

## Online Seminar Series for IFAC TC 1.2 Adaptive & Learning Systems

**Organizers:** **Tiago Roux Oliveira**, State University of Rio de Janeiro – UERJ, TC 1.2 Chair  
**Bing Chu**, University of Southampton, TC 1.2 Vice-Chair for Social Media

### Details of the Seminar

**Title:** Automatic Control and Biological Systems: a long quiet river?

**Speaker:** Professor **Denis Dochain**, Université catholique de Louvain

**Time:** April 12, 2023 (9am CDT, 2pm UTC)



**Abstract:** This talk aims to give an overview of more than 40 years research activities in the field of the modelling and control of biological systems. It will cover different aspects of modelling, analysis, monitoring and control of biosystems, and it will be illustrated by a large variety of biological systems, from environmental systems to biomedical application via food processes or plant growth.

**Bio:** Denis Dochain received his degree in Electrical engineering in 1982 from the UCLouvain, Belgium. He completed his doctoral thesis and a « thèse d'agrégation de l'enseignement supérieur » in 1986 and 1994, respectively, also at the UCLouvain. He has been CNRS associate researcher at the LAAS (Toulouse, France) in 1989, and Professor at the Ecole Polytechnique de Montréal, Canada in 1987-88 and 1990-92. He has been with the FNRS (Fonds National de la Recherche Scientifique, National Fund for Scientific Research), Belgium since 1990. Since September 1999, he is Full Professor at the INMA (mathematical engineering) pole of the ICTEAM institute, UCLouvain, and Honorary Research Director of the FNRS. He has been invited professor at Queen's University, Kingston, Canada between 2002 and 2004. He is full professor at the UCL since 2005, and Emeritus Full Professor since October 2021. He is Senior Editor of the IEEE Transactions of Automatic Control, and of the Journal of Process Control, Associate Editor of Automatica, and former Editor-in-Chief of the Journal of Process Control. He is a member of the IFAC Council for the coming trienniums (2020-2026). He has been the co-chair of the IPC of the IFAC Congress in Toulouse, 2017, a member of the Council of the IFAC from 1999 to 2002, the chair of the IFAC TC on Biosystems and Bioprocesses (TC8.4) from 2002 to 2003, the chair of the IFAC CC on Power and Process Systems (CC6) from 2003 to 2008, a member of the IFAC Technical Board from 2008 to 2011 and from 2017 to 2020, and the chair of Publication Committee from 2011 to 2014 and an ex-officio member from 2014 to 2020. He is IFAC fellow since 2010 and received the IFAC outstanding service award in 2008. He is the Belgian representative at the EUCA. He received the Doctor Honoris Causa title from Grenoble INP on December 13, 2019. His main research interests are in the field of distributed parameter systems, nonlinear systems, parameter and state estimation, and adaptive extremum seeking control with application to microbial ecology, environmental, biological and chemical systems, pulp and paper processes, polymerisation reactors, and electric systems. He is the (co-)author of 5 books, more than 175 papers in refereed journals and more than 275 international conference papers. He has a h-index of 54 and a science citation index over 13000.

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