Link to homepage Johan Suykens at KU Leuven STADIUS

Personal Homepage

Johan Suykens Homepage

Biography

Johan A.K. Suykens was born in Willebroek Belgium, May 18 1966. He received the master degree in Electro-Mechanical Engineering and the PhD degree in Applied Sciences from the Katholieke Universiteit Leuven, in 1989 and 1995, respectively. In 1996 he has been a Visiting Postdoctoral Researcher at the University of California, Berkeley. He has been a Postdoctoral Researcher with the Fund for Scientific Research FWO Flanders and is currently a full Professor with KU Leuven. He is author of the books "Artificial Neural Networks for Modelling and Control of Non-linear Systems" (Kluwer Academic Publishers) and "Least Squares Support Vector Machines" (World Scientific), co-author of the book "Cellular Neural Networks, Multi-Scroll Chaos and Synchronization" (World Scientific) and editor of the books "Nonlinear Modeling: Advanced Black-Box Techniques" (Kluwer Academic Publishers), "Advances in Learning Theory: Methods, Models and Applications" (IOS Press) and "Regularization, Optimization, Kernels, and Support Vector Machines" (Chapman & Hall/CRC). In 1998 he organized an International Workshop on Nonlinear Modelling with Time-series Prediction Competition. He has served as associate editor for the IEEE Transactions on Circuits and Systems (1997-1999 and 2004-2007), the IEEE Transactions on Neural Networks (1998-2009) and the IEEE Transactions on Neural Networks and Learning Systems (from 2017). He received an IEEE Signal Processing Society 1999 Best Paper Award and several Best Paper Awards at International Conferences. He is a recipient of the International Neural Networks Society INNS 2000 Young Investigator Award for significant contributions in the field of neural networks. He has served as a Director and Organizer of the NATO Advanced Study Institute on Learning Theory and Practice (Leuven 2002), as a program co-chair for the International Joint Conference on Neural Networks 2004 and the International Symposium on Nonlinear Theory and its Applications 2005, as an organizer of the International Symposium on Synchronization in Complex Networks 2007, a co-organizer of the NIPS 2010 workshop on Tensors, Kernels and Machine Learning, and chair of ROKS 2013. He has been awarded an ERC Advanced Grant 2011 and has been elevated IEEE Fellow 2015 for developing least squares support vector machines.

ERC Advanced Grant A-DATADRIVE-B

"Deep Restricted Kernel Machines":
- LICT Workshop Deep Learning, Leuven June 2017 [pdf]
- Stadius seminar, Leuven June 2017 [pdf]
- related paper [pdf] (open access)

"Learning with primal and dual model representations: new extensions": invited talk at MFO Oberwolfach 2016, Workshop on Learning Theory and Approximation: [pdf]

"Learning with primal and dual model representations: a unifying picture": plenary talk ICASSP 2016, Shanghai: [pdf] [youtube]

"SVD meets LS-SVM: a unifying picture": invited seminar at UCL, LLN 2015: [pdf]

"Learning with primal and dual model representations": invited lecture at CIMI Workshop, Toulouse 2015: [pdf]

"Kernel methods for complex networks and big data": invited lecture at Statlearn 2015, Grenoble 2015: [pdf]

"Fixed-size Kernel Models for Big Data": invited lectures at BigDat 2015, International Winter School on Big Data, Tarragona, Spain 2015:
- Part I: Support vector machines and kernel methods: an introduction [pdf]
- Part II: Fixed-size kernel models for mining big data [pdf] [video]
- Part III: Kernel spectral clustering for community detection in big data networks [pdf]

"Fixed-size kernel methods for data-driven modelling": plenary talk at ICLA 2014, International Conference on Learning and Approximation, Shanghai China 2014 [pdf]

"Kernel-based modelling for complex networks": plenary talk at NOLTA 2014, International Symposium on Nonlinear Theory and its Applications,

Luzern Switzerland 2014 [pdf]

"Learning with matrix and tensor based models using low-rank penalties": invited talk at Workshop on Nonsmooth optimization in machine learning, Liege Belgium 2013 [pdf]

Invited lecture series - Leerstoel VUB 2012 [pdf]

- Advanced data-driven black-box modelling - inaugural lecture [pdf]
- Support vector machines and kernel methods in systems, modelling and control [pdf]
- Data-driven modelling for biomedicine and bioinformatics [pdf]
- Kernel methods for exploratory data analysis and community detection [pdf]
- Complex networks, synchronization and cooperative behaviour [pdf]

"Models from Data: a Unifying Picture": invited talk at Workshop on Grand Challenges of Computational Intelligence, Nicosia, Cyprus 2012 [youtube]

Invited talk at ICCHA4 2011, Hong Kong [pdf]

Tutorial at IEEE World Congress on Computational Intelligence WCCI 2010, Barcelona Spain [Part I - pdf] [Part II - pdf]

Invited talk at SYNCLINE 2010, Bad Honnef Germany [pdf1] [paper-pdf]

Semi-plenary talk at Symposium on System Identification SYSID 2009, Saint-Malo [pdf]

Plenary talk at International Conference on Multivariate Approximation, 2008 Bommerholz [pdf-1/page] [pdf-4/page]

Plenary talk at MFO Workshop on Learning Theory and Approximation, 2008 Oberwolfach (organizers: K. Jetter, S. Smale, D.-X. Zhou) [pdf-1/page] [pdf-4/page] [paper-pdf]

Invited tutorial: Johan Suykens, International Conference on Artificial Neural Networks ICANN 2007 Porto Portugal: "Support Vector Machines and Kernel Based Learning" [pdf-1/page] [pdf-4/page]

Invited talk at International Conference on Computational Harmonic Analysis 2007 Shanghai China: "Data visualization and dimensionality reduction using kernel maps with a reference point" [pdf] [paper-pdf]

Invited talk at International Workshop on Current Challenges in Kernel Methods CCKM 2006 Brussels Belgium: "Engineering Kernel Machines" [pdf-1/page] [pdf-4/page]
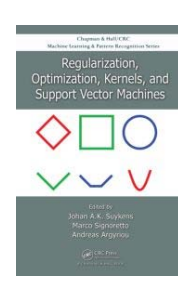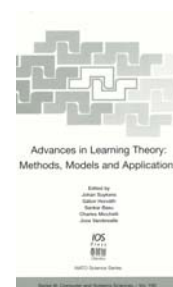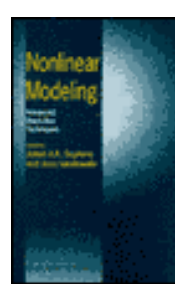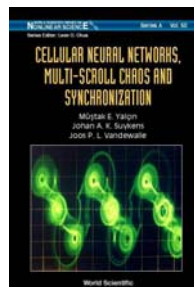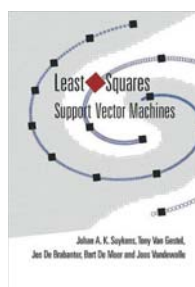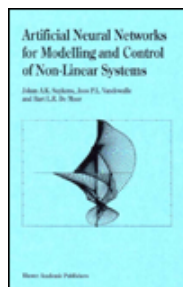
Series of lectures SCCB2006 Modena Italy:
Parts I, II "Support Vector Machines and Kernel Based Learning" [pdf-1/page] [pdf-4/page]
Part III "Ovarian cancer studies" [pdf]
Part IV "Complex networks, synchronization and cooperative behaviour" [pdf-1/page] [pdf-4/page]

Books and edited books

J.A.K. Suykens, J.P.L. Vandewalle, B.L.R. De Moor, *Artificial Neural Networks for Modeling and Control of Non-Linear Systems*, **Springer, 1996 (ISBN 0792396782)** [more information]

J.A.K. Suykens, T. Van Gestel, J. De Brabanter, B. De Moor, J. Vandewalle, *Least Squares Support Vector Machines*, **World Scientific, Singapore, 2002 (ISBN 981-238-151-1)** [more information]

M.E. Yalcin, J.A.K. Suykens, J.P.L. Vandewalle, *Cellular Neural Networks, Multi-Scroll Chaos and Synchronization*, **World Scientific Series on Nonlinear Science, Series A - Vol. 50, Singapore, 2005 (ISBN 981-256-161-7)** [more information]

J.A.K. Suykens, J.P.L. Vandewalle (Eds.) *Nonlinear Modeling : Advanced Black-Box Techniques,* **Springer, 1998 (ISBN 0792381955)** [more information]

J.A.K. Suykens, G. Horvath, S. Basu, C. Micchelli, J. Vandewalle (Eds.) *Advances in Learning Theory: Methods, Models and Applications*, **NATO Science Series III: Computer & Systems Sciences, Volume 190, IOS Press Amsterdam, 2003, 436pp. (ISBN: 1 58603 341 7)** [more information]

J.A.K. Suykens, M. Signoretto, A. Argyriou (Eds.) *Regularization, Optimization, Kernels, and Support Vector Machines*, **Chapman & Hall/CRC, Machine Learning & Pattern Recognition Series, Boca Raton US, 2014, 525 pp (ISBN 9781482241396)** [more information]

Publications: Complete List

Publications: Support vector machines and kernel-based learning

Publications: Deep learning

Publications: Chaos, synchronization, complex networks

Publications: Systems and control, nonlinear signal processing

Publications: Biomedical applications and bioinformatics

Publications: Optimization

Publications: Quantum mechanics

Publications at Google Scholar

LS-SVMlab

Chaoslab

- **TCMM 2014** **(September 8-12, 2014 Leuven)**
  International Workshop on Technical Computing for Machine Learning and Mathematical Engineering

- **ROKS 2013** **(July 8-10, 2013 Leuven)**
  International workshop on advances in
  Regularization, Optimization, Kernel Methods and Support Vector Machines: theory and applications
  [Videolectures]

- **SynCoNet2007** **(July 2-4, 2007 Leuven)**
  International Symposium on Synchronization in Complex Networks

- **NATO-ASI 2002** **(July 8-19, 2002 Leuven)**
  Advanced Study Institute on Learning Theory and Practice

Contact address

```
Prof. Dr. ir. Johan Suykens
Katholieke Universiteit Leuven
Department of Electrical Engineering, ESAT-STADIUS
Kasteelpark Arenberg 10
B-3001 Leuven (Heverlee), Belgium
Tel : +32-16-32 18 02 - Fax : +32-16-32 19 70
Email: Johan dot Suykens at esat.kuleuven.be
```

Back to the STADIUS *homepage*

---

disclaimer