

## ***Curriculum vitae***

### **GENERAL INFORMATION**

*Name:* MICHAŁ WODTKE  
*Date of birth:* 24 August 1977  
*Position:* Associate Professor, Gdansk University of Technology,  
Faculty of Mechanical Engineering and Ship Technology  
*Professional address :* Narutowicza St. 11/12, 80-233 Gdansk, POLAND  
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### **EDUCATION**

2018 Habilitation in Mechanical Engineering with specialization in Bearing Engineering  
2005 PhD, thesis: *Modeling of the hydrostatic assistance in tilting-pad thrust bearings*  
1997 – 2002 Gdansk University of Technology, MS in Mechanical Engineering, Machine Construction division

### **PROFESSIONAL EXPERIENCE**

#### *Academic experience*

2018 - now Associate Professor, full time position at Gdansk University of Technology  
2006 - 2017 Assistant Professor, full time position at Gdansk University of Technology  
2002 – 2005 Assistant Lecturer, part time position at Gdansk University of Technology

*scientific interests* Fluid film bearings; hydrodynamic, hydrostatic and MR lubrication; water, low viscosity fluids and contaminated medium lubrication, theoretical and experimental research of bearing systems, thermal effects, near field acoustic levitation

*responsibilities* Theoretical and experimental investigations of different aspects of the hydrodynamic bearings operation: experimental and theoretical investigations, design, failure analyses, expert opinions  
Design of prototypical machines or components, numerical analysis of machine components and mechanical systems (e.g. bearings, structures)  
Classes on (giving lectures, practical or laboratory exercises):  
Fundamentals of Machine Design, Engineering Graphics, CAD systems, Modeling in Mechanical Engineering

#### *Industrial experience*

2013 R&D specialist, NOVA Sp. z o.o. Gdynia, part-time position  
2007 – 2008 Mechanical Engineer, Tecwill Polska Gdansk, part – time position

## RECENT SCIENTIFIC ACTIVITIES

- Participation in research projects* *Water-lubricated thrust bearing, experimental and theoretical research, founded by Gdansk University of Technology IDUB research program, started in 2022 (in progress)*
- Research on water lubricated sliding couples in selected unfavorably working conditions, founded by Polish National Science Centre, 2017-2020,*
- Contactless conveying of light objects utilizing Poisson's phenomenon and squeeze film acoustic levitation, founded by Polish National Science Centre, 2017-2020*
- Participation in industrial projects* *Magnetorheological Environmentally Acceptable Stern Tube Bearing, founded by Aegir Marine Production B.V. (The Netherlands), started in 2021 (in progress)*
- Hybrid bearings and magnetic lubricant tests, founded by Aegir Marine Production B.V. (The Netherlands), 2020*
- Design of additional CT pipe supports for Lotos Petrobaltic platform, founded by Lotos Petrobaltic SA (Poland), 2019*
- International long-term visits* *Visiting Professor at University of Poitiers, France, March 2015*
- Research visit at Technical University of Delft, The Netherlands, July 2022*
- Other* *Authorship of reviews for research journals within tribology field, e.g.: Tribology International; Journal of Engineering Tribology, Part J; Journal of Tribology ASME Transactions; Tribology Transactions, Mechanics & Industry*
- Reviewer and member of jury for several PhD defenses, supervisor of PhD candidate (in-progress)*
- Member of Quarterly Tribologia scientific board (ISSN 0208-7774)*

## RECENT PUBLICATIONS AND CONFERENCES

- Bouyer J., Wodtke M., Fillon M.: *Theoretical investigations of a fluid film thrust bearing operational parameters under different oil supply modes*, proceedings of WTC 2022, July 10-15, 2022, Lyon, France
- Bouyer J., Wodtke M., Fillon M.: *Experimental research on a hydrodynamic thrust bearing with hydrostatic lift pockets: Influence of lubrication modes on bearing performance*, Tribology International - Vol. 165, (2022), 107253
- Quinci F., Litwin W., Wodtke M., van Den Nieuwendijk R.: *A comparative performance assessment of a hydrodynamic journal bearing lubricated with oil and magnetorheological fluid*, Tribology International - Vol. 162, (2021), 107143
- Olszewski A., Wasilczuk M., Wodtke M., Litwin W.: *Wear of polymer sliding bearings lubricated with contaminated water*, proceedings of 20<sup>th</sup> Pprime Workshop, October 7-8, 2021, Futuroscope, France
- Wodtke M., Litwin W.: *Water-lubricated stern tube bearing - experimental and theoretical investigations of thermal effects*, Tribology International -Vol. 153, (2021), 106608
- Brunetière N., Wodtke M.: *Considerations about the applicability of the Reynolds equation for analyzing high-speed near field levitation phenomena*, Journal of Sound and Vibration - Vol. 483, (2020), 115496