algorithms. Heat Transfer Engineering , v. 30, p. 316-323, 2009.

PICANÇO, M. A. S. ; BORGES, A. J. W. K. . Influência da pressão em sistemas de medição de gás natural com totalizadores de volume tipo turbinas - fatores a cosiderar. In: Rio Oil & Gas Expo and Conference 2008, 2008, Rio de Janaeiro -RJ - BR. Anais do Rio Oil & Gas Expo and Conference 2008 - CDROM. Rio de Janeiro, 2008.

PICANÇO, M. A. S. ; PASSSOS, J. C. . Flow Boiling of R-141b Inside Plain and Microfin Tubes.. In: 6th International Conference on Boiling Heat Transfer, 2006, Spoleto - IT. Proceedings of the 6th ICBHT. ROME - IT: ECI - I-ICBHT, 2006.

PICANÇO, M. A. S. ; STAROSELSKY, S. ; GALEOTTI, D., Centrifugal compressor Performance and antisurge control under high pressure natural gas applications with large changes in CO2 content. 2013, 9th Petrobras Turbomachinery Forum.

Personal Projects

- Design of a micro-turboexpander for domestic and commercial refrigeration systems. (Patent Claimed)
- Multi-Hydrofoil Cascade surfboard fin (Patent Claimed)
- Low cavitation Eppler hydrofoil with pressure equalization holes and small winglets surfboard fins CFD optimization using OpenFoam
- Oceanographic buoy for directional spectral coastal wave measurement