Athanasios Chasalevris, PhD

1. Personal Information

Nationality/Passport:	Hellenic/Hellenic
Date/Place of birth:	16th February 1982/Athens, Hellas
Languages:	Hellenic, German, English
Marital Status:	Married, (1) daughter, (1) son
Employer:	NTUA – National Technical University of Athens
Address (work):	9 Heroon Polytechniou Str., 15780 Zografou-Athens, Hellas
Address (living):	1 Sarantaporou Str., 15561 Cholargos-Athens, Hellas
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	http://users.ntua.gr/chasalevris

2. Professional Experience

a. Academic Appointments

• (Sep. 2018 – today) **NTUA – National Technical University of Athens** (Athens 15780, Hellas)
Position: Assistant Professor
Faculty: School of Mechanical Engineering – Dept. of Mechanical Design & Automatic Control

• (Sep. 2012 – Aug. 2013) **TUD - Technische Universität Darmstadt** (Darmstadt 64287, Germany)
Position: Research Associate
Faculty: Institute for Dynamics of Structures, Faculty of Mechanical Engineering

• (May 2010 – Aug. 2012) **TUD - Technische Universität Darmstadt** (Darmstadt 64287, Germany)
Position: *Alexander von Humboldt* postdoctoral researcher
Faculty: Institute for Dynamics of Structures, Faculty of Mechanical Engineering

b. Appointments in Industry

• (July. 2017 – Sep. 2018) **General Electric Co. / GE Oil & Gas**[1] (Rugby CV212NH, United Kingdom)
Position: Team Leader Rotordynamics, Senior Engineer & Product Owner[2] (bearings)
Business: Industrial Power Solutions / Turbine Power Systems
Objective: R&D and Execution Engineering of Industrial Steam Turbines

• (Nov. 2015 – Jun. 2017) **General Electric Co. / GE Oil & Gas**[1] (Rugby CV212NH, United Kingdom)
Position: Senior Rotodynamic Engineer & Product Owner[2] (bearings)
Business: Industrial Power Solutions / Turbine Power Systems
Objective: R&D and Execution Engineering of Industrial Steam Turbines

• (Feb. 2015 – Oct. 2015) **ALSTOM / ALSTOM Power**[1] (Rugby CV212NH, United Kingdom)
Position: Rotodynamic & Mechanical Integrity Engineer
Business: Industrial Power Generation/ Steam
Objective: R&D and Execution Engineering of Industrial Steam Turbines

• (Sep. 2013 – Jan. 2015) **BorgWarner Inc. / BorgWarner Turbosystems Engineering GmbH**
Position: Rotodynamic Engineer (*Ingenieur Rotordynamik*) (Kirchheimbolanden, Germany)
Business: Core Science-Bearings-Preventive Acoustics & Dynamics
Objective: R&D Engineering of Turbosystem Dynamics for Diesel/Otto engines of passenger cars, lorries, and marine diesel engines

[1] The acquisition of ALSTOM Power from GE was finalized in November 2015
[2] The responsibility of Product Owner for bearings was assigned in November 2016

3. Education

- (July 2004–July 2009) **Ph.D. - University of Patras**
  Machine Design Laboratory, Dept. of Mechanical Engineering and Aeronautics / ***Division of Design and Manufacturing***, School of Engineering, Patras 26504, Hellas
  Ph.D. Thesis: Vibration analysis of nonlinear-dynamic rotor-bearing systems and defect detection, University of Patras Press, 2009, (In English). Supervision: Prof. Chris Papadopoulos
- (Sep. 1999–July 2004) **Dipl. Mechanical & Aeronautical Engineer (M.Eng.)** - **University of Patras** (7.47/10, graduated 6th of 160)
  Machine Design Laboratory, Dept. of Mechanical Engineering and Aeronautics / ***Division of Design and Manufacturing***, School of Engineering, Patras 26504, Hellas
  Dipl. Thesis: Cross–Coupled vertical and horizontal bending vibrations of a cracked rotor with two cracks (In Greek)
- (Sep. 1996–June 1999) **Lyceum Certificate** (17.8/20) - **4th General Lyceum of Ioannina**, Ioannina 45332, Hellas

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4. Research Objectives

- **Machine Dynamics**: linear & nonlinear dynamics of rotating machinery (theoretical & experimental)
- **Tribology – Fluid Mechanics**: analytical and numerical solutions on lubrication of journal bearings
- **Nonlinear Dynamics**: nonlinear simulation of high speed systems
- **Time periodic systems – Parametric excitation**: development of adjustable/controllable journal bearings of variable geometry
- **Fracture Mechanics**: simulation of defects in rotating systems (rotor crack & bearing wear) & methods for NDT

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5. Teaching Experience

- (Sep. 2018 – today) Machine Design I (3rd semester) at the School of Mechanical Engineering, NTUA (**autonomous teaching after Sep. 2019**)
- (Mar. 2019 – today) Mechanisms and Introduction to Machine Design (4th semester) at the School of Mechanical Engineering, NTUA (**autonomous teaching after March 2020**)
- (Sep. 2018 – Jan. 2019) Machine Dynamics II (7th semester) at the School of Mechanical Engineering, NTUA (**co-teaching**)

- (Sep. 2012 – Jul. 2013) Teaching assistant in tutorials and in correction of examination scripts on rigid body dynamics (Dynamik starrer Körper) (4th semester) and on structural mechanics (Strukturmechanik)(6th semester of studies), at the Institute for Dynamics of Structures, Faculty of Mechanical Engineering, TU Darmstadt

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- (Sep. 2004 – Jun. 2007) Teaching assistant in undergraduate courses in Machine Design (Critical speeds of Rotors, Balancing, Fatigue Failure) (5th and 6th semester), at the Machine Design Laboratory, Dept. of Mechanical Engineering and Aeronautics, University of Patras
- (Sep. 2004 – Jun. 2007) Teaching assistant in undergraduate courses in Computational methods in Engineering Design using Computer (CAD) (10th semester), at the Machine Design Laboratory, Dept. of Mechanical Engineering and Aeronautics, University of Patras

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6. Supervision[3]

Duration | Name | Former affiliation | Objective or title when applicable

- **PhD Theses**
  1) 21/10/2019 – today | Lysandros Anastasopoulos | TUM - Technical University of Munich (DE) | Run-up simulation and real-time control of nonlinear rotor-bearing systems

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[3] Since the appointment in NTUA (23rd September 2018)

- **MSc Theses** 1) 27/03/2020 – today | Ioannis Raptopoulos | NTUA – National Technical University of Athens | Study of the dry friction damping in gas-foil bearings and its influence on the nonlinear dynamics of high speed rotors

- **Internships** 1) 27/04/2019 – 27/07/2019 | Jean Charles Louis | Université de Toulon (F) | Application of Bearing Database Method on the Rotordynamic Design of Turbosystems

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7. **Projects for Research and Development,** and **bearing product qualification**[4]

1) As **Senior Engineer - Rotordynamics** and **Product Owner** at **GE Oil & Gas** and **ALSTOM Power**[1] participated in the following projects concerning rotordynamic assessment for a) R&D engineering in industrial turbines, b) Execution engineering in project specific turbines. The projects for basic research on the development of industrial turbomachinery may be found in (c). As product owner, participated on the projects (d) for the qualification of bearing products.

a) R&D Engineering Projects

- (Oct. 2015 – Dec. 2015) *Geothermal Steam Turbine GST55N 30MW*
- (Dec. 2015 – Dec. 2016) *Geared Reaction Turbine GRT25E18 30MW (Condensing & HP Extraction versions)*
- (Jan. 2016 – Dec. 2016) *Geared Reaction Turbine GRT35E22 60MW (Condensing & IP Extraction versions)*
- (Jan. 2016 – Aug. 2016) *Geared Reaction Turbine GRT55E35 100MW (Condensing & Extraction Versions)*
- (May. 2017 – Sep. 2018) *Geared Reaction Turbine GRT65F44 135MW (Condensing & Extraction Versions)*

b) Execution Engineering Projects

- (Mar. 2018 – Sep. 2018) *Oyka (Turkey) – Rotordynamic Assessment of **35MW** Steam Turbine-Gen*
- (Apr. 2018 – Sep. 2018) *Yinchun, Wuhan, Kangbao (China) – Rotordynamic Assessment of 3X**45MW** ST-Gen*
- (Dec. 2016 – Feb. 2017) *Damhead Creek (England) – Rotordynamic Assessment of **490MW** Steam Turbine-Gen*
- (Oct. 2017 – Sep. 2018) *Gardabani (Georgia) – Rotordynamic Assessment of **83MW** Steam Turbine-Gen*
- (Jan. 2016 – Sep. 2018) *Takhiatash (Uzbekistan) – Rotordynamic Assessment of **95MW** Steam Turbine -Gen*
- (Mar. 2017 – Sep. 2018) *Iernut (Romania) – Rotordynamic Assessment of **85MW** Steam Turbine-Gen*
- (Feb. 2015 – Sep. 2015) *ThermaVisayas (Philippines) - Rotordynamic Assessment of **169MW** Steam Turb.-Gen*
- (Jun. 2015 – Oct. 2015) *BP Grangemouth (Scotland) – Rotordynamic Assessment for high-speed balancing*
- (Oct. 2015 – Feb. 2016) *Karaha (Indonesia) – Rotordynamic Assessment of **33MW** Steam Turbine-Gen*
- (Mar. 2016 – Sep. 2016) *Dunhuang (China) – Rotordynamic Assessment of **100MW** Steam Turbine-Gen*
- (Aug. 2016 – Nov. 2016) *Yerevan (Armenia) – Rotordynamic Assessment of **76MW** Steam Turbine-Gen*

c) Basic Research Projects on the dynamics of turbomachinery

- (Jan. 2018 – Sep. 2018) *Nonlinear Stability assessment of large steam turbine Generator Shaft Trains. Identification of super-critical and sub-critical bifurcations and periodic solution stability.*
- (Jun. 2015 – Sep. 2018) *Development of innovative journal bearings of variable geometry for real time alignment and optimization of operation of turbine-generator shaft trains*
- (Aug. 2015 – Sep. 2018) *Introducing parametric excitation and modal interaction in turbine-generator shaft trains for the suppression/elimination of resonance amplitude and extension of instability margins in higher speeds*

d) Projects in product ownership (bearings)

- (July. 2018 – Sep. 2018) *Product qualification of Steam Turbine bearings from **Osborne Engineering Limited-OEL** (Newcastle (UK)), with onsite inspection of manufacturing, babbitting, adhesion, and testing methodologies*
- (June. 2018 – Sep. 2018) *Product qualification of Steam Turbine bearings from **GTW** (Brno (CZ))*
- (Nov. 2016 – Sep. 2018) *Product qualification of turbine bearings from **White Metal Industria e Comércio Ltda** (Sao Paolo (BR)), with onsite inspection of manufacturing, babbitting, adhesion, and testing methodologies*

[4] During the employment in General Electric Co.

- (Nov. 2016 – Sep. 2018) *Product qualification of turbine bearings from **Lufkin RMT** (Lufkin Industries, LLC) (Florence (I), and Wellsville NY (US))*

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2) As **Rotordynamic Engineer** at **BorgWarner Inc.** participated in the following projects for the rotor dynamic development of Turbo-Charging systems for internal combustion engines of passenger cars and commercial vehicles:

- (Sep. 2013 – Feb. 2015) *Basic Development – Methodology Bearing Development* R&D-Nr.: EB 0.86.051
- (Sep. 2013 – Feb. 2015) *Basic Development – Rotordynamics* R&D-Nr.: EB 0.86.009
- (Feb. 2013 – Feb. 2015) *JAGUAR LAND ROVER R2S 2.0L Diesel* R&D-Nr.: BF 1.49.002
- (Mar. 2013 – Feb. 2015) *BMW B53 TU1 1.5L 3cyl. Gasoline* R&D-Nr.: RZ 1.02.001
- (Mar. 2013 – Feb. 2015) *RENAULT K9K Gen7 Eu6C VTG (Variable Turbine Geometry)* R&D-Nr.: OR 1.14.018
- (Sep. 2014 – Feb. 2015) *VOLKSWAGEN 2.0L CR 140/147kW MDB laengs (TiAl)* R&D-Nr.: KI 1.15.027
- (Sep. 2014 – Feb. 2015) *FORD Advanced Development - Vorentwicklungzusammenarbeit* R&D-Nr.: EA 0.83.080
- (Nov. 2014 – Feb. 2015) *DAIMLER AG – OM654DE20LA R2S EU6 160kW (BV35/B03)* R&D-Nr.: KI 1.09.032

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3) As postdoctoral researcher in **Technische Universität Darmstadt** applied for funding, and executed the following projects for basic research:

- (Sep. 2012 – Jul. 2013) *Simulation-design-construction of a journal bearing with variable geometry for the reduction of vibrations in rotating machinery.* Project co-funded from the **BMWi** *(German Federal Ministry of Economics and Energy/SIGNO)* and the **TU Darmstadt**
  (Supervision: Prof. Dr.-Ing. Richard Markert, estimated budget over 100.000€)
- (May 2010 – Aug. 2012) *The transient vibratory behavior of a rotor mounted on worn fluid film bearings passing through resonance.* Project funded from the **Alexander von Humboldt Foundation**
  (Supervision: Prof. Dr.-Ing. Richard Markert, estimated budget over 50.000€)

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8. Further Scientific Activities

- **Associate Editor** in the following international scientific journals:
  1) Journal of Engineering for Gas Turbines and Power, ASME (2019-2021)
  2) Shock & Vibration, Hindawi (since 2016)

- **Guest Editor** for special issues in the following international scientific journals:
  1) Advances in research and dynamic analysis of high-speed rotating machines, Shock and Vibration – Hindawi (2020)
  2) Rotordynamics in Automotive Engineering, Vehicles – MDPI (2019)
  3) International Journal of Rotating Machinery – Hindawi (2017)

- **Conference/Minisymposium Organizer**:
  1) Co-organizer in the Session ''Malfunctions and Diagnostic Techniques'' (6 papers in total) in ASME Turbo Expo 2020, London (UK)
  2) Co-organizer of the Minisimposium ''Recent Advances in Rotordynamics'' (2 sessions, 12 papers in total, all from abroad) in ICOVP 2019, Crete (GR)

- **Conference related activities (chronologically)**
  1) Session **co-Chair** in **ASME Turbo Expo 2020**, London (UK)
  2) Session **Chair** in **COMADEM 2019**, Huddersfield (UK)
  3) **Member** of the International Scientific Advisory Committee of the **COMADEM 2019**, Huddersfield (UK)
  4) Session **Chair** in **ICOVP 2019**, Crete (GR)
  5) Session **Chair** in **SIRM 2019**, Copenhagen (DK)
  6) **Member** of the Industrial Committee in the **ICORD 2018**, 10th IFToMM International Conference on Rotor Dynamics 2018, Rio de Janeiro (BR)
  7) Session **co-Chair** in **MOVIC & RASD 2016**, Southampton (UK)
  8) **Member** of the Industrial Committee in the **ICORD 2014,** 9th IFToMM International Conference on Rotor Dynamics 2014, Milan (I)

- **Invited Talks**:

1) Overview Talk in COMADEM 2019, University of Huddersfield, Huddersfield (UK) (05.09.2019)
   - Title: Challenges in Rotor Dynamic Design of Turbosystems
2) University of Southampton (SOTON) – Institute of Sound and Vibration Research (28.11.2017)
   - Title: Turbomachinery Rotordynamics | Current research activity and future trends
3) National Technical University of Athens (NTUA) – School of Mechanical Engineering (22.09.2017)
   - Title: Analysis & Design of Mechanical Structures | Trends in scientific research and technology | Development prospects in Greece and NTUA | Undergraduate and postgraduate education in the field

- **Reviewer**[5] in the following international scientific journals:
  1) *International Journal of Solids and Structures*, Elsevier
  2) *Journal of Sound and Vibration*, Elsevier
  3) *Communications in Nonlinear Science and Num. Simulations*, Elsevier
  4) *Mechanical Systems and Signal Processing,* Elsevier
  5) *International Journal of Bifurcation and Chaos*, World Scientific
  6) *Mechanics Research Communications*, Elsevier
  7) *International Journal of Structural Integrity*, Emerald
  8) *Journal of Mechanics Engineering and Automation*, David Publishing
  9) *Journal of the Brazilian Society of Mech. Sciences and Eng.*, Springer
  10) *Official Journal of the Brazilian Academy of Sciences*
  11) *Journal of Mechanical Engineering Science*, SAGE
  12) *Aircraft Engineering and Aerospace Technology*, Emerald
  13) *Simulation Modelling Practice and Theory*, Elsevier
  14) *Industrial Lubrication and Tribology*, Emerald
  15) *IMechE, Part C: Journal of Mechanical Engineering Science*, SAGE
  16) *IMechE, Part E: Journal of Process Mechanical Engineering*, SAGE
  17) *IMechE, Part J: Journal of Engineering Tribology*, SAGE
  18) *SN Applied Sciences*, Springer Nature
  19) *ASME Letters in Dynamic Systems and Control*, ASME
  20) *Tribology International,* Elsevier,
  21) *Nonlinear Dynamics*, Springer
  22) *Journal of Vibration& Acoustics*, ASME
  23) Journal of Vibration & Control, SAGE
  24) Advances in Fuzzy Systems, Hindawi
  25) Measurement, Elsevier
  26) Lubrication Science, Wiley
  27) Lubricants, MDPI
  28) Acta Mechanica, Springer
  29) Shock & Vibration, Hindawi
  30) Applied Mathematical Modelling, Elsevier
  31) Int. Journal of Mech. Sciences, Elsevier
  32) Actuators, MDPI
  33) Energies, MDPI
  34) Vehicles, MDPI
  35) Computation, MDPI
  36) Micromachines, MDPI
  37) Journal of Tribology, ASME

- **Reviewer** in the following international scientific conferences:
  1) 9th IFToMM International Conference on Rotor Dynamics 2014, Milan (I)
  2) ASME Turbo Expo 2015, Montreal (CN)
  3) MOVIC & RASD 2016, Southampton (UK)
  4) ASME Turbo Expo 2017, Charlotte (US)
  5) ASME Turbo Expo 2018, Oslo (NO)
  6) 10th IFToMM International Conference on Rotor Dynamics 2018, Rio de Janeiro (BR)
  7) COMADEM 2019, Huddersfield (UK)
  8) ASME Turbo Expo 2020, London (UK)

- **Reviewer** in the following editorial housings:
  1) Springer/Springer Brief series, NY, USA

- **Reviewer** in the following research councils:
  1) **UKRI-EPSRC** UK Research & Innovation - Engineering and Physical Sciences Research Council, Associate Review College

- **PhD thesis examiner**
  1) ''Modelling and Model Reduction of Viscoelastic Composite Rotors: an Operator Based Approach'', submitted by Saurabh Chandracker and supervised by Prof. Haraprasad Roy in National Institute of Technology Rourkela, Orissa, India.
  2) ''Applications of Oscillators in Energy Conversion'', submitted by Andreas Paradeisiotis and supervised by Prof. Ioannis Antoniadis in National Technical University of Athens, Hellas.

- **Member** of:
  1) IFToMM – *Technical Committee for Rotordynamics*
  4) ASME – *American Society of Mechanical Engineers*

[5] A mean value of 25 reviews have been performed at each of the past years

2) EUROMECH – *European Mechanics Society*
3) VDI – *Verein Deutscher Ingenieure*
5) TEE – *Technical Chamber of Greece*
6) AvH – *Alexander von Humboldt Foundation*

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9. Awards

- (Jun. 2017) Award '*Beyond and Above*' (700£) for the Patent [P3], **General Electric Co**
- (Apr. 2010) Research fellowship award for postdoctoral researchers (54000€), **Alexander Von Humboldt Foundation**
- (Jun. 2004) Award for the excellence of studies in Mechanical Engineering, **Technical Chamber of Greece (TEE)**

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10. Courses and Training Seminars

- (05.09.2016 – 09.09.2016) **Course on Time-Periodic Systems: Theory and Application** in **CISM-16** (International Centre for Mechanical Sciences, Udine, I-33100)

- (Nov. 2015 - Today) **Training Seminars** in **GE Oil & Gas** (Rugby, UK-CV212NH) and **GE Power** (Baden, CH-5401) on the following objectives:

  a) 24.08.2016 – Turbine Supervisory Systems
  b) 11.08.2016 – Lube Oil Systems
  c) 17.03.2016 – Steam Turbine Awareness (power Plant basics, thermodynamics, steam cycles, turbine architecture, main components, turbine auxiliaries and control)
  d) 16.03.2016 – Last Stage Low Pressure Blade Lifetime Assessment
  e) 02.03.2016 – Control and Determination of Steam Turbine Clearances
  f) 18.02.2016 – Steam Turbine Material Selection and Specifications
  g) 20.01.2016 – Bearing Design and Failure Mechanisms
  h) 18.11.2015 – Turbine Overview

- (Feb. 2015 – Oct. 2015) **Training Seminars** in **ASLTOM Power UK** (Rugby, UK-CV212NH) and **ALSTOM Power (Schweiz) Ltd** (Baden CH-5401) on the following objectives:

  a) 28.10.2015 – Mechanical Integrity Aspects of Last Stage Blades
  b) 10.07.2015 – Gas Turbine Rotor Lifetime Assessment
  c) 03.07.2015 – Retrofit Case Study
  d) 03.06.2015 – Understanding Vibration Jumps
  e) 29.04.2015 – Shaft Line Dynamics Measurement
  f) 23.04.2015 – Mechanical Fatigue Data for Sub-Synchronous Vibration Protection of Nuclear Steam Turbine
  g) 20.04.2015 to 30.04.2015 – Industrial Steam Turbine Rotordynamics
  h) 08.04.2015 – Turbine Supervisory Systems

- (Sep. 2013 - Feb. 2015) **Training Seminars** in **BorgWarner Turbo Systems Engineering GmbH** (Kirchheimbolanden DE-67292) on the following objectives:

  a) Introduction to Product Development
  b) Development of Machine Balancing
  c) Introduction to Advanced Engineering
  d) Introduction Controlling
  e) Introduction to Basic Develop. Performance
  f) Introduction Testing
  g) Intellectual Property (Patents)
  h) Introduction to Noise and Vibration Harshness and Prev.Acoustics
  i) Introduction to Materials Development and Structural Mechanics
  j) Introduction Basic Components Turbosystems
  k) Talent Management System - Introduction
  l) Introduction to Application Performance/Validation and Simulation

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11. Further Training/Studies/Education

- (01 Jul. 2002 – 31 Aug. 2002) Student trainee mechanical engineer in Agricultural Dairy Industry of Epirus DODONI SA. Ioannina 45110, Hellas
- (01 Sep. 2006 – 30 Jun. 2008) Music studies of drums, Municipal Conservatory of Patras, Patras 26221, Hellas
- (18 May 2009 – 18 Mar. 2010) Corporal of the Hellenic Army/Engineer Corps during the armed military service (obligatory

12. Publications, Reports, and Further Written Work (2006-2020)

(Documents: **34**, Co-Authors: **11**, Citations: **388,** ***h*** index: **11** – **Excluding self citations** of author, Source: SCOPUS)

- ***Books***[6]

[B2] **A. Chasalevris**, Analytical Solutions in Journal Bearing Simulation with Rotordynamic Applications. Springer Brief Series, Springer, NYC (US), 2019

[B1] **A. Chasalevris**, Nonlinear Simulation of Defected Rotor-Bearing Systems - Methods for Detection of Rotor Crack and Bearing Wear. LAP Lambert Academic Publishing, Saarbrücken, Germany (2011) ISBN-10: 3844385975

- ***International Journals*** **(Total Impact Factor : 58.304, or 2.650/article)**

[J22] **A. Chasalevris**, Stability and Hopf Bifurcations in Rotor-Bearing-Foundation Systems of Turbines and Generators. **Tribology International** (IF 2019: **3.517**), 145, 2020, 106154

[J21] **A. Chasalevris**, and **J.C. Louis**, Evaluation of Transient Response of Turbochargers and Turbines Using Database Method for the Nonlinear Forces of Journal Bearings. **Lubricants** (IF 2018: **1.87**), 7, 78, 2019

[J20] **A. Chasalevris** and **G. Guignier**, Alignment and Rotordynamic Optimization of Turbine Shaft Trains Using Adjustable Bearings in Real Time Operation. **Proc. IMechE Part C: Journal of Mechanical Engineering Science** (IF 2019: **1.359**), 0(0), 2019, pp. 1-21

[J19] **A. Chasalevris** and **F. Dohnal**, Improving Stability and Operation of Turbine Rotors Using Adjustable Journal Bearings. **Tribology International** (IF 2019: **3.517**), 104, 2016, Pages 369-382, doi: 10.1016/j.triboint.2016.06.022

[J18] **A. Chasalevris**, An investigation on the Dynamics and Stability of High Speed Systems Using Analytical Floating Ring Bearing Models. **International Journal of Rotating Machinery** (IF 2016: **0.811**), Vol. 2016, 2016, Article ID 7817134

[J17] **A. Chasalevris**, Finite Length Floating Ring Bearings: Operational Characteristics Using Analytical Methods. **Tribology International** (IF 2019: **3.517**), (94) 2016, pp. 571-590

[J16] **A. Chasalevris**, Analytical Evaluation of the Static and Dynamic Characteristics of the Three-Lobe Bearing with Finite Length. **ASME Journal of Tribology** (IF 2019: **1.648**), 137, 2015 art. No. 041701-1.

[J15] **A. Chasalevris** and **F. Dohnal**, A Journal Bearing with Variable Geometry for the Suppression of Vibrations in Rotating Shafts: Simulation, Design, Construction and Experiment. **Mechanical Systems and Signal Processing** (IF 2019: **5.005**), 52-53 2015, pp. 506

[J14] **A. Chasalevris** and **F. Dohnal,** Vibration Quenching in a Large-Scale Rotor-Bearing System Using Journal Bearings with Variable Geometry. **Journal of Sound and Vibration** (IF 2019: **3.123**), 333 (7) 2014, pp. 2087-2099

[J13] **A. Chasalevris** and **F. Dohnal,** A Journal Bearing with Variable Geometry for the Reduction of the Maximum Response Amplitude During Passage Through Resonance. **ASME Journal of Vibration & Acoustics** (IF 2019: **1.929**), 134 (6) 2012 No. 61005.

[J12] **A. Chasalevris** and **D. Sfyris**, Evaluation of the Finite Journal Bearing Characteristics Using the Exact Analytical Solution of the Reynolds Equation. **Tribology International** (IF 2019: **3.517**). (57) 2013, pp. 216-234

[J11] **A. Chasalevris** and **D. Sfyris**, Analytical Evaluation of the Finite Journal Bearing Impedance Forces Using the Exact Analytical Solution of the Reynolds Equation. **Journal of Vibration Engineering and Technologies** (IF 2019: **0.522**) (former: Advances in Mechanical Engineering). 2 (5) 2014

[J10] **A. Chasalevris** and **C. A. Papadopoulos**, Experimental Detection of an Early Developed Crack in Rotor-Bearing Systems Using an AMB. **International Journal of Structural Integrity** (IF 2019: **0.617**), 333 (7) 2014, pp. 2087-2099

[J9] **A. Chasalevris** and **C. A. Papadopoulos**, A novel semi-analytical method for the dynamics of nonlinear rotor-bearing systems, **Mechanism and Machine Theory** (IF 2019: **3.535**), (72) 2014, pp. 39-59

[J8] **A. Chasalevris** and **C. A. Papadopoulos**, Coupled horizontal and vertical bending vibrations of a stationary shaft with two cracks. **Journal of Sound and Vibration** (IF 2019: **3.123**), 309 (3-5) 2008, pp. 507-528

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[6] Book [B1] is PhD dissertation

[J7] **A. Chasalevris** and **C. A. Papadopoulos**, Identification of multiple cracks in beams under bending. **Mechanical Systems and Signal Processing** (IF 2019: **5.005**), 20 (7) 2006, pp. 1631-1673

[J6] **A. Chasalevris** and **C. A. Papadopoulos**, A continuous model approach for cross-coupled bending vibrations of a rotor-bearing system with a transverse breathing crack **Mechanism and Machine Theory** (IF 2019: **3.535**), 44 (6) 2009, pp. 1176-1191.

[J5] **D. Sfyris** and **A. Chasalevris**, An exact analytical solution of the Reynolds equation for the finite journal bearing. **Tribology International** (IF 2019: **3.517**), (55) 2012, pp. 46-58.

[J4] **A. Chasalevris, F. Dohnal** and **I. Chatzisavvas,** Experimental detection of additional harmonics due to wear in journal bearings using excitation from a magnetic bearing. **Tribology International** (IF 2019: **3.517**), (71) 2014, pp. 158-167

[J3] **A. Chasalevris, P. Nikolakopoulos** and **C. A. Papadopoulos**, Dynamic effect of bearing wear on rotor rotor-bearing system response. **ASME Journal of Vibration and Acoustics** (IF 2019: **1.929**), 135 (1) 2013, art. No. 011008.

[J2] **K. Saridakis, A. Chasalevris, A. Dentsoras** and **C. A. Papadopoulos**, Applying neural networks, genetic algorithms and fuzzy logic for the identification of cracks in shafts by using coupled response measurements. **Computers & Structures** (IF 2019: **3.354**), 86 (11-12) 2008, pp. 1318-1338

[J1] **K. Gertzos, P. Nikolakopoulos, A. Chasalevris** and **C. A. Papadopoulos**, Wear identification in rotor-bearing systems by measurements of dynamic bearing characteristics **Computers & Structures** (IF 2019: **3.354**), (89) 2010, pp. 55-66

- ***International Conference Proceedings*** **– Peer Reviewed** in the entire manuscript (*speaker)

[C33] **L. Anastasopoulos** and **A. Chasalevris***, Stability and Bifurcation Analysis of Complete Turbine-Generator Rotor-Systems Applying Numerical Continuation and Component Mode Synthesis. IMechE Vibrations in Rotating Machinery – VIRM 2020, Liverpool (UK), (September 2020)

[C32] **F. Dohnal*, A. Chasalevris** and **H. D. Klement**, Estimation of fluid-film forces after blade loss in a flexible rotor. 11th International Conference on Structural Dynamics – EURODYN 2020, Athens (GR), (June 2020)

[C31] **A. Chasalevris***, Applying Hopf Bifurcation Theory on the Stability Design of Rotor-Bearing-Foundation Systems. 12th International Congress on Mechanics – HSTAM 2019, Thessaloniki (GR), (September 2019)

[C30] **A. Chasalevris***, Nonlinear Stability of Turbine and Generator Rotors Applying Hopf Bifurcation Theory. 14th International Conference on Vibration Problems – ICOVP 2019, Crete (GR), (September 2019)

[C29] **F. Dohnal*, A. Chasalevris** and **H. D. Klement**, Rotor-Structure Interaction: Complex Foundation Models in MADYN. 14th International Conference on Vibration Problems – ICOVP 2019, Crete (GR), (September 2019)

[C28] **A. Chasalevris**, An Extension of the Bearing Database Method to Enable Nonlinear Transient Analysis in the Standard Rotordynamic Design Evaluation of Turbomachinery. 13th Int. Conf. Dynamics of Rotating Machinery – SIRM 2019. Copenhagen (DK), (February 2019)

[C27] **A. Chasalevris*** and **G. Guignier**, Real-Time Alignment and Operation Optimization of Turbine Shaft Trains Using Adjustable Bearings. 16th EDF/Pprime Workshop, Futurescope (F), (October 2017)

[C26] **A. Chasalevris*** and **F. Dohnal**, Enhancing Stability of Industrial Turbines Using Adjustable Partial Arc Bearings. 13th Int. Conf. on Motion & Vib. Control - MOVIC & RASD 2016, Southampton UK, (July 2016)

[C25] **A. Chasalevris*** and **F. Dohnal**, Modal Interaction and Vibration Suppression in Industrial Turbines Using Adjustable Journal Bearings. 13th Int. Conf. on Motion & Vib. Control - MOVIC & RASD 2016, Southampton UK, (July 2016)

[C24] **F. Dohnal*** and **A. Chasalevris**, Exploiting Modal Interaction During Run-Up of a Magnetically Supported Jeffcott Rotor. 13th Int. Conf. on Motion & Vib. Control - MOVIC & RASD 2016, Southampton UK, (July 2016)

[C23] **A. Chasalevris***, Evaluation of the Dynamic Characteristics of the Three-Lobe Journal Bearing with Finite Length Using Analytical Methods. IFTOMM Int. Conf. on Engineering Vibration ICoEV2015, Ljubljana, Slovenia (Sept. 2015)

[C22] **A. Chasalevris***, An Investigation on the Dynamics of High-Speed Systems Using an Analytical Model for the Floating Ring Bearings and the Rotating Shaft. IFTOMM International Conference on Engineering Vibration ICoEV2015, Ljubljana, Slovenia (Sept. 2015)

[C21] **A. Chasalevris***, Evaluation of the Floating Ring Bearing Characteristics Using Analytical Methods. IFTOMM International Conference on Engineering Vibration ICoEV2015, Ljubljana, lovenia (Sept. 2015)

[C20] **F. Dohnal*** and **A. Chasalevris**, Inducing modal interaction during run-up of a magnetically supported rotor. 13th International Conference in Dynamical Systems Theory and Applications DSTA 2015, Lodz, Poland (2015)

[C19] **F. Dohnal***, **B. Pfau** and **A. Chasalevris**, Analytical predictions of a flexible rotor in journal bearings with adjustable

geometry to suppress bearing induced instabilities. 13th International Conference in Dynamical Systems Theory and Applications DSTA 2015, Lodz, Poland (2015)

[C18] **A. Chasalevris*** and **F. Dohnal**, Construction and Experimental Application of a Variable geometry Journal Bearing (VGJB) for the Vibration Suppression of Rotors. 9th IFToMM Rotor Dynamics 2014, Milan, Italy (Sep. 2014)

[C17] **A. Chasalevris** and **C. Papadopoulos***, Experimental detection of an early developed crack in rotor-bearing systems using an AMB. ICEAF III, Kos, Aegean Archipelago, Hellas (Jun. 2013)

[C16] **A. Chasalevris*** and **F. Dohnal**, An Experimental Study on the Additional Harmonics due to Worn Journal Bearings. 10th International Conference on Vibration in Rotating Machines SIRM 2013, Berlin, Germany (Feb. 2013)

[C15] **A. Chasalevris*** and **D. Sfyris**, Analytical evaluation of the finite journal bearing impedance forces using the exact analytical solution of the Reynolds equation. International Conference On Vibration Engineering And Technology of Machinery VETOMAC VIII, Gdansk, Poland (Sep. 2012)

[C14] **A. Chasalevris*** and **D. Sfyris**, On the analytical evaluation of the lubricant pressure in the finite journal bearing. ASME 2012 International Design Engineering Technical Conf. IDETC/CIE 2012, Chicago, Illinois, USA (Aug. 2012)

[C13] **A. Chasalevris***, **F. Dohnal** and **R. Markert**, Symptoms of Misaligned Worn Journal Bearings in Rotor Response under External Excitation by a magnetic bearing. ASME 2011 International Design Engineering Technical Conferences IDETC/CIE 2011, Washington, DC, USA (2011)

[C12] **A. Chasalevris***, **F. Dohnal** and **R. Markert**, A Journal Bearing with Variable Geometry for Reduction of Rotor Resonance Vibration. 10th biennial International Conf. on Vib. Problems ICOVP 2011, Prague, Czech Republic (2011)

[C11] **A. Chasalevris** and **C. Papadopoulos***, Structural Integrity Assessment of Rotating Systems. 2 International Conference of Engineering Against Fracture. ICEAF 2011, Mykonos, Hellas (2011)

[C10] **A. Chasalevris***, **P. Nikolakopoulos** and **C. Papadopoulos**, Aligned and Misaligned Wear Pattern in Fluid Film Bearings and Influence on the Rotor Response. 9th International Conference on Vibration in Rotating Machines SIRM 2011, Darmstadt, Germany (2011)

[C9] **A. Chasalevris** and **C. Papadopoulos***, Nonlinear simulation of continuous rotor bearing systems with multi-step geometry and breathing cracks. 8th IFToMM – Conference on Rotor Dynamics, Seoul, Korea (2010)

[C8] **A. Chasalevris*** and **C. Papadopoulos**, Early Detection of Rotor Cracks by Measuring the Coupled Response under External Excitation. 8th IFToMM – Conference on Rotor Dynamics, Seoul, Korea (2010)

[C7] **A. Chasalevris*** and **C. Papadopoulos**, Crack identification of a continuously modeled rotor with internal damping mounted on nonlinear fluid film bearings. 9th International Conference on Computational Structures Technology CST 2008, Athens, Hellas, (2008)

[C6] **A. Chasalevris*, P. Nikolakopoulos** and **C. Papadopoulos**, A nonlinear, dynamic, continuous, damped model for rotor-bearing systems. 9th Int. Conference on Motion and Vibration Control MOVIC 2008, Munich, Germany (2008)

[C5] **C. Papadopoulos*, A. Chasalevris** and **P. Nikolakopoulos,** Cracked continuous rotors vibrating on nonlinear bearings – some aspects on future trends. IUTAM 2009 Symposium on Emerging Trends in Rotor Dynamics, Delhi, India, (2009)

[C4] **P. Nikolakopoulos*, A. Chasalevris** and **C. Papadopoulos**, Wear Identification in Rotor-Bearing Systems by Volumetric and Bearing Performance Characteristics Measurements. 9th International Conference on Computational Structures Technology CST 2008, Athens, Hellas, (2008)

[C3] **K. Gertzos, P. Nikolakopoulos*, A. Chasalevris** and **C. Papadopoulos**, Wear identification in continuously modeled rotor on worn nonlinear fluid film bearings. 9th International Conference on Computational Structures Technology CST 2008, Athens, Hellas, (2008)

[C2] **K. Saridakis, A. Chasalevris**, **A. Dentsoras** and **C. Papadopoulos**, Fusing Neural Networks, Genetic Algorithms and Fuzzy Logic for Diagnosis of Cracks in Shafts. Intelligent Production Machines and Systems-2nd I*PROMS Virtual International Conference 3-14 July 2006, (2006) pp. 332-337

[C1] **A. Chasalevris*** and **C. Papadopoulos**, Cross coupled bending vibrations of rotating shaft due to a transverse breathing crack. 7th IFToMM – Conference on Rotor Dynamics, Vienna, Austria (2006)

- ***Patents***

[P2] **A. Chasalevris** and **F. Dohnal**, Suppressing Vibrations of a Shaft on Sliding Bearings. WO 2018/002277 A1

[P1] **A. Chasalevris** and **F. Dohnal**, Slide Bearing - Gleitlager - Paliers Lisses). EP 2 623 800 A1

- ***Reports in Industry***

> Selected Internal Reports in **GE Oil&Gas** and **ALSTOM Power**:

[R19] **A. Chasalevris**, Damhead Creek Rotordynamics – Rotordynamic Assessment of 490MW Shaft Train. (2016)
[R18] **P. Jenkins** and **A. Chasalevris**, ThermaVisayas – Rotordynamic Assessment of 169MW Steam Turbine. (2015)
[R17] **A. Chasalevris**, Geothermal Steam Turbine GST55N – Rotordynamic Assessment (2015)
[R16] **A. Chasalevris,** Analytical Evaluation of the Dynamic Characteristics of the ALSTOM Bearings R1T and R2T (2015)
[R15] **A. Chasalevris,** Geared Reaction Turbine GRT25ME18FL – Rotordynamic Case Study for Longer Rotors (2015)
[R14] **A. Chasalevris,** Geared Reaction Turbine GRT35E22 (2016)
[R13] **A. Chasalevris,** Developed Methodology for Linear and Nonlinear Rotordynamics of Turbine-Generators (2016)

> Selected Internal Reports in **BorgWarner Turbo Systems**:

[R12] **A. Chasalevris**, B01-BV40 Rotordynamic Case Study – Variation of Parameters for Bearing Geometry. (2013)
[R11] **A. Chasalevris**, B02 Initial Case Study with Asymmetric Bearings and Max. Permissible Bearing Clearances. (2013)
[R10] **A. Chasalevris**, B01 VS45 TS37 Gen. 3 Rotordynamic Case Study for Bearing Clearances Variation. (2013)
[R9] **A. Chasalevris**, Investigation of the Use of Transfer Functions in Balancing of Turbosystems. (2014)
[R8] **A. Chasalevris**, K0-Rotordynamic Case Study. (2014)
[R7] **A. Chasalevris**, B03 (TW53 CW64) Case Study for Maximum and Minimum Permissible Bearing Clearances. (2014)
[R6] **A. Chasalevris**, K9K BV35 Euro6 – Rotordynamic Case Study for Bearing Clearances and Lubr. Viscosity. (2014)
[R5] **A. Chasalevris**, K9K/B01 BV30 Gen 3.2-Rotordynamic Case Study. (2014)
[R4] **A. Chasalevris**, Development of an Analytical Model for the nonlinear simulation of high speed systems. (2014)
[R3] **A. Chasalevris**, Nonlinear Dynamics and Stability of Turbosystems Using Analytical Methods. (2014)
[R2] **A. Chasalevris**, Analytical Models for the Simulation of Full Floating Ring Bearings with Finite Length. (2014)
[R1] **A. Chasalevris**, B03/BV35 Rotordynamic Simul. for Max. and Min. Permissible Bearing Clearances. (2014)

- ***Reports in Academy***

[AR2] **A. Chasalevris**, Gleitlager mit dynamischer Spaltvertellung zur reduction der Schwingungen bei Resonanzdurchfahrt in rotierenden Maschinen. Report for BMWi-SIGNO Project. Darmstadt, Germany (2013)
[AR1] **D. Sfyris** and **A. Chasalevris**, An analytical solution of the Reynolds equation for the lubrication of the finite journal bearing and evaluation of the lubricant pressure. TU Darmstadt Prints (2012), Darmstadt, Germany. Available online at the German National Library http://nbn-resolving.de/urn/resolver.pl?urn=urn:nbn:de:tuda-tuprints-28795

- ***Book Chapters***

[BC3] **A. Chasalevris** and **F. Dohnal,** "Construction and Experimental Application of a Variable Geometry Journal Bearing (VGJB) for the Vibration Suppression of Rotors ", Proceedings of the 9th IFToMM Internation Conference on Rotor Dynamics, Mechanisms and Machine Science © Springer International Publishing, pp. 943 - 954.
[BC2] **C. Papadopoulos, A. Chasalevris**, and **P. Nikolakopoulos**, "Cracked Continuous Rotors vibrating on Nonlinear Bearings ", K. Gupta (ed.), IUTAM Symposium on Emerging Trends in Rotor Dynamics. IUTAM Book series 25, DOI 10.1007/978 – 94 – 007 – 0020 - 839, © Springer Science+Business Media B.V. 2011, pp.469 - 478.
[BC1] **K. Saridakis, A. Chasalevris**, **A. Dentsoras** and **C. Papadopoulos**, Fusing Neural Networks, Genetic Algorithms and Fuzzy Logic for Diagnosis of Cracks in Shafts. Intelligent Production Machines and Systems-2nd I*PROMS Virtual International Conference 3-14 July 2006, (2006) pp. 332-337

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