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The 6th International Conference on Positive Systems

POSTA2018

August 25-27, 2018, Hangzhou, China

Call for Papers

The 6th International Conference on Positive Systems (POSTA2018) will take place at Hangzhou Dianzi University, Hangzhou, China from August 25th to 27th, 2018. As with previous conferences, the scope of POSTA2018 will reflect a wide range of topics from the theory and applications of and related to positive systems. The POSTA proceedings will be published in the Springer LNCIS Series after the conference. Previous editions of the conference were held in Rome, Italy (2003), Grenoble, France (2006), Valencia, Spain (2009), Maynooth, Ireland (2012) and Rome, Italy (2016). All accepted papers will be indexed in Scopus and EI-Compendex.

Topics of interest will include, but not be limited to the following:

- Positive systems with delay
- Hybrid positive systems
- Stochastic realization theory and positive systems
- Dynamic analysis and control synthesis of positive distributed parameter systems
- Monotonous systems theory and applications in mathematical biology, game theory, and other fields
- Recent mathematical developments for networked systems in biology, chemistry and social sciences
- Linear and nonlinear positive operators and their applications
- Biological systems with positive variables and positive controls
- Smart cities and positivity
- Iterated function systems
- Dimensioning problems for collaborative systems
- Matrix analysis and its applications in nonnegative dynamic processes and/or positive systems

Paper Submission:

All manuscripts should be submitted electronically in PDF format before the deadline March 10, 2018 via <https://easychair.org/conferences/?conf=posta2018>. Only English manuscript is acceptable. LaTeX and MS Word templates are available. We strongly recommend the authors to use the templates in one-column format POSTA2018 provides. If you use MS Word template, you can transform your manuscript into PDF format and then upload it. Each paper should not be less than the length of six Letter-sized pages.

Keynote Speakers



Frédéric Mazenc
Université Paris-Sud, France



Daizhan Cheng
Chinese Academy of Sciences, China



Yoshio Ebihara
Kyoto University, Japan

Important Dates:

Submission Open:	October 1, 2017
Submission Deadline	March 10, 2018
Notification of Acceptance:	April 25, 2018
Registration Deadline:	June 1, 2018

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Traffic and Tour



Map of Southeast China



West Lake



The Grand Canal

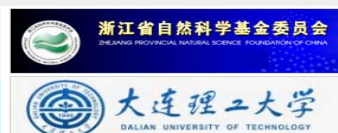
Hangzhou is located on the low reaches of Qiantang river in southeast China, with a distance of 180 kilometers to Shanghai. It is one of the key cities in the Yangzi Delta area. It is just 1 hour by high-speed railway from Shanghai, and 5 hours from Beijing, the capital city of China. Hangzhou is one of the important tourism cities in China, famous for its natural beauty and historical and cultural heritages. It is of subtropical monsoon climate, with distinctive four seasons and mild atmosphere and favorable geographical positions and natural conditions.

Hangzhou's history goes back over 2,200 years to the Qin Dynasty which first brought in the rule of County System. Again, the local Liangzhu Culture that emerged 3,000 years later comes to be known as the Dawn of Civilization. Marco Polo, the Italian traveler of the 13th century, lauded Hangzhou as the world's most magnificent and noble city. For its abundance of scenic attractions like the West Lake, the Xixi Wetland, the Grand Canal and the Qiantang River, Hangzhou is among the most coveted tourist destinations in the world. China's most popular love stories such as 'The Legend of the White Snake' and 'Butterfly Lovers' both originated in Hangzhou. Both the West Lake and the Grand Canal are now UNESCO World Heritage Sites.

Hangzhou is otherwise recognized as the Capital of E-commerce, the Top Ten Innovative Cities of China, the Top Ten Vibrant Cities of China, the Top Ten Low-carbon Cities of China, the Most Accomplished City in People's Well-being Improvement, and the Best Image Friendly City. Alibaba Group, the world's biggest online B2B business, and Geely which acquired Volvo, are both headquartered in Hangzhou. G20 summit was held on 4th-5th September, 2016 in Hangzhou.



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Xudong Zhao · Junfeng Zhang
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Positive Systems

Theory and Applications (POSTA 2018)

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Preface

Positive Systems, whose states and outputs are always confined within the first orthant of the state space when driven by nonnegative initial conditions and/or inputs, are often encountered in systems biology, pharmacokinetics, disease dynamics, and population evolution. They have long captured the attention of researchers in the fields of systems theory and applied mathematics, not only due to the elegant results that have been obtained for this class of dynamic systems, but also their numerous applications in the physical world.

As a continuation of the spirit of previous POSTA conferences, POSTA2018 (The 6th International Conference on Positive Systems) aims to provide a forum for scientists and engineers over the world to present their new theoretical results and techniques in the field of systems that exhibit positivity. It also fosters young researchers through interacting and exchanging ideas with world-class researchers in this expanding field. Following the success of previous editions of the POSTA conferences held in Rome, Italy (2003), Grenoble, France (2006), Valencia, Spain (2009), Maynooth, Ireland (2012), and Rome, Italy (2016), we are honoured to host POSTA2018 outside Europe for the first time. The hosting of POSTA2018 in Hangzhou, China, represents a milestone of the development of the POSTA conference series. It is a natural evolution resulting from the surge of interest in positive systems in Asia seen in the past few years.

This book has collected a number of articles presented in POSTA2018 with topics covering, just to name of a few, compartmental switched systems, Markovian jump systems, Boolean networks, and positive delay systems. We trust that the theoretical insights and technical developments presented in these research articles will help advance the research activities in the field of positive systems for years to come.

Here, we take this opportunity to thank the International Program Committee for conducting the paper reviewing process in a rigorous way. In particular, we thank the main sponsor and the local host of the conference, Hangzhou Dianzi University, for their generous support of the activity. We would also like to thank the three Plenary Speakers, Profs. Frédéric Mazenc, Daizhan Cheng, and Yoshio Ebihara, for their interesting and inspiring lectures. A special word of thanks also goes to Profs.

Filippo Cacace and Lorenzo Farina for their guidance and advice in the initial stage of the conference. Finally, we thank all the participants of the conference, for it was their presence and enthusiasm that made the conference a success.

In the preparation of this book, we would like to thank Miao Li, Haoyue Yang, and Shicheng Li of Hangzhou Dianzi University for typesetting, formatting, and proofreading, and Dr. Panshuo Li of Guangdong University of Technology for coordinating.

Hangzhou, China

James Lam
Yun Chen
Xingwen Liu
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Junfeng Zhang

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