

Proposal for Hosting IFAC NOLCOS 2022

Time: Second half of August, 2022

City and Country: Beijing, China

1. Background

The IFAC NOLCOS symposium is a continuing series of symposia that were previously held in Capri (IT) 1988, Bordeaux (FR) 1992, Lake Tahoe (USA) 1995, Enschede (NL) 1998, Saint-Petersburg (RUS) 2001, Stuttgart (DE) 2004, Pretoria (ZA) 2007, Bologna (IT) 2010, Toulouse (FR) 2013 and Monterey (USA) 2016, and the upcoming event will be held in Vienna (AT) 2019. All the locations are out of Asia, and it is high time for a Chinese city to host the important event.

2. Nonlinear Control in China

The last two decades witnessed the explosive growth for research and application of nonlinear control in China, both in populational size and in scientific depth. Currently there are thousands of researchers and scholars working in various fields of control theory and applications, and most of whom involve more and more in nonlinear control. In the last two IFAC WC, scholars from China contributed at least one fifth of the total submissions.

As a leading center for systems and control in China, the Academy of Mathematics and Systems Science (AMSS), Chinese Academy of Sciences (CAS), has made important achievements in solving fundamental nonlinear problems, and gained great international reputation. In the center we have two academicians of CAS, four IFAC Fellows, and six IEEE Fellows. Lei Guo achieved important breakthrough on the convergence of self-tuning regulator, and won the IFAC Congress Young Author Prize 1993, Yiguang Hong contributed in fundamental nonlinear stabilization problems, and won the IFAC Congress Young Author Prize 1999, and Daizhan Cheng developed the semi-tensor product of matrices and pioneered Boolean control networks, and won the Automatica Paper Prize 2011.

3. Technical Committee on Control Theory (TCCT) of the Chinese Association of Automation

TCCT is an AMSS-hosted committee with more than 150 members covering all fields of control theory and related applications. TCCT sponsored numerous conferences and symposia including the annual Chinese Control Conference with 2000+ attendance each conference in the past three years. In 2015, we set up the TCCT Nonlinear Systems and Control Group, and its current members exceed 70. In Oct. 2016, the group organized the first China Nonlinear Systems & Control Workshop in Beijing with about 100 attendees. Both the group and the workshop provide strong connection and collaboration among Chinese scholars devoted to nonlinear control. The rich experience in conference organization will be helpful for us to serve the NOLCOS 2022.

4. Conference Facilities in Beijing

Beijing is the capital city of China, and is a world-renowned cultural center and tourist destination. The city owns its rich historical heritage and natural pride such as the Imperial Palace and the Great Wall.

In Beijing we have plenty choices of infrastructure and facilities for hosting NOLCOS 2022. For instance, the IFAC WC 1999 and IFAC Symposium on System Identification 2015 were held at Beijing International Convention Center (BICC), and there are many hotels in walking distance that meet the diverse demands. Other potential venues include the National Convention Center and Beijing Conference Center, to list just a few.

5. Meeting Scope/Objectives/Topics

The scope of the symposium covers all fields of nonlinear control in theory and applications, as well as related areas of research and engineering. NOLCOS 2022 aims at strengthening contacts between academia and industry to build up new networks and cultivate existing relations, and the symposium represents a remarkable opportunity to gather together senior and young researchers sharing the passion for exploring complexity & autonomy through interaction and cross-fertilization among different nonlinear control areas. To enhance the applications and industrial perspective of the symposium, participation by the authors from industry is particularly encouraged.

The main topics include but are not limited to: modelling and identification of nonlinear systems, mathematical theory of nonlinear systems, nonlinear systems observers & feedback design, optimal control and distributed optimization, multi-agent and social networks, cyber physical systems and hybrid control, application and implementation of nonlinear control systems, and emerging methods and techniques in various fields of nonlinear control.

6. Team of Organization

Advisory Committee: Alberto Isidori, Frank Allgower, Daizhan Cheng, etc.

General Chair: Lei Guo, AMSS, CAS

General Co-chairs: Jie Huang, Chinese University of Hong Kong

Zhong-Ping Jiang, New York University

IPC Chair: Yiguang Hong, AMSS, CAS

NOC Chair: Zhendong Sun, AMSS, CAS

7. Registration Rates (in EUR)

Early Registration: 650

Late and Onsite Registration: 700

Student Registration: 350

Banquet and lunches are included in the Registration Fee.

8. Expected Attendance: 500+