

List of Additional Scientific Tasks

MANAGEMENT TASKS:

Projects

- [1] **General project lead, coordination and management** of the Institute of Electrical Drives and Power Electronics of Johannes Kepler university since 2012 as **institute vice head** since 2018
- [2] **Project leader** of K2-fundend project C240106 '*Bearingless reluctance slice motors*' in cooperation with Levitronix GmbH, from 2014 to 2017 (budget volume 312,234.17€)
- [3] **Project leader** of K2-fundend project K11204 '*Integrated bearingless motors*', in cooperation with Levitronix GmbH, since 2018 (budget volume 400,295.00€)
- [4] **Coordinator of scientific partners** of K2 area drives within the project K24101 *High performance electrical drives with magnetic gears* Tokyo Institute of Technology (Japan), TU Dresden (Germany) and University Rijeka (Croatia)
- [5] **Scientific Area Coordinator of LCM** for area ACT, starting from 2022 (in the next funding phase)
- [6] **EU project coordinator** of FP7PEOPLE-2009-IAPP no. 251396 '*Small single drives and magnetic bearings in spinning machines*', from 2009 to 2013, (budget volume 301,391.93€)
- [7] **Project leader** of third-party projects with *Hofmann Mess- und Auswuchttechnik GmbH & Co. KG*, since 2019, (budget volume 36,000.00€)
- [8] **Project leader** of third-party project *Lijo GmbH*, since 2021, (budget volume 11,000.00)

Mobility programs

- [1] **JKU CEEPUS coordinator** of CIII-HR-0108-10-1617 '*Concurrent product and technology development - teaching, research and implementation of joint programs oriented in production and industrial engineering*', since 2013
- [2] **JKU ERASMUS coordinator** with the University of Rijeka, Faculty of Engineering (RITEH), since 2012

Additional

- [1] **JKU coordinator for Texas Instrument university program:** Funding of TI products for the Mechatronic institutes (in merchandise value of about 1,500.00\$/year) from 2011 to 2015

INTERNATIONAL COOPERATIONS:

External guest invitations

- [1] Xu Zhenyao, PhD student, Kyungsoong University Busan, Korea, 08/01/2014-10/01/2014, 2 months, research on *eddy current sensors*
- [2] Nobuyuki Kurita, Assistant Professor, Gunma University, Japan, 02/28/2017-9/30/2017, 7 months, research on a *bearingless axial force motor with PCB winding system*
- [3] Alexey Vedyakov, Post-PhD Senior Researcher, ITMO University, Saint Petersburg, Russia, 10/19/2017-11/25/2017, 1.25 months, research on *control of a magnetically levitated sphere*
- [4] Maksim Sokolov, PhD student, Aalto University, Finland, 02/05/2018-06/01/2018, 5 months, research on a *bearingless synchronous reluctance motor*

Internships

- [1] Karlo Radman, ERASMUS Master student, University of Rijeka, Croatia, 03/11/2013-06/14/2013, 3 months, research on *bearingless segment motors*
- [2] Branimir Mrak, ERASMUS Master student, University of Rijeka, Croatia, 03/11/2013-06/14/2013, 3 months, research on *bearingless high speed motors*

- [3] Miroslav Puskaric, ERASMUS+ Master student, University of Rijeka, Croatia, 10/01/2014-01/30/2015, 4 months, research on a *magnetically levitated shaft*
- [4] Nikolina Katalinic, CEEPUS Master student, University of Rijeka, Croatia, 03/01/2015-05/31/2015, 3 months, research on *field-oriented control of a PMSM with X2C*
- [5] Said Didovic, ERASMUS+ Master student, University of Rijeka, Croatia, 03/01/2015-07/15/2015, 4.5 months, research on self-sensing *field-oriented control of a PMSM with X2C*
- [7] Neven Bulic, CEEPUS Associate Professor, University of Rijeka, Croatia, 06/01/2015-06/09/2015, 06/01/2016-06/08/2016, 05/24/2017-05/31/2017 and 05/28/2018-06/01/2018, 1 month, *teaching and supervision*
- [6] Gordan Segon, CEEPUS PhD student, University of Rijeka, Croatia, 08/01/2016-31/08/2016, 1 month, testing the *capabilities of the X2C software*
- [6] Vedran Jurdana, ERASMUS+ Master student, University of Rijeka, Croatia, 02/26/2017-06/30/2017, 4 months, research on the *optimization of a bearingless flux-switching motor*
- [7] Davor Udovic, CEEPUS Master student, University of Rijeka, Croatia, 07/01/2017-09/30/2017, 3 months, research on the *implementation of a self-sensing FOC scheme for a PMSM*
- [8] Nikola Turk, CEEPUS PhD student, University of Rijeka, Croatia, 02/01/2017-28/02/2017 and 07/01/2018-07/31/2018, 2 months, research on the *nonlinear control of a bearingless flux-switching motor*
- [8] Fakher Khashman, IAESTE internship Master student, 07/15/2021-11/15/2021, work on an *active balancing system and construction of a vacuum chamber*
- [9] David Rura, Erasmus+ PhD student, Brno university of technology, Czechia, 07/27/2021-09/26/2021, 2 months, research on an *active magnetic bearing and electrodynamic bearing*

Organized talks

- [1] Alojz Slutej, Global R&D Manager (Crane Systems) ABB, Croatia, 11/17/2011, *Introduction into electrical crane system technologies*
- [2] Masaya Takasaki, Assistant Professor, Saitama University, Japan, 06/09/2017, *Haptic display*
- [3] Maksim Sokolov, PhD student, Aalto University Finland, 03/02/2018, *Work of the electric drives research group of Aalto university*
- [4] Daniel Dietz, PhD student, TU Darmstadt, Germany, 01/25/2019, *Bearingless PM synchronous machine with zero-sequence current driven star point-connected active magnetic thrust bearing*
- [5] Erik Severson, Associate Professor, WEMPEC, USA, 04/26/2019, *Go bearingless: Advances in 3 pole AMBs and no voltage combined winding bearingless motors*
- [6] Gernot Steinmair, Engineering Center Steyr GmbH & Co KG, Steyr, 07/18/2019, *Zukunft gestalten - Wie Elektromobilität die Antriebstechnik neu definiert*

COMMITTEE MEMBERSHIP DUTIES:

JKU

- [1] Member of “Institutskonferenz” of the Institute of Electrical Drives and Power Electronics, since 2015
- [2] Member of “Studienkommission Maschinenbau”, since 2019
- [3] Auxiliary Member of “TNF Fakultätsversammlung”, since 2019
- [4] Auxiliary Member of “Studienkommission Dr.-TN”, since 2019
- [5] Auxiliary Member of “Strategiekommision”, since 2020
- [6] Auxiliary Member of “Berufungskommision Elektrische Messtechnik”, since 2021

External

- [1] University of Applied Sciences Wiener Neustadt: Member of the „Expertenkommission zur Entwicklung des Bachelor-Studiengangs Produktionstechnik und Kreislaufwirtschaft“, in 2020

SCIENTIFIC COMMUNITY CONFERENCES DUTIES:

Co-chair

- [1] International Symposium on Magnetic Bearings 2014 (ISMB14) in Linz mainly with multiple obligations as program chair
- [2] Innovative Klein- und Mikroantriebstechnik, 13. ETG/GMM-Fachtagung, to take place in 09/2022 in Linz

Program committee

with review obligations

- [1] 12th International Symposium on Magnetic Bearings (ISMB12), 2010
- [2] 13th International Symposium on Magnetic Bearings (ISMB13), 2012
- [3] 15th International Symposium on Magnetic Bearings (ISMB14), 2016
- [4] 16th International Symposium on Magnetic Bearings (ISMB16), 2018
- [5] 17th International Symposium on Magnetic Bearings (ISMB17), 2020, postponed to 2021

Track chair

- [1] IEEE International Electric Machines and Drives Conference (IEMDC) 2017, Track S1 ‘*Bearingless Motors*’ with three sessions
- [2] IEEE International Electric Machines and Drives Conference (IEMDC) 2019, Track SSHS about bearingless and high-speed motors with six sessions
- [3] IEEE Energy Conversion Conference and Exposition (ECCE) 2019, Track G12 ‘*High speed machines, bearingless machines, high frequency effects*’
- [4] IEEE Energy Conversion Conference and Exposition (ECCE) 2020, Track G12 ‘*High speed machines, bearingless machines, high frequency effects*’
- [5] IEEE Energy Conversion Conference and Exposition (ECCE) 2021, Track G12 ‘*High speed machines, bearingless machines, high frequency effects*’

Session chair

- [1] IEEE International Conference on Electrical Machines and Systems (ICEMS2006), 2006
- [2] 11th International Symposium on Magnetic Bearings (ISMB11), 2008
- [3] IEEE 8th International Conference on Power Electronics & ECCE Asia (ICPE8), 2011
- [4] IEEE International Conference on Industrial Technology (ICIT2013), 2013
- [5] IEEE International Power Electronics Conference (IPEC ECCA Asia), 2014, 2 sessions
- [6] 14th International Symposium on Magnetic Bearings (ISMB14), 2014, 2 sessions
- [7] 11th IEEE International Conference on Power Electronics and Drive Systems (PEDS11), 2015, 2 sessions
- [8] 15th International Symposium on Magnetic Bearings (ISMB11) 2016
- [9] IEEE International Electric Machines and Drives Conference (IEMDC), 2017: 2 sessions
- [10] International Power Electronics Conference (ECCE ASIA), 2018
- [11] IEEE International Electric Machines and Drives Conference (IEMDC), 2019: 2 sessions
- [12] IEEE International Electric Machines and Drives Conference (IEMDC), 2021: 2 sessions

Tutorials:

- [1] IEEE Energy Conversion Conference and Exposition (ECCE), 2018: Lose Your Bearings - Introduction to Magnetically Suspended Shafts, (as one of four presenting instructors)
- [2] IEEE International Electric Machines & Drives Conference (IEMDC), 2019: Lose Your Bearings - A Deep Dive into Magnetically Suspended Motors, (as one of five presenting instructors)
- [3] 12th International Conference on Electrical and Electromechanical Energy Conversion – Energy Conversion Congress and Exposition (ECCE) Asia, 2021: Principles and current status of bearingless motors, (as one of three presenting instructors)

SCIENTIFIC COMMUNITY EDITORIAL DUTIES:

- [1] IEEE Industrial Application Society Associated Editor for the Special Session on “Magnetically Levitated Motor Systems”, since 2020

SCIENTIFIC COMMUNITY REVIEWS:

Journals:

scarcely:

- [1] ASME Journal of Dynamic Systems, Measurement and Control
- [2] Proceedings of the Institution of Mechanical Engineers, Part I Journal of Systems and Control Engineering
- [3] Proceedings of the Institution of Mechanical Engineers, Part C, Journal of Mechanical Engineering Science
- [4] The International Journal for Computation and Mathematics in Electrical and Electronic Engineering (Emerald COMPEL)
- [5] JSME Journal of System Design and Dynamics
- [6] IEEE Transactions on Magnetics (Conferences)

regularly:

- [1] IEEE Transactions on Industry Applications
- [2] IEEE Transactions on Industrial Electronics
- [3] IEEE Transactions on Energy Conversion
- [4] IEEE Transactions on Mechatronics

Conferences: (with at least 5 reviews)

- [1] IEEE 8th International Conference on Power Electronics & ECCE Asia (ICPE), 2011
- [2] IEEE Vehicle Power and Propulsion Conference (VPPC), 2011
- [3] 9th Annual Conference of the IEEE Industrial Electronics Society (IECON), 2013
- [4] IEEE International Electric Machines & Drives Conference (IEMDC), 2015
- [5] 11th IEEE International Conference on Power Electronics and Drive Systems is a Technology Conference (PEDS), 2015
- [6] 12th International Conference on Electrical Machines (ICEM), 2016
- [7] IEEE International Electric Machines & Drives Conference (IEMDC), 2019
- [8] IEEE Energy Conversion Conference and Exposition (ECCE), 2019
- [9] IEEE Energy Conversion Conference and Exposition (ECCE), 2020
- [10] 14th International Conference on Electrical Machines (ICEM), 2020
- [11] IEEE International Conference on Electrical Machines (ICEM), 2021

Scientific institutions:

- [1] STW (The Netherlands Organisation for Scientific Research Funding), 2019
- [2] JKU LIT (Linz Institute of Technology) Call, 2019

SELECTED INVITED TALKS:

Conference keynote speaker

- [1] Internationale Kleinmaschinen Tagung - 9. GMM/ETG-Fachtagung Innovative Klein- und Mikroantriebstechnik, Nürnberg, Germany, 9/20/2013, *Bearingless Slice Motors: General Overview and the Special Case of Novel Magnet-Free Rotors*

University speeches

(about conducted research work, mainly in the field of bearingless motors)

- [1] Massachusetts Institute of Technology, Boston, USA, 9/14/2011, 9/11/2013, 9/9/2015, 9/21/2018
[2] Technical University Vienna, Austria, 11/10/2011, 1/11/2012 and 2/27/2012
[3] James Madison University, Harrisonburg, USA, 9/13/2013
[4] Wisconsin Electric Machines and Power Electronics Consortium, Madison, USA, 5/15/2015 and 9/28/2018
[5] Shizuoka University, Hamamatsu, Japan, 5/22/2014 and 8/8/2016
[6] Saitama University, Saitama, Japan, 5/24/2014
[7] Tokyo Institute of Technology, Tokyo, Japan, 5/26/2014 and 8/9/2016
[8] Gunma University, Kiryu, Japan, 5/25/2018
[9] Technical University Eindhoven, The Netherlands, 6/24/2019
[10] Hochschule Zittau/Görlitz, Germany, 11/15/2019

Company speeches

(about conducted research work, mainly in the field of bearingless motors)

- [1] Institute Ruder Boskovic, Zagreb, Croatia, 10/5/2011
[2] INETEC - Institute for Nuclear Technology Ltd., Zagreb, Croatia, 1/15/2014
[3] Nidec research center, 'Bearingless motor symposium', Tokyo, Japan, 8/2/2016

MEMBERSHIPS:

- [1] Institute of Electrical and Electronics Engineers (IEEE), member since 2005; senior member since 2021
[2] VDE Verband der Elektrotechnik Elektronik Informationstechnik, since 2009