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To Prof. Ing. Dr. Sc. Anton Gatial,  
Dean, Chairman of the Scientific Board FCHPT STU  
Slovak University of Technology in Bratislava

### **Letter of Recommendation on the Promotion of Dr. Juraj Oravec to Full Professor**

Dear Professor Gatial,

I am writing to you with immense enthusiasm to recommend Associate Professor Juraj Oravec for the position of Full Professor at Slovak University of Technology in Bratislava. Having had the pleasure of working closely with Juraj over the years, I can confidently attest to his exceptional academic contributions, dedication to research and teaching, and mentorship of young scholars.

To provide some background on my qualifications, I received a diploma in mathematics from the University of Heidelberg in 2007 and a Ph.D. in Electrical Engineering from KU Leuven in 2011. From 2012 to 2013, I served as a postdoctoral researcher at the Centre for Process Systems Engineering at Imperial College London. Subsequently, from 2013 to 2014, I worked as an associate professor at Shanghai Jiao Tong University. Additionally, I have held visiting professorships at the Freiburg Institute for Advanced Studies and the Institute for Microsystems Engineering at the University of Freiburg (both in 2014), as well as at IMT Lucca in 2024. I have also held various shorter academic visiting appointments, including at UC Berkeley during Winter 2017 and Imperial College London during Summer 2018. My academic achievements include being a finalist for the ICCOPT Best Paper Prize for a Young Researcher in Continuous Optimization, receiving a Marie-Curie Fellowship for the project Next Generation Algorithms for Robust and Global Optimization of Dynamic Systems, and earning an ShanghaiTech Excellent Professor Award from ShanghaiTech University. My work, along with my group's, has had a significant impact on both industrial and academic research, with more than 5000 citations and an h-index of 33 on Google Scholar. As the principal investigator of national and international research projects, including a Marie Curie (FP7) project, a major NSFC project during my time in China, and numerous bilateral grant agreements between Europe and China, I have initiated and led a diverse range of research initiatives. Furthermore, since 2021, I have served

as both an external partner and a member of the advisory board of the EU project ELO-X on "Embedded Learning and Optimization for the Next Generation of Smart Industrial Control Systems."

Juraj has demonstrated his exceptional mentorship skills by supervising two brilliant PhD students, Michaela Horváthová and Lenka Galčíková, who have both successfully defended their theses and are now continuing their academic careers as postdoctoral researchers at Slovak University of Technology in Bratislava. This underscores Juraj's ability to nurture talent and instill a passion for research in his students.

Juraj's research achievements are truly remarkable. He has authored numerous journal articles that have made significant impacts in the field of control systems. In particular, his work on explicit model predictive control (MPC) is noteworthy. As the first author of the Automatica paper "Real-time tunable approximated explicit MPC," Juraj addressed a critical bottleneck in the creation and application of explicit MPC by developing a suboptimal parametric solution that maintains closed-loop stability and recursive feasibility without the need for reconstruction each time weighting factors change. This innovative approach has the potential to revolutionize the implementation of explicit MPC in real-time applications.

Additionally, Juraj's research on energy-efficient robust control of a heat exchanger, published in the journal "Energy," demonstrated significant improvements in control performance and energy savings. His collaboration with his former PhD student, Lenka Galčíková, on the paper "Self-tunable approximated explicit MPC: Heat exchanger implementation and analysis" further extended this line of research, showcasing the practical applications of their theoretical work.

Juraj is also actively engaged in developing open-source tools for the research community. He and his colleague, Juraj Holaza, are currently developing MPT+, an extension of the Multi-parametric Toolbox, which will undoubtedly benefit researchers and practitioners in the field of control systems.

I have had the privilege of collaborating with Juraj on several articles, including "Parallel MPC for Linear Systems With Input Constraints," published in "IEEE Transactions on Automatic Control." Our collaboration has been both productive and enjoyable, and I have always admired Juraj's deep understanding of the subject matter and his ability to communicate complex ideas clearly and concisely.

Juraj's articles have accumulated more than 1400 citations on Google Scholar, with an H-index of 14.

In conclusion, I am confident that Juraj Oravec possesses the academic excellence, research prowess, and mentorship skills required to excel as a Full Professor at Slovak University of Technology in Bratislava. I highly recommend him for this position and believe that he will continue to make significant contributions to the institute and the field of control systems.

Thank you for considering my recommendation.

Sincerely yours,

**Boris Houska**

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