2nd International Conference on Control and Fault-Tolerant Systems

The 2nd International Conference on Control and Fault-Tolerant Systems (SysTol) was held on October 9–11, 2013 at Hotel Le Negresco in Nice, France. The conference has been sponsored by the Research Center for Automatic Control of Nancy and University of Lorraine in France.

Following the success and acceptance by the international community of the first SysTol in 2010, the SysTol conferences are now organized every three years. As demonstrated during the last meeting, the SysTol conferences establish a continuous scientific forum in the general field of system monitoring, fault detection and diagnosis, and fault-tolerant control. The design of safe and reliable operations of technical systems is important for the protection of the environment and human life and health and to support decision marking and emergency actions and repairs. The design of control systems that ensure acceptable performance in the presence of faults is also important, especially in highly automated industrial systems where maintenance or repair cannot be carried out immediately.

The conference general chairs were Prof. Didier Theilliol (University of Lorraine, France) and Prof. Jozef Korbicz (University of Zielona Gora, Poland). Dr. Andreas Varga (German Aerospace Center, Germany) and Prof. Frederic Hamelin (University of Lorraine, France) did an outstanding job as the program chairs, preparing an exciting and invigorating conference program.

For the location of this event, Nice was chosen because of its great international accessibility, as the third busiest airport in France, and also because the region has good weather and is attractive to tourists. Nice is a city in southern France located on the Mediterranean coast, between Marseille and Genoa. The city is a major tourist center and a leading resort on the French Riviera (Côte d'Azur), as well as the fifth largest city in France. Nice's main seaside promenade, Promenade des Anglais (the Walkway of the English), owes its name to the earliest visitors to the resort. The climate and landscape are still what attracts most visitors today.

The SysTol 2016 and SysTol 2013 general chairs (Prof. Vicenç Puig and Prof. Didier Theilliol) with conference participants.

TECHNICAL PROGRAM AND PLENARY TALKS

The conference program committee had a very challenging task of choosing high-quality submissions. Each paper was peer reviewed by at least two independent referees, with the conference statistics shown in Table 1.

The first two days opened with two plenary speakers:

- "Fault Tolerant Control Using Gaussian Processes and Model Predictive Control," Prof. Jan Maciejowski, University of Cambridge, United Kingdom
- "Industrial Application of Condition Monitoring and Diagnosis—Prospects and Pitfalls?," Dr. Alexander Horch, ABB Corporate Research, Germany.

The plenary talks were complemented by four semiplenary talks:

- "Robust Control Systems for Modern Power Electronics: Applications and Challenges," Dr. Sajjad (Fekri) Fekriasl, ALSTOM Grid, United Kingdom
- "Adapting Dynamic Reliability from Probabilistic Safety Analysis to Fault-Tolerant Control?," Prof. Pierre-Etienne

TABLE 1 Conference statistics.

Submitted manuscripts	177
Accepted papers	135
Plenary and semiplenary talks	6
Acceptation rate	76%
Requested reviews	949
Received reviews	545
Average number of reviews per submission	2.96
Number of attendees	150
Number of no shows	0

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Labea, Université Libre de Bruxelles, Belgium
- "LPV Methods for Fault-Tolerant Vehicle Dynamic Control," Prof. Olivier Sename, Grenoble Institute of Technology, France
- "Challenges, Opportunities, and Developments on Fault-Tolerant Control with Applications to Autonomous Unmanned Systems," Prof. Youmin Zhang, Concordia University, Canada.

The conference lasted three days. The program included 19 regular and five invited sessions in three parallel tracks, with subjects including

- fault detection and diagnosis in linear and nonlinear systems
- data-driven, statistical, and signal processing methods
- fault diagnosis for aircraft and spacecraft systems, autonomous vehicles, and automotive systems
- design for reliability and safety, health monitoring, maintenance policies, and decision making
- fault-tolerant control
- sustainable control of offshore wind turbines, and monitoring, diagnosis, and fault-tolerant control for wind energy conversion systems.

Those talks gave the participants an opportunity to share in the knowledge and experience of world-renowned experts in many exciting topics such as fault-tolerant and vehicle dynamic control, linear parameter-varying methods for fault-tolerant vehicle dynamic control, fault-tolerant control with applications to autonomous unmanned systems, dynamic reliability from probabilistic safety analysis to fault-tolerant control, robust control systems for modern power electronics, and fault detection and mitigation in the process industry.

The Third International Conference on Control and Fault-Tolerant Systems will be held in Spain in October 2016.

Participants during a session.

The program-at-a-glance is accessible via the conference Web site (http://www.systol13.org). The high quality of the program was only possible thanks to the efforts of the program chairs, the 61 members of the international program committees, and the organization staff.

A special issue on fault diagnosis and fault tolerant control for aerospace systems is being prepared for publication in *International Journal of Applied Mathematics and Computer Science* (AMCS) (http://www.amcs.uz.zgora.pl) based on selected papers presented at the conference.

The Third International Conference on Control and Fault-Tolerant Systems will be held in Spain in October 2016 and will be organized by Prof. Vicenç Puig, of the Technical University of Catalona in Barcelona, as the general chair.

SPONSORS

The conference was sponsored by the Research Center for Automatic Control of Nancy (CRAN) of Université de Lorraine (http://www.cran.univ-lorraine.fr). On an international level, the IEEE Control System Society and the IEEE Reliability Society were technical cosponsors. The conference was also cosponsored by the Groupe de Recherche Modelisation, Analyse et Conduite des Systemes Dynamiques (GdR MACS), which is a national research group dealing with the modeling, analysis, and control of dynamical systems that integrates the main French laboratories in automatic control.

Didier Theilliol and Jozef Korbicz