

Ivan Markovsky's Curriculum Vitae



Catalan Institution for Research and Advanced Studies (ICREA)
International Centre for Numerical Methods in Engineering (CIMNE)
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DEGREES

- 2/2005, PhD in electrical engineering, Katholieke Universiteit Leuven
- 6/1998, MS in control engineering, Technical University of Sofia
- 6/1997, BS in control engineering, Technical University of Sofia
- 6/1992, National mathematics high school degree, specialization physics, Sofia

CURRENT AND PAST POSITIONS

- 01/2023–present, research professor, [International Centre for Numerical Methods in Engineering \(CIMNE\)](#)
- 10/2022–12/2022, visiting professor, [Institut für Automatik \(IfA\), ETH-Zurich](#)
- 10/2012–09/2022, research professor, Vrije Universiteit Brussel
- 01/2007–09/2012, lecturer, University of Southampton
- 03/2005–12/2006, postdoctoral researcher, Katholieke Universiteit Leuven
- 11/2000–02/2005, research assistant, Katholieke Universiteit Leuven

RESEARCH INTEREST

- [structured low-rank approximation](#)
- system identification in the behavioral setting
- data-driven control

RECENT TEACHING

- 11/2022 “[Behavioral approach to systems theory](#)”, *SOCN graduate school*, Leuven, Belgium
- 2021–22 “[System identification](#)”, 2nd year master course, Vrije Universiteit Brussel
- 2018–22 “[Nonlinear system identification](#)”, 2nd year master course, Vrije Universiteit Brussel
- 06/2019 “[System identification in the behavioral setting](#)”, *Workshop on System Identification*, Brussels
- 03/2014 “[Low-rank approximation and its applications](#)”, *SOCN graduate school*, Leuven, Belgium

RECENT PROFESSIONAL ACTIVITIES

- 12/2019 organizer low-rank approximation session, *58th IEEE Conf. Decision and Control*, Nice
- 03/2019 organizing committee, *38th Benelux Meeting on Systems and Control*, Lommel
- 2007– associate editor of the *International Journal of Control*

GRANTS

- 2018–2021 principal investigator, EOS project *Structured low-rank matrix/tensor approximation* (540 kEUR)
- 2017–2020 principal investigator, FWO project *Volterra system identification* (192 kEUR)
- 2015–2018 principal investigator, FWO project *Decoupling multivariate polynomials* (252 kEUR)
- 2011–2015 principal investigator, ERC starting grant *Structured low-rank approximation* (783 kEUR)

DISTINCTIONS

- 03/2012, 10-year research mandate by the VUB research council
- 08/2010, ERC starting grant
- 06/2008, Householder Prize honorable mention, *XVII Householder Symp.*, Zeuten, Germany
- 02/2005, PhD with summa cum laude and congratulations of the Board of Examiners

CURRENT PHD STUDENTS

- [Leander Hemelhof](#), co-supervisor, joint with P. Patrinos
- [Jia Wang](#), co-supervisor, joint with P. Patrinos
- [Andras Sasfi](#), co-supervisor, joint with F. Dörfler

MOST IMPORTANT PUBLICATIONS

- J. C. Willems et al. “A note on persistency of excitation”. In: *Control Lett.* 54.4 (2005), pp. 325–329. DOI: [10.1016/j.sysconle.2004.09.003](https://doi.org/10.1016/j.sysconle.2004.09.003)
- I. Markovsky et al. *Exact and Approximate Modeling of Linear Systems: A Behavioral Approach*. SIAM, 2006. DOI: [10.1137/1.9780898718263](https://doi.org/10.1137/1.9780898718263)
- I. Markovsky. *Low-Rank Approximation: Algorithms, Implementation, Applications*. 2nd edition. Springer, 2019. ISBN: 978-3-319-89619-9. DOI: [10.1007/978-3-319-89620-5](https://doi.org/10.1007/978-3-319-89620-5)
- I. Markovsky. “A missing data approach to data-driven filtering and control”. In: *IEEE Trans. Automat. Contr.* 62 (4 2017), pp. 1972–1978. ISSN: 1558–2523. DOI: [10.1109/TAC.2016.2591178](https://doi.org/10.1109/TAC.2016.2591178)
- I. Markovsky and F. Dörfler. “Behavioral systems theory in data-driven analysis, signal processing, and control”. In: *Annual Reviews in Control* 52 (2021), pp. 42–64. DOI: [10.1016/j.arcontrol.2021.09.005](https://doi.org/10.1016/j.arcontrol.2021.09.005)
- I. Markovsky, L. Huang, and F. Dörfler. “Data-driven control based on behavioral approach: From theory to applications in power systems”. In: *IEEE Control Systems Magazine* (2023)