Curriculum Vitae

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Elmar Arne Rueckert

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Personal Data

Current Position	**Full Professor (§98 or W3 equiv. in Germany)**, *Montanuniversität Leoben, Austria*, Chair of the Institute for Cyber-Physical-Systems (CPS).
Family Status	Married, three children.

Research interests

Computational Neuroscience **(C)**	Human Motor Control, Movement Decoding and Understanding, Brain-Computer-Interfaces, Electroencephalography, Spiking Neural Networks, Optimal Feedback Control, Muscle Synergies, Probabilistic Time-Series Models.
Machine and Deep Learning **(M)**	Deep Networks, Graphical Models, Probabilistic Inference, Variational Inference, Gaussian Processes, Transfer Learning, Message Passing, Clustering, Bayesian Optimization, Lazy Learning, Genetic Programming, LSTMs.
Robotics **(R)**	Stochastic Optimal Control, Movement Primitives, Reinforcement Learning, Imitation Learning, Morphological Computation, Quadruped Locomotion, Humanoid Postural Control, Grasping, Tactile Learning, Dynamic Control.
Medical Robotics and Human Motor Control **(H)**	Tumour Tracking, Self-Motion Compensation, Prosthesis Control, Motor Adaptation, Skill Learning, Postural Control, Telepresence, Embodiment, Congruence in Teleoperation, Interactive Learning from human feedback.

Education

2010/02–2014/02	**Dr. techn. (equivalent to Ph.D.)**, *Technische Universität Graz, Austria*, in Computer Science under supervision of Wolfgang Maass.
Title	Biologically inspired motor skill learning in robotics through probabilistic inference (PDF).
Defense	Feb. 4th, 2014. **Summa Cum Laude** (with honors).
2007/02–2010/01	**Dipl.-Ing. (M.Sc.)**, *Technische Universität Graz, Austria*, in Artificial Intelligence and Computer Vision under supervision of Horst Bischof.
Title	Simultaneous localisation and mapping for mobile robots with recent sensor technologies, (PDF).
Defense	Jan. 28, 2010. **Summa Cum Laude** (with honors).

Professional Experience

Academic

2021/03–now **Full Professor**, *Montanuniversität Leoben*, Chair of the Institute for Cyber-Physical-Systems.

2018/02–2021/02 **Assistant Professor**, *University of Lübeck*, At the Institute for Robotics and Cognitive Systems.

2016/11–2021/01 **Research Group Leader**, *Supervisor of two Ph.Ds, PI of GOAL-Robots*. Computational models for learning from intrinsic motivation and open-ended movement skill libraries.

2014/04–2016/02 **Senior Research Scientist**, *Project leader in the EU-Project CoDyCo*. Movement primitive models for compliant torque control of humanoids and tactile learning.

2015/11–2016/01 **Senior Research Scientist**, *Project leader in the EU-Project TACMAN*. Manipulation and tactile learning with neural models.

2014/02–2015/10 **Postdoctoral fellow**, *Technische Universität Darmstadt*. Computational models for robot motion planning and human postural control.

2012/02–2014/02 **Lecturer**, *Technische Universität Graz*. Undergraduate course (3rd semester) on Data Structures and Algorithms with more than 380 registered students.

2010/02–2014/02 **Graduate Student**, *Technische Universität Graz*. Supervised by Wolfgang Maass, Institute for Theoretical Computer Science.

2009/04–2010/02 **Undergraduate Research Student**, *Technische Universität Graz*. Supervised by Horst Bischof, Institute for Computer Graphics and Vision.

Awards and Scholarships

2019 **Winner of the 'German AI-Young Researcher Price 2019'**, *KI-Denker der Zukunft (15k EURO)*, Most important AI price in Germany, Austria and Swiss for young AI researcher..

2019 **Advanced Robotics Best Paper Award**, *Probabilistic Movement Primitives under Unknown System Dynamics*, Journal of Advanced Robotics.

2018 **Best Paper Award**, *Learning to Categorize Bug Reports with LSTM Networks*, at the Int. Conference on Advances in System Testing and Validation.

2017 **Hanns-Voith-Stiftungspreis 2017 'Digital Solutions' (supervisor of)**, *the best masters thesis by Daniel Tanneberg on*, Spiking Neural Networks Solve Robot Planning Problems.

2008 **European Exchange Program Scholarship**, University of Patra, Greece.

Current Job offers

2020 **Professorship in Neurorobotics**, *W2 tenure track W3 (full professorship)*, Technical University Chemnitz.

Teaching Experience

Lecturer (12-15 lecture units plus exercises and assignments)

2020 **Reinforcement Learning (RO5102 T)**, *SS2020, 4SWS*, University of Lübeck, graduate course, https://rob.ai-lab.science/teaching/reinforcement-learning-ro5102-t/.

2020, 2019 **Probabilistic Machine Learning (RO5101 T)**, *WS2020/21, WS2019/20, 4SWS*, University of Lübeck, graduate course, https://rob.ai-lab.science/teaching/probabilistic-machine-learning-ro5101-t/.

2020, 2019, 2018 **Humanoid Robotics (RO5300)**, *SS2020, SS2019, SS2018, 6ECTS*, University of Lübeck, undergraduate course, https://rob.ai-lab.science/teaching/humanoid-robotics-ro5300-ss2019, evaluation reports: 2019, 2018 .

2018 **Probabilistic Learning for Robotics (RO5601)**, *WS2018/19, 5ECTS*, University of Lübeck, undergraduate course, https://rob.ai-lab.science/teaching/past-lectures/probabilistic-learning-for-robotics-ro5601-ws18-19.

2012, 2013 **Datastructures and Algorithms (708.031)**, *In German. WS2012/13, WS2013/14*, Technische Universität Graz , undergraduate course with more than 370 students. Evaluation report: (2014) .

Guest Lecturer (Single lecture units per Topic)

2017, 2016, 2015 **Machine Learning - Statistical Approaches 1,(20-00-0358-iv)**, *Four Lecture units on: 1. Statistics Refresher (2015), 2. Gaussian Processes (2015), 3. Optimization Refresher (2016), 4. Logistic Regression and Support Vector Machines (2017)*, Technische Universität Darmstadt , graduate course.

2015 **Robot Learning (20-00-0629-vl)**, *on Optimal Control (2015)*, Technische Universität Darmstadt , graduate course.

2012 **Machine Learning B (708.061)**, *Two lecture units on 1. Introduction to Robotics (2012), Reinforcement Learning (2012).*, Technische Universität Graz , graduate course on advanced machine learning topics.

2011 **Machine Learning A (708.063)**, *on Probability Theory in Robotics (2011)*, Technische Universität Graz , graduate course on advanced neural network topics.

Student Supervision

Ph.D. Student Supervision

		C	M	R	H
2019/02–now	Honghu Xue: Probabilistic and Neural Control Mechanisms in Robot Learning, University of Luebeck. [1]	☐	☒	☒	☐
2018/03–now	Nils Rottmann: Learning Optimal Control and Planning Strategies in Mobile and Humanoid Robots, University of Luebeck. [2]	☐	☒	☒	☐

Graduated Ph.D. Students

2015/10–2020/12	Daniel Tanneberg: Machine Learning for Human-Like Tactile Manipulation, within the EU-project TACMAN, Co-Supervision with Prof. Jan Peters. University of Luebeck and Technische Universität Darmstadt. [3]	☒	☒	☒	☒

Visiting Ph.D. Student Supervision

2014/10–2015/10	Valerio Modugno: Learning soft task priorities for control of redundant robots, within the EU-project CoDyCo, Supervised by Serena Ivaldi at INRIA Nancy. Co-supervised by Elmar Rueckert and Jan Peters at Technische Universität Darmstadt. [4]	☒	☒	☐	☐

M.Sc. Theses Supervision

2019/12	Learning Robot Control Policies with Hierarchical Bayesian Optimization, University of Luebeck. [5]	☒	☒	☒	☒
2019/12	Mobile automatisierten Erzeugung von 3D-Objekten per Cloud/Edge Technologien, University of Luebeck. [6]	☐	☒	☐	☐
2018/01	Distributed Reinforcement Learning with Neural Networks for Robotics, Technische Universität Darmstadt. [7]	☒	☒	☐	☐
2017/06	Learning to Categorize Issues in Distributed Bug Tracker Systems, Technische Universität Darmstadt. [8]	☐	☒	☐	☐
2017/01	Adaptive Training Strategies for Brain-Computer-Interfaces, Technische Universität Darmstadt. Co-supervision with Moritz Grosse-Wentrup. [9]	☒	☐	☒	☐
2016/02	Learning Probabilistic Feedforward and Feedback Policies for Generating Stable Walking Behaviors, (PDF), Technische Universität Darmstadt. [10]	☒	☒	☐	☐

2016/01	Learning Probabilistic Classifiers from Electromyography Data for Predicting Knee Abnormalities, (PDF), Technische Universität Darmstadt. [11]	☐ ☒ ☒ ☒
2015/09	Spiking Neural Networks Solve Robot Planning Problems, (PDF), Technische Universität Darmstadt. Student is now with a Ph.D. program at Jan Peters' lab. [12]	☒ ☒ ☐ ☐
2014/11	Probabilistic Inference for Movement Planning in Humanoids, (PDF), Technische Universität Darmstadt. [13]	☐ ☒ ☒ ☐
2014/10	Extracting Low-Dimensional Control Variables for Movement Primitives, (PDF), Technische Universität Darmstadt. [14]	☐ ☒ ☒ ☐
2013/05	Monte Carlo Sampling Methods for Motor Control of Constraint High-dimensional Systems, (PDF), Technische Universität Graz. [15]	☐ ☒ ☐ ☐
2013/05	Probabilistic Models for Learning the Dynamics Model of Robots, (PDF), Technische Universität Graz. [16]	☐ ☒ ☐ ☐
2011/08	Structure Learning for Robotic Motor Control, Technische Universität Graz. The student is now with a Ph.D. program of Priv.-Doz. Dr. Dr. Daniel Braun's lab. [17]	☐ ☒ ☐ ☐

M.Sc. Project Supervision

2018/10–2019/01	Development of a Clinical Fraction Collector, University of Luebeck. [18]	☐ ☐ ☒ ☐
2017/07	LSTM Networks for Movement Planning in Humanoids, Technische Universität Darmstadt. [19]	☒ ☒ ☐ ☐
2016/10	Stochastic Optimal Control of Humanoid Robots in multi-contact environments, (PDF), Technische Universität Darmstadt. [20]	☒ ☐ ☒ ☒
2013/06	Reinforcement Learning with Dynamic Movement Primitives, (PDF), Technische Universität Graz. [21]	☒ ☐ ☐ ☐
2012/10	Gibbs Sampling Methods for Motor Control Problems with Hard Constraints, (PDF), Technische Universität Graz. [22]	☐ ☒ ☐ ☐

B.Sc. Theses Supervision

2019/12	Sensor Fusion for Autonomous Driving in Embedded Systems, University of Luebeck. [23]	☐ ☐ ☒ ☒
2019/11	Complete Coverage Path Planning with low-cost Robots, University of Luebeck. [24]	☐ ☐ ☒ ☒
2019/07	Pflanzenklassifikation basierend auf Chlorophyldetekoren, University of Luebeck. [25]	☐ ☐ ☒ ☒
2018/11	Simulation of optimal kinematic tool structures for robot guided ultrasound, University of Luebeck. [26]	☐ ☐ ☒ ☒
2018/10	Development of a universal ultrasound station tool fixation for clinical purposes, University of Luebeck. [27]	☐ ☐ ☒ ☐
2017/12	The Effects of Intrinsic Motivation Signals on Reinforcement Learning Strategies, Technische Universität Darmstadt. [28]	☒ ☒ ☐ ☐
2017/10	Genetic Reactive Programming with Haskell, Technische Universität Darmstadt. [29]	☐ ☒ ☐ ☐
2017/09	Simulation of the underactuated Sake Robotics Gripper in V-REP and ROS, Technische Universität Darmstadt. [30]	☒ ☒ ☐ ☐
2017/03	Nonparametric Deep Neural Networks for Movement Planning, (PDF), Technische Universität Darmstadt. [31]	☒ ☐ ☐ ☐
2016/12	Reinforcement Learning for Tactile-based Finger Gaiting, Technische Universität Darmstadt, (PDF). [32]	☒ ☐ ☒ ☒
2011/04	Ein Vergleich von Lernalgorithmen für Parametersuche im hochdimensionalen Raum, (PDF), Technische Universität Graz. [33]	☐ ☒ ☐ ☐

Publications

Journal Publications

Items starting with a solid symbol (•) highlight key publications without the PhD advisor (Wolfgang Maass) as co-author, others (◦) include the PhD advisor as co-author.

		C	M	R	H
2021	•Tanneberg, D.; Ploeger, K.; **Rueckert, E.**; Peters, J. (2021). SKID RAW: Skill Discovery from Raw Trajectories, *IEEE Robotics and Automation Letters (RA-L)*. [1]	☒	☒	☒	☐
	Cansev, M. E.; Xue, H.; Rottmann, N.; Bliek, A.; Miller, L.; **Rueckert, E.**; Beckerle, P. (2021). Interactive Human-Robot Skill Transfer: A Review of Learning Methods and User Experience, *Advanced Intelligent Systems*. [2]	☒	☒	☒	☒
	Jamsek, M.; Kunavar, T.; Bobek, U.; **Rueckert, E.**; Babic, J. (2021). Predictive exoskeleton control for arm-motion augmentation based on probabilistic movement primitives combined with a flow controller, *IEEE Robotics and Automation Letters (RA-L)*. [3]	☒	☒	☒	☒
2020	•Rottmann, N.; Bruder, R.; Schweikard A.; **Rueckert, E.** (2020). A novel Chlorophyll Fluorescence based approach for mowing area classification, *IEEE Sensors Journal*, doi: https://10.1109/JSEN.2020.3032722, https://ai-lab.science/wp/IEEESensorsJournal2020Rottmann.pdf, **Impact Factor of 3.0 (2019)**. [4]	☐	☒	☒	☐
	•Tanneberg, D.; **Rueckert, E.**; Peters, J. (2020). A neural computer architecture for learning algorithms, *Nature Machine Intelligence*. [5]	☒	☒	☒	☐
	Cartoni, E.; Mannella, F.; Santucci, V. G.; Triesch, J.; **Rueckert, E.**; Baldassarre, G. (2020). Competition Proposal: Robot open-Ended Autonomous Learning (REAL), *Proceedings of Machine Learning Research, 123: 142–152 (NeurIPS 2019 Competition and Demonstration Track)*, in press. [6]	☒	☒	☒	☐
2019	•Tanneberg, D.; Peters, J.; **Rueckert, E.** (2018). Intrinsic Motivation and Mental Replay enable Efficient Online Adaptation in Stochastic Recurrent Networks, *Neural Networks - Elsevier*, doi: https://doi.org/10.1016/j.neunet.2018.10.005, https://ai-lab.science/wp/NeuralNetworks2018Tanneberg.pdf, **Impact Factor of 7.197 (2017)**. [7]	☒	☒	☒	☐
2018	Sosic, A.; Zoubir, A.; **Rueckert, E.**; Peters, J.; Koeppl, H. (2018). Inverse Reinforcement Learning via Nonparametric Spatio-Temporal Subgoal Modeling, *Journal of Machine Learning Research (JMLR)*, https://rob.ai-lab.science/wp/JMLR2018Sosic.pdf, **(impact factor 2015, 3.44, 2014: 3.41)**. [8]	☒	☐	☒	☐
2017	Paraschos, A.; **Rueckert, E.**; Peters, J.; Neumann, G. (2017). Probabilistic Movement Primitives under Unknown System Dynamics, *Advanced Robotics*, https://ai-lab.science/wp/AR2018Paraschos.pdf, (impact factor 2015: 0.96, 2014: 1.38, h5-index 2012–2016: 23, h5-median: 30), **Best Paper Award**. [9]	☒	☐	☒	☐
2016	• **Rueckert, E.**; Camernik, J.; Peters, J.; Babic, J. (2016). Probabilistic Movement Models Show that Postural Control Precedes and Predicts Volitional Motor Control, *Nature: Scientific Reports*, doi:10.1038/srep28455, https://ai-lab.science/wp/SciReps_HumanContacts.pdf, **(impact f. 2016, 4.259, 2015: 5.228, h5-index 2012–2016: 131, h5-median: 190)**. [10]	☐	☒	☐	☒
	• **Rueckert, E.**; Kappel, D.; Tanneberg, D.; Pecevski, D; Peters, J. (2016). Recurrent Spiking Networks Solve Planning Tasks, *Nature: Scientific Reports*, doi:10.1038/srep21142, https://ai-lab.science/wp/SciReps_NeuralPlanning.pdf, **(impact f. see above)**. [11]	☒	☒	☒	☒

2013 ○ **Rueckert, E.**; Neumann, G.; Toussaint, M.; Maass, W. (2013). Learned graphical models for probabilistic planning provide a new class of movement primitives, *Frontiers in Computational Neuroscience*, 6, 97, doi:10.3389/fncom.2012.00097, https://ailab.science/wp/Frontiers2013aRueckert.pdf, (impact factor 2015, 2.85, 2014: 1.87, h5-index 2012–2016: 37, h5-median: 52). [12] ☒ ☒ ☐ ☐

• **Rueckert, E.**; d'Avella, A. (2013). Learned parametrized dynamic movement primitives with shared synergies for controlling robotic and musculoskeletal systems, *Frontiers in Computational Neuroscience*, 7, 138, doi:10.3389/fncom.2013.00138, https://ailab.science/wp/Frontiers2013bRueckert.pdf, (impact factor see above) [13] ☒ ☒ ☐ ☒

2012 **Rueckert, E.**; Neumann, G. (2012). Stochastic Optimal Control Methods for Investigating the Power of Morphological Computation, *Artificial Life*, 19, 1, doi:10.1162/ARTL_a_00085, https://ailab.science/wp/ArtificialLife2013Rueckert.pdf, (impact factor 2016, 1.316, 2015: 1.042, 2014:1.386, h5-index 2012–2016: 16, h5-median: 27). [14] ☒ ☒ ☐ ☐

Conference Publications

Items starting with a solid symbol (•) highlight key publications without the PhD advisor (Wolfgang Maass) as co-author, others (○) include the PhD advisor as co-author.

2020 • Rottmann, N.; Bruder, R.; Schweikard, A.; **Rueckert, E.** (2020). Exploiting Chlorophyll Fluorescense for Building Robust low-Cost Mowing Area, *IEEE Sensors, Rotterdam, Netherlands*. [15] ☐ ☒ ☒ ☐

Callar, T.; **Rueckert, E.**; Böttger, S.; Efficient Body Registration Using Single-View Range Imaging and Generic Shape Templates, *54th Annual Conference of the German Society for Biomedical Engineering (BMT)*. [16] ☐ ☐ ☒ ☒

• Rottmann, N.; Kunavar, T.; Babic, J.; Peters, J.; **Rueckert, E.**. Learning Hierarchical Acquisition Functions for Bayesian Optimization, *International Conference on Intelligent Robots and Systems (IROS)*. [17] ☐ ☒ ☒ ☐

• Honghu, X.; Boettger, S.; Rottmann, N.; Pandya, H.; Bruder, R.; Neumann, G.; Schweikard, A.; **Rueckert, E.** (2020). Sample-Efficient Covariance Matrix Adaptation Evolutional Strategy via Simulated Rollouts in Neural Networks, *International Conference on Advances in Signal Processing and Artificial Intelligence (ASPAI' 2020)*. [18] ☒ ☒ ☐ ☒

2019 Stark, S.; Peters, J.; **Rueckert, E.** (2019). Experience Reuse with Probabilistic Movement Primitives, *Proceedings of the IEEE/RSJ Conference on Intelligent Robots and Systems (IROS)*, https://ailab.science/wp/IROS2019Stark.pdf, **(h5-index 2012–2016: 50, h5-median: 68)**. [19] ☒ ☒ ☐ ☒

Rottmann, N.; Bruder, R.; Schweikard, A.; **Rueckert, E.** (2019). Loop Closure Detection in Closed Environments, *European Conference on Mobile Robots (ECMR), Prague, Czech Republic*, https://ailab.science/wp/ECMR2019Rottmann.pdf. [20] ☐ ☒ ☒ ☐

2019 Rottmann, N.; Bruder, R.; Schweikard, A.; **Rueckert, E.** (2019). Cataglyphis ant navigation strategies solve the global localization problem in robots with binary sensors, *Proceedings of Int. Conference on Bio-inspired Systems and Signal Processing (BIOSIGNALS), Prague, Czech Republic*, https://rob.ailab.science/wp/Biosignals2018Rottmann.pdf. [21] ☐ ☒ ☒ ☐

2018 Gondaliya, K.; Bernecker, C.; Peters, J.; **Rueckert, E.** (2018). Learning to categorize bug reports with LSTM networks, *International Conference on Advances in System Testing and Validation Lifecycle (VALID)*, https://rob.ailab.science/wp/VALID2018Gondaliya.pdf, **Best Paper Award**. [22] ☒ ☒ ☐ ☒

2017 • **Rueckert, E.**; Nakatenus M.; Tosatto S.; Peters J. (2017). Learning Inverse Dynamics Models in O(n) time with LSTM networks, *Proceedings of the International Conf. on Humanoid Robots (HUMANOIDS)*, https://ailab.science/wp/Humanoids2017Rueckert.pdf, (h5-index 2012–2016: 26, h5-median: 38). [23] ☒ ☒ ☐ ☐

	Stark, S.; Peters, J.; **Rueckert, E.** (2017). A Comparison of Distance Measures for Learning Nonparametric Motor Skill Libraries, *Proceedings of the International Conf. on Humanoid Robots (HUMANOIDS)*, https://ai-lab.science/wp/Humanoids2017Stark.pdf, (h5-index see above). [24]	☒	☒	☐	☒
	Tanneberg, D.; Peters, J.; **Rueckert, E.** (2017). Efficient Online Adaptation with Stochastic Recurrent Neural Networks, *Proceedings of the International Conf. on Humanoid Robots (HUMANOIDS)*, https://ai-lab.science/wp/Humanoids2017Tanneberg.pdf, (h5-index see above). [25]	☒	☒	☐	☐
	• Tanneberg, D.; Peters, J.; **Rueckert, E.** (2017). Online Learning with Stochastic Recurrent Neural Networks using Intrinsic Motivation Signals, *Proceedings of the International Conference on Robot Learning (CoRL)*, https://ai-lab.science/wp/CoRL2017Tanneberg.pdf, **(1st time event, paper acceptance rate: 29%, selected as long talk paper with a acceptance rate of 10%)**. [26]	☒	☒	☐	☐
2016	• Tanneberg, D.; Peters, J.; **Rueckert, E.** (2016). Deep Spiking Networks for Robot Learning and Planning, *Proceedings of the International Conf. on Humanoid Robots (HUMANOIDS)*, Nov. 15-17, Cancun Mexico, https://ai-lab.science/wp/Humanoids2016Tanneberg.pdf, (h5-index 2012–2016: 26, h5-median: 38). [27]	☒	☒	☐	☐
	Azad, M.; Ortenzi, V.; Lin, H., C.; **Rueckert, E.**; Mistry, M. (2016). Model Estimation and Control of Complaint Contact Normal Force, *Proceedings of the Int. Conference on Humanoid Robots (HUMANOIDS)*, Nov. 15-17, Cancun Mexico, https://ai-lab.science/wp/Humanoids2016Azad.pdf, (h5-index see above). [28]	☒	☒	☐	☐
	Weber, P.; **Rueckert, E.**; Calandra, R.; Peters, J.; Beckerle, P. (2016). A Low-cost Sensor Glove with Vibrotactile Feedback and Multiple Finger Joint and Hand Motion Sensing for Human-Robot Interaction, *Proceedings of the IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, Aug. 26-31, New York, USA, https://ai-lab.science/wp/Romans2016Weber.pdf, (h5-index 2012–2016: 21, h5-median: 28). [29]	☒	☐	☒	☐
	Modugno, V.; Neumann, G.; **Rueckert, E.**; Oriolo, G.; Peters, J.; Ivaldi, S. (2016). Learning soft task priorities for control of redundant robots, *Proceedings of the International Conference on Robotics and Automation (ICRA)*, May, 16-21, Stockholm, Sweden, https://ai-lab.science/wp/ICRA2016Modugno.pdf, **(h5-index 2012–2016: 71, h5-median: 95)**. [30]	☐	☒	☐	☐
	Kohlschuetter, J.; Peters, J.; **Rueckert, E.**. (2016). Learning Probabilistic Features from EMG Data for Predicting Knee Abnormalities, *Proceedings of the XIV Mediterranean Conference on Medical and Biological Engineering and Computing (MEDICON)*, March 31st - April 2nd, Paphos, Cyprus, https://ai-lab.science/wp/Medicon2016Kohlschuetter.pdf, (h5-index 2012–2016: 9, h5-median: 11). [31]	☐	☒	☐	☒
2015	• **Rueckert, E.**; Mundo, J.; Paraschos, A.; Peters, J.; Neumann, G. (2015). Extracting Low-Dimensional Control Variables for Movement Primitives, *Proceedings of the International Conference on Robotics and Automation (ICRA)*, May 26-30, Seattle, Washington, USA, https://ai-lab.science/wp/ICRA2015Rueckert.pdf, **(h5-index 2012–2016: 71, h5-median: 95)**. [32]	☒	☒	☐	☐
	Calandra, R.; Ivaldi, S.; Deisenroth, M.; **Rueckert, E.**; Peters, J. (2015). Learning Inverse Dynamics Models with Contacts, *Proceedings of the International Conference on Robotics and Automation (ICRA)*, May 26-30, Seattle, Washington, USA, https://ai-lab.science/wp/ICRA2015Calandra.pdf, **(h5-index see above)**. [33]	☒	☒	☐	☐

		C	M	R	H
	Paraschos, A.; **Rueckert, E.**; Peters, J; Neumann, G. (2015). Model-Free Probabilistic Movement Primitives for Physical Interaction, *Proceedings of the IEEE/RSJ Conference on Intelligent Robots and Systems (IROS)*, Sept. 28 - Oct. 02, Hamburg, Germany, https://ai-lab.science/wp/IROS2015Paraschos.pdf, **(h5-index 2012–2016: 50, h5-median: 68)**. [34]	☒	☒	☐	☐
2014	**Rueckert, E.**; Mindt, M.; Peters, J.; Neumann, G. (2014). Robust Policy Updates for Stochastic Optimal Control, *Proceedings of the International Conf. on Humanoid Robots (HUMANOIDS)*, Nov. 18 - 20, Madrid, Spain, https://ai-lab.science/wp/Humanoids2014Rueckert.pdf, (h5-index 2012–2016: 26, h5-median: 38). [35]	☒	☐	☒	☐
2011	**Rueckert, E.**; Neumann, G. (2011). A study of Morphological Computation by using Probabilistic Inference for Motor Planning, *Proceedings of the Int. Conference on Morphological Computation (ICMC)*, pp.51–53, Sep. 13-15, Venice, Italy, https://ai-lab.science/wp/ICMC2011Rueckert.pdf. [36]	☐	☒	☐	☐

Posters and Abstract Proceedings

		C	M	R	H
2019	Boettger S.; Callar T.C.; Schweikard A.; **Rueckert, E.**. (2019). Medical robotics simulation framework for application-specific optimal kinematics, *In Proc. of the Current Directions in Biomedical Engineering (BMT)*. [37]	☒	☐	☐	☒
	Boettger S.; Callar T.C.; Schweikard A.; **Rueckert, E.** (2019). Medical robotics simulation framework for application-specific optimal kinematics, *The 53rd Annual Conference of the German Society for Biomedical Engineering (DGBMT within VDE)*, Sept. 25-26, Frankfurt, DE. [38]	☒	☐	☐	☒
	Rueckert, E.; Philipp J.; Alexander D.; Schweikard A. (2019). Dynamic control strategies for cable-driven master-slave robots, *Proceedings on Minimally Invasive Surgery (MIC)*, Jan. 23-24, Luebeck, DE. [39]	☐	☒	☒	☐
2017	Thiem, S.; Stark, S.; Tanneberg, D.; Peters, J.; **Rueckert, E.** (2017). Simulation of the underactuated Sake Robotics Gripper in V-REP, *Workshop Abstract of the International Conference on Humanoid Robots (HUMANOIDS)*, Nov. 15-17, Birmingham, UK, https://ai-lab.science/wp/Humanoids2017Thiem.pdf. [40]	☒	☐	☒	☐
2016	Sharma, D.; Tanneberg, D.; Grosse-Wentrup, M.; Peters, J.; **Rueckert, E.** (2016). Adaptive Training Strategies for BCIs, *Cybathlon Symposium*, SWISS Arena, Oct 6, 2016, https://ai-lab.science/wp/Cybathlon2016Sharma.pdf. [41]	☒	☐	☒	☒
2015	**Rueckert, E.**; Lioutikov, R.; Calandra, R.; Schmidt, M.; Beckerle, P.; Peters, J. (2015). Low-cost Sensor Glove with Force Feedback for Learning from Demonstrations using Probabilistic Trajectory Representations, *Workshop Abstract of the International Conference on Robotics and Automation (ICRA)*, May 26-30, Seattle, Washington, USA, arxiv.org/abs/1510.03253, https://ai-lab.science/wp/ICRA2015bRueckert.pdf. [42]	☒	☐	☒	☐
2013	**Rueckert, E.**; Kappel, D.; Neumann,D.; Toussaint,M.; Maass, W. (2013). Principles for an Alternative Design of Movement Primitives that Uses Probabilistic Inference in Learned Graphical Models, *Workshop at the International Conference on Robotics and Automation (ICRA)*, May 6-10, Karlsruhe, Germany, https://ai-lab.science/wp/ICRA2013Rueckert.pdf. [43]	☒	☒	☐	☐
	Rueckert, E.; d'Avella, A. (2013). Learned Muscle Synergies as Prior in Dynamical Systems for Controlling Bio-mechanical and Robotic Systems, *Proceedings of Neural Control of Movement Conference (NCM)*, **selected as long talk in highly competitive selection process**, pp.27–28, Aug. 16-20, Puerto Rico, USA. [44]	☒	☒	☐	☒

Theses

		C	M	R	H
2014	**Rueckert, E.**. (2014). Biologically inspired motor skill learning in robotics through probabilistic inference, *Ph.D. Thesis*, Technische Universität Graz, https://ai-lab.science/wp/Thesis2014Rueckert.pdf. [45]	☒	☒	☒	☒
2010	**Rueckert, E.**. (2010). Simultaneous localisation and mapping for mobile robots with recent sensor technologies, *Master Thesis*, Technische Universität Graz, https://ai-lab.science/wp/Thesis2010Rueckert.pdf. [46]	☐	☒	☐	☐

Talks

		C	M	R	H
2021/03	Adaptive Neural Robot Learning. **Invited Talk**. At the *Universität Passau, Germany* [1]	☒	☐	☒	☒
2021/03	Lernende intelligente Roboter **Invited Talk**. At the *VDI-Netzwerk Young Engineers, Germany* [2]	☒	☐	☒	☒
2020/12	Wie können Roboter lernen? **Invited Talk**. At the *Carl-Jacob-Burckhardt-Gymnasium, Luebeck, Germany* [3]	☒	☐	☒	☒
2020/11	Robot Learning and Industrial Applications. **Invited Talk**. At the *Technische Universität Clausthal, Germany* [4]	☒	☐	☒	☒
2020/11	Robot Learning and Embedded Systems. **Invited Talk**. At the *Montan Universität Leoben, Austria* [5]	☒	☐	☒	☒
2020/09	Neural and Probabilistic Decision Making for High Level Autonomous Systems. **Invited Talk**. At the *4. Auto.AI Europe Conference, Berlin, Germany* [6]	☒	☐	☒	☒
2020/09	Predicting multiple Driving Hypotheses in Autonomous Systems. **Keynote**. At the *AutoSens Europe Conference, Brussels, Belgium* [7]	☒	☐	☒	☒
2020/09	Probabilistic Robot Control and Learning. **Invited Talk**. Keynote at the *German Conference on Artificial Intelligence (KI2020)*, Bamberg, Germany. [8]	☒	☐	☒	☒
2020/08	Probabilisitic Robot Learning. **Invited Talk**. At the *Universität Freiburg* [9]	☒	☐	☒	☒
2020/06	Neural and Probabilisitic Artificial intelligence. **Invited Talk**. At the *Universität Hamburg* [10]	☒	☐	☒	☒
2020/02	Probabilisitic Artificial intelligence. **Invited Talk**. At the *Universität Göttingen* [11]	☒	☐	☒	☒
2020/01	Neural and Probabilistic Robot Control. **Invited Talk**. At the *Friedrich-Alexander-Universität Erlangen* [12]	☒	☐	☒	☒
2019/11	Deep neural and probabilistic learning from few samples. **Keynote**. At the *Expertenforum 'Trends in der Mess- und Automatisierungstechnik' 2019* [13]	☒	☐	☒	☒
2019/11	Adaptive Learning Methods for Autonomous Systems. **Invited Talk**. At the *Technische Universität München* [14]	☒	☐	☒	☒
2019/11	Neuronale und stochastische Lernmethoden in der Robotik. **Keynote**. At the *Fachtagung Messunsicherheit 2019* [15]	☒	☐	☒	☒
2019/11	Artificial Intelligence for autonomous Robots. **Invited Talk**. At the *AI Lecture Series, Johannes Kepler University Linz, Austria.* [16]	☒	☒	☒	☒
2019/10	Powerful Predictive Human Motion Models **Invited Talk**. At the *Exo 2019 Conference in Berlin* [17]	☒	☐	☒	☒
2019/10	Künstliche Intelligenz - Chance oder Gefahr? **Keynote**. At the *VDE - Verband der Elektrotechnik Elektronik Informationstechnik e.V. Lübeck* [18]	☒	☐	☒	☒
2019/07	Neural and probabilistic Robot Learning. **Invited Talk**. At the *German University in Cairo (GUC), Berlin Campus, Germany.* [19]	☒	☒	☒	☒
2019/07	Neuro Robotic Motor Skill Learning. **Invited Talk**. At the *Technische Universität Chemnitz, Germany.* [20]	☒	☒	☒	☒

2019/06	A Neural Inference Framework for Planning, Model-Predictive Control and Online Adaptation. **Invited Talk**. At the *Intrinsic Motivation Learning Summer School, University Frankfurt.* [21]	☒ ☒ ☒ ☒
2019/06	Neural and probabilistic model learning in robots and humans. **Invited Talk**. At the *Robotics Science and Systems (RSS 2019) Workshop Neurorobotics, Freiburg, Germany.* [22]	☒ ☒ ☒ ☒
2019/06	Neural and probabilistic learning methods for autonomous systems. **Invited Talk**. At the *Kolloquium sichere autonome Systeme*, University of Luebeck, Germany. [23]	☒ ☒ ☒ ☒
2019/04	Autonome Elektrofahrzeuge als urbane Lieferanten. **Invited Talk**. At the *Robert-Bosch Stiftung, Stuttgart.* [24]	☒ ☒ ☒ ☐
2019/04	Neural Network implementations of the Probabilistic Inference Tasks Planning, MPC and online Adaptation. **Invited Talk**. At the *Machine Learning & Robotics Lab, University Stuttgart.* [25]	☒ ☒ ☒ ☒
2019/03	Künstliche Intelligenz in der Robotik. **Invited Talk**. At the *Naturwissenschaftlicher Verein zu Lübeck gegründet 1872, Lübeck.* [26]	☒ ☒ ☒ ☒
2019/02	Erfahrungen aus den EU-Projekten AMARSi, CoDyCo und Goal-Robots. **Invited Talk**. *Erfahrungsaustausch zu Horizont 2020, Bonn, Germany.* [27]	☐ ☐ ☐ ☐
2019/01	Event-based neural motion planning and learning in robots. **Invited Talk**. At the *International Workshop on Intelligence Augmentation and Amplification, Kaiserslautern, Germany.* [28]	☒ ☒ ☒ ☒
2019/01	Ausblick - KI in der Robotik. **Invited Talk**. At the *VDI-Thesen und Handlungsfelder Automation 2030, Kloster Jakobsberg.* [29]	☒ ☒ ☒ ☒
2018/11	Neural Robot Learning. **Invited Talk**. At the *MetaNook 2018, Lübeck.* [30]	☒ ☒ ☒ ☒
2018/11	Neural and Probabilistic Learning Methods. **Invited Talk**. At the *Institut für Informatik, Universität Göttingen.* [31]	☒ ☒ ☒ ☒
2018/11	Probabilistic Neural Planning for Robotics. **Invited Talk**. At the *Universität Göttingen.* [32]	☒ ☒ ☒ ☒
2018/07	Neural and Probabilistic Learning for Robotics and Humans. **Invited Talk**. At the *Technische Universität München.* [33]	☒ ☒ ☒ ☒
2018/07	Neurorobotics: Learning neural and probabilistic models for robots and humans. **Invited Talk**. At the *Technische Universität Berlin, Electrical Engineering and Computer Science.* [34]	☒ ☒ ☒ ☒
2018/07	Deep Learning for Motor Control. **Invited Talk**. At the *Lübeck 2018 Summer Academy on Medical Technology.* [35]	☐ ☒ ☒ ☒
2018/06	Learning Neural and probabilistic models with robots and humans. **Invited Talk**. *Institute for Neuro- and Bioinformatics, University of Luebeck.* [36]	☒ ☒ ☒ ☒
2018/06	Neural and probabilistic models for learning in robots and humans. **Invited Talk**. At the *Institute of Medical Informatics, University of Luebeck.* [37]	☒ ☒ ☒ ☒
2018/06	Models of human movement kinematics for predictions. **Invited Talk**. At the *Institute for Neurogenetics, University of Luebeck.* [38]	☒ ☒ ☐ ☒
2018/04	Probabilistic models for motor skill learning in robots and humans. **Invited Talk**. At the *Institute for Electrical Engineering in Medicine*, University of Luebeck. [39]	☒ ☒ ☒ ☒
2017/09	Experience Replay in Model-based Reinforcement Leaning for Open-Ended Learning. **Invited Talk**. At the *Ethical Issues of Open Ended-Learning in Autonomous Robots* workshop at the International Conference on Development and Learning (ICDL), Lisbon, Portugal. [40]	☒ ☒ ☒ ☒
2017/02	Neural models for robot motor skill learning. **Invited Talk**. At the Universität Lübeck, Germany. [41]	☒ ☒ ☒ ☒
2017/01	Learning to Plan through Reinforcement Learning in Spiking Neural Networks. **Invited Talk**. At the Frankfurt Institute for Advanced Studies, Germany. [42]	☒ ☒ ☐ ☐
2016/11	Neural models for brain-machine interfaces and anthropomorphic robotics. **Invited Talk**. At the Albert-Ludwigs-Universität Freiburg, Germany. [43]	☒ ☒ ☒ ☒

2016/11	Probabilistic computational models of human motor control for robot learning. **Invited Talk**. At the INI Institute of Neuroinformatics Colloquium, Zurich, Switzerland. [44]	☒ ☒ ☐ ☒
2016/05	Models of Human Motor Control for Robotics. **Invited Talk**. At Joanneum Research. Guest of Michael Hofbaur, Klagenfurt, Austria. [45]	☒ ☒ ☒ ☒
2016/04	Probabilistic Models of Human Motor Control for Robotics and Prosthetics. **Invited Talk** at the Institute of Neural Engineering, Laboratory of Brain-Computer Interfaces, invited by Gernot Mueller-Putz, Graz, Austria. [46]	☒ ☒ ☒ ☒
2014/02	Biologically inspired motor skill learning in robotics through probabilistic inference. **Tutorial** at the Machine Learning Summer School, Maribor, Slovenia. [47]	☐ ☒ ☒ ☒
2013/04	Learned Muscle Synergies as Prior in Dynamical Systems for Controlling Bio-mechanical and Robotic Systems. **Plenary Talk** of Neural Control of Movement Conference (NCM), Puerto Rico, USA. [48]	☒ ☐ ☒ ☒
2012/11	Interaction between biology and robotics and what we can learn from it. **Invited Talk** at Andrea d'Avella's lab, Rome, Italy. [49]	☒ ☐ ☒ ☒
2011/11	Motor Skill Learning with Robots using Probabilistic Inference. **Invited Talk** at Jan Peters's lab, Darmstadt, Germany. [50]	☐ ☒ ☒ ☐
2011/06	Motor Skill Learning with Robots. **Invited Talk** at Marc Toussaint's lab, Berlin, Germany. [51]	☐ ☒ ☒ ☐

Workshops and Tutorials

2020/10 **Co-Organizer of an IROS Workshop**, *At the Intelligent Robots and Systems Conference (IROS). Title: New horizons of Robot Learning - from industrial challenges to future capabilities, (link), K. Listmann and* ***E. Rueckert***, Oct. 25–29, 2020, Las Vegas, USA.

2019/12 **Co-Organizer of a NeurIPS Competition**, *At the International Conference on Neural Information Processing Systems (NeurIPS). Title: Robot open-Ended Autonomous Learning (REAL), (link), E. Cartoni, S. Mohanty, F. Mannella, V. Santucci, M. Verme, S. Stark,* ***E. Rueckert****, J. Triesch, G. Baldassarre.*, Dec. 09–13, 2019, Vancouver, Canada.

2019/11 **Organizer of a Special Session on Machine Learning**, *At the VDI/GMA experts days: Trends in der industriellen Messtechnik - Von der Messung zur Information, Prof. M. Heizmann (KIT)*, Nov. 28–29, 2019, Karlsruhe, German.

2018/10 **Tutorial on Machine Learning**, *At the International Conference on Software Engineering Advances (SoftNet).Title: Neural and Probabilistic Learning Methods for Robotics and other Domains.*, Oct. 14–18, 2018, Nice, France.

2016/12 **Organizer of a NIPS Workshop**, *At the Conference of Advances in Neural Information Processing Systems (NIPS). Title: Neurorobotics: a chance for new ideas, algorithms and approaches, (link), Co-Organizer: Martin Riedmiller (Google Deep Mind).*, Dec. 05–10, 2016, Barcelona, Spain.

2014/02 **Tutorial on Robot Learning**, *At the Machine learning summer school with the technology and education for search and rescue robots project (TEDUSAR).Title: An introduction to robot learning and probabilistic movement planning.*, Feb., 2014, Maribor, Slovenia.

2016/12 **Organizer of a Two days Workshop**, *At the University of Zürich within the European project AMARSi-project.eu. Title: Hands-on Probabilistic Inference for Motor Control, Co-Organizer: Gerhard Neumann (University Tuebingen).*, 2011, Zurich, Switzerland.

Research Stays

2017, 2016	**Jozef Stefan Institute, Slovenia**, *Department of Automation, Biocybernetics and Robotics*, Jan Babic. Research collaboration on understanding motor adaptation in human postural control in dangerous situations.
2015, 2014	**Jozef Stefan Institute, Slovenia**, *Department of Automation, Biocybernetics and Robotics*, Jan Babic. Research internship on investigating the functional role of supportive contacts in human postural control.
2012	**Ghent University, Belgium**, *Reservoir Lab*, Benjamin Schrauwen. Research internship on exploring Stochastic Optimal Control for real robot control.
2012	**Santa Lucia Foundation, Rome, Italy**, *Laboratory of Neuromotor Physiology*, Andrea d'Avella. Research internship on Learning Muscle Synergies in Dynamical Systems.
2008	**University of Patra, Greece**, *Undergraduate exchange program, ERASMUS. Research internship on data mining graduate courses.*

Reviewing Experience

Journals

		C	M	R	H
2020	at - Automatisierungstechnik.	☐	☒	☒	☐
2020	Sensors (MDPI).	☐	☒	☒	☐
2020	Robotics and Autonomous Systems.	☐	☒	☒	☐
2020, 19, 18	IEEE Robotics and Automation Letters (RA-L).	☒	☒	☒	☐
2018	Neural Computation, MIT Press.	☒	☒	☒	☒
2017	IEEE Transactions on Neural Networks and Learning Systems.	☒	☒	☐	☒
2017	Information Sciences, Elsevier.	☒	☒	☐	☒
2016, 2017	PLOS Computational Biology.	☒	☒	☐	☒
2014, 15, 16	Autonomous Robots (AURO).	☒	☒	☒	☐
2020, 2012,13,14,15,16,17	Frontiers in Computational Neuroscience (Front Comput Neurosci).	☒	☒	☐	☒
2016, 2019	IEEE Transactions on Robotics (TRO).	☒	☐	☒	☐
2015	International Journal of Robotics Research (IJRR).	☒	☐	☒	☐
2015	Scientific Reports, Nature Publishing Group (Sci Rep).	☒	☒	☒	☒
2012	Artificial Life Journal (Artif. Life).	☒	☐	☒	☐
2012	Journal of Neurophysiology (J. Neurophysiol.).	☒	☐	☐	☒

Conferences

2020	Living Machines (LM)	☒	☒	☒	☒
2020	International Conference on Artificial Intelligence and Statistics (AISTATS)	☒	☒	☒	☒
2020	International Conference on Learning Representations (ICLR)	☒	☒	☒	☒
2019	European Conference on Mobile Robots (ECMR)	☒	☒	☒	☐
2020,19	European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD)	☒	☒	☒	☒
2019	International Conference on Computer Science and Application Engineering (CSAE).	☒	☐	☒	☒
2019	International Conference on Machine Learning (ICML).	☒	☒	☒	☒
2019,18	International Joint Conference on Biomedical Engineering Systems and Technologies (SAB).	☒	☒	☒	☒
2018	International Conference on Neural Information Processing Systems (NIPS).	☒	☐	☒	☒
2018	International Conference on Simulation of Adaptive Behavior (SAB).	☒	☐	☒	☒

2020, 18	International Conference on Robot Learning (CoRL).	☒ ☒ ☒ ☐
2020, 19, 17, 15	IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS).	☒ ☒ ☒ ☐
2020, 18, 17, 15, 14	International Conference on Robotics and Automation (ICRA).	☒ ☒ ☒ ☐
2018, 15	Robotics: Science and Systems (RSS).	☒ ☒ ☒ ☐
2019, 17, 14	IEEE/RSJ International Conference on Humanoid Robots (HUMANOIDS).	☒ ☐ ☒ ☒
2013	International Joint Conference on Artificial Intelligence (IJCAI).	☒ ☒ ☒ ☐

Funding Agencies

2019	AXA Research Fund.	☒ ☒ ☒ ☒
2019	Deutsche Forschungsgemeinschaft (DFG).	☒ ☒ ☒ ☒
2019	German-Isreal Foundation for Scientific Research and Development (GIF).	☒ ☒ ☒ ☒
2018	Deutscher Akademischer Austauschdienst (DAAD).	☒ ☒ ☒ ☒

Member of Scientific Committees

Area Chair and Associate Editor

2020,18	International Conference on Robot Learning (CoRL)
2019	Artificial Intelligence and Statistics (AISTATS 2020)
2020, 19	European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD)
	2018 IEEE International Conference on Robotics and Automation (ICRA).
2017	*International Conference on Intelligent Robots and Systems* (IROS).

Program Committee Member

2018	Robotics: Science and Systems (RSS 2018).
	International Conference on Bio-inspired Systems and Signal Processing (BIOSIGNALS 2018).
2016	Joint Conference on Artificial Intelligence (IJCAI 2016).
2015	Robotics: Science and Systems (RSS 2015).

Hiring Committee Member

2019	Part of the hiring committee for the W2-Professorship on *Interaktionsdesign und User Experience* at University of Luebeck.
2017	Part of the hiring committee of an *Independent Research Group* (IRG) at Technische Universität Darmstadt.
	Part of the review board for a DFG (engl. german research foundation) project at Technische Universität Darmstadt.

Other Memberships

2020	**Local Chair** of the Med-AI Conference (2020) in Lübeck, Germany, http://medai-conference.org.
2020	**Co-Organizer** of the German KI-Conference (2021) in Berlin, https://www.ifis.uni-luebeck.de/ moeller/KI2021/index.html.
2020	**Chair of the Expert Committee** of the Association of German Engineers (VDI) for **Fundamentals of Intelligent Learning Systems** (german: Fachausschussvorsitzender zu Grundlagen lernender intelligenter Systeme), https://www.vdi.de/technik/fachthemen/mess-und-automatisierungstechnik.
2018-2019	INSTICC is the Institute for Systems and Technologies of Information, Control and Communication, a scientific, non-profit, association whose main goals are to serve the international scientific community by promoting, developing and disseminating knowledge in the areas of information systems and technologies, control and communications.

2018 Reviewer for the German Academic Exchange Service (Deutscher Akademischer Austauschdienst).

2017 Representative of the students' representative council at the Technische Universität Darmstadt.

Major Collaborations

Accademic

Kim Listmann (Head of ABB Future Labs Switzerland), Michael Heizmann (Karlsruher Institut für Technologie), Gianluca Baldassarre (National Research Council of Italy), Achim Schweikard (Universität zu Lübeck), Floris Ernst (Universität zu Lübeck), Heinz Koeppl (Technische Universität Darmstadt, Germany), Jan Peters (Technische Universität Darmstadt, Germany), Philipp Beckerle (Technische Universität Darmstadt, Germany), Gerhard Neumann (University of Lincoln, UK), Marc Toussaint (Universität Stuttgart, Germany), Wolfgang Maass (Technische Universität Graz, Austria), Jan Babic (Josef Stefan Institute, Ljubijana, Slovenia), Michael Mistry (University of Birmingham, UK), Moritz Grosse-Wentrup (Max-Planck Institute Tuebingen, Germany), Serena Ivaldi (INRIA Nancy, France), Giuseppe Oriolo (University of Rome, Italy), Marc Deisenroth (Imperial College London, UK), Tucker Hermans (University of Utah, USA), Andrea d'Avella (Foundation Santa Lucia, Italy), Thomas Schack (Universität Bielefeld, Germany), Benjamin Schrauwen (Ghent University).

Outreach Activities

2020/10 **Organizer**, *2nd LEGO Robotic Workshop: Autonome Elektrofahrzeuge als urbane Lieferanten*.
One week LEGO Robotic workshop where students learn to implement advanced robotic topics like Kalman Filters and Sensor Fusion using LEGO Mindstorms robots and Python. `http://future.ai-lab.science`

2019/10 **Organizer**, *1st LEGO Robotic Workshop: Autonome Elektrofahrzeuge als urbane Lieferanten*.
Like above but based on own open source developments in Matlab. `http://future.ai-lab.science`

2019/02 **Organizer**, *Schülerprojekt: Our Common Future*.
Interactive robot demonstrations of joint and task space control of industrial robot arms, the mobile segway Loomo and the automation principles in ultrasound monitoring. Supported by Nils Rottmann and Sven Boettger.

2018/11 **Author**, *Print media, 54° Nord*, Link to the report.
Ich zeig dir wie's geht! *Laien trainieren intelligente Roboter*

2015 – 2017 **Advisor**, *Cybathlon-Team Athena-Minerva*.
Supervisor and advisor of *Cybathlon* related theses and projects. (Cybathlon-Team Athena-Minerva).

2015 – 2017 **Organizer**, *Kinderuni Darmstadt, 1–2 events per year*.
Interactive robot demonstrations of the Nao, the ICub and the Darias robots. Supported by Veronika Weber, Rudolf Lioutikov, Gregor Gebhardt and Guilherme J. Maeda.

2015/04 **Organizer**, *Major German TV program, SAT1*.
Life demonstrations of teaching the ICub how to stack cups.

2015/03 **Organizer**, *KID Science Radioclub*, Link to the report.
Lab tour and life demonstrations of the Oncilla, the ICub and the Darias robots. Supported by Guilherme M., Lioutikov R. and Calandra R.

2014/10 **Author**, *Print media, Hoch3*, Link to the report.
Background article on learning in autonomous robots. Title: *Hintergrund: Können Roboter lernen wie Menschen?*