

**Report by the NOC and IPC Chair(s)
for an IFAC Event (Symposium, Conference, Workshop)**

A . TITLE / DATE / LOCATION / WWW OF THE MEETING

Provide here the title of the meeting, the meeting dates and the location as well as the relevant www-site for the main event.

Title of Meeting The 14th IFAC/IFIP/IFORS/IEA Symposium on Analysis Design and Evaluation of Human –
Machine Systems (HMS 2019)
Meeting Date September 16 -19 2019
Location Park Inn Radisson Meriot Conference and SPA Hotell Tallinn Estonia
WWW-Site <https://cs.ttu.ee/hms2019/>

B . ORGANIZATION

NOC CHAIR / Affiliation:

Dr. Sven Nõmm Dpt. Software Sciences, School of Information Technology TalTech (Tallinn University of Technology), Estonia

IPC CHAIR / Affiliation:

Prof. Jianhua Zhang, Oslo Metropolitan University (OsloMet), Norway

Name / Affiliation of IPC Vice Chair:

Prof. Frederic Vanderhaegen, Univ-Valenciennes, France

Name / Affiliation of IPC Vice Chair from industry:

Mr. Ken-ichi Tanaka company Mitsubishi, Japan

Name / Affiliation of Editor:

Dr. Leonidas Tsiopoulos, Dpt. Software Sciences, School of Information Technology TalTech (Tallinn University of Technology), Estonia

Name / Affiliation of www-editor or responsible person:

Mrs. Monika Perkmann, Dpt. Software Sciences, School of Information Technology TalTech (Tallinn University of Technology), Estonia

How many countries were represented on the IPC?

13

Will the www-site be maintained into the future? Yes No

If no, what is the end-date for the www-site?

The site will remain active as long as ttu.ee domain is active. But no changes or updates are planned.

C . STATISTICS

| Participants | Total number | Host nation number | From industry number | Women number |
|---------------------|--------------|--------------------|----------------------|--------------|
| Paying regular fee | 52 | 4 | 11 | N/A |
| Paying student fee | 16 | 3 | 1 | N/A |
| Free registration | 14 | 13 | 1 | N/A |
| Total | 82 | 20 | 13 | N/A |

| Registration fees | Fees as proposed in event application | Actual fees | |
|--------------------------|---------------------------------------|-------------|----|
| Regular (early) fee | 500 | 500 | 23 |
| Regular (normal) | 600 | 600 | 9 |
| Students (early) | 300 | 300 | 16 |
| Students (normal) | 300 | 300 | |
| Others (late) | 750 | 750 | 20 |

Have the participants come from a satisfactory range of different countries? Yes No

Number of countries represented, please list top 5/10 countries according to the number of participants/authors.
Netherlands, Japan, Germany, France, Italy

Paper review statistics

a) If papers are published on IFAC-PapersOnline (for all IFAC main-sponsored events):

Number of papers reviewed

72

Number of papers accepted (and scheduled)

63

Overall acceptance rate

0,875

| Review Statistics | 0 | 1 | 2 or more | Total |
|-------------------|--------|--------|-----------|-------|
| | Review | Review | Reviews | |
| Accepted | 1 | 5 | 57 | 63 |
| Rejected | 1 | | 8 | 9 |
| Others* | 0 | 0 | 0 | 0 |

| Overall Scores of All Papers as Rated by AE's and Editor(s) (in PaperCept)** | Review Scores | Number of Papers |
|--|---------------|------------------|
| | A | 8 |
| | B+ | 0 |
| | B | 27 |
| | B- | 1 |
| | C | 25 |
| | C- | 2 |
| | D | 9 |
| | U | |

* "Others" can be keynotes, plenaries, position papers, etc

** These statistics can be generated within PaperCept. Instructions are available through PaperCept.

Number of papers presented

61

Number of no shows

2

b) If the papers are NOT published on IFAC-PapersOnline:

Number of papers reviewed

Number of papers accepted (and scheduled)

Overall acceptance rate

Number of papers presented

Number of no shows

D. INDUSTRIAL INVOLVEMENT

Several suggestions have been made to increase industrial involvement in IFAC events. Can you comment on the below, if applicable.

Were local and regional industries invited?

Yes

No

If yes, please list the companies that participated.

Milrem Robotics, Threed Systems, DifiNet, Cybernetica

Was local news media invited? Yes No

If yes, please list those that participated.

Invited yes, participated no.

Were there special www-events organized to facilitate industry collaboration?

No

Was your event planned in conjunction with another application-based industrial professional meeting?

No

Were tutorial workshops of interest to industry organized? Yes No

Please describe the workshops

It was proposed and planned to organize industry focused panel discussion, but there were no interest on behalf of other industry companies.

Was any special provision made for industry papers? Were abstract only submissions encouraged?

Yes, but there were no interest on behalf of industry.

Were there special sessions focusing on industry, or organized by industry? Yes No

Milrem Robotics Ltd. and Threod Systems Ltd. has organized special session devoted to their activities related to human-machine interaction. Representative of Cybernetica AS delivered a plenary talk.

Were leaders of industry invited to organize special sessions?

Yes

Were industry-based people invited as IPC members?

Yes

E. Educational Aspects of the Meeting

Was there collaboration with the TC 9.4?

No

Were any activities or session planned as part of the event that targeted educational aspects of the field?

No

Were there education components for students, such as mini-course sessions, or overview sessions on current topics?

No

Were there any activities that were targeted for high school audience?

No

F. Family Friendly Participation

Was there any provision made to accommodate the participation of families/partners at the event?

Yes

Was there an activity program(s) for partners/children?

No

How family friendly would you rate the event and the venue location?

Friendly

G. Female Participation

How many women participated in the event as contributors?

Several

Was any provision made to actively promote the participation of women?

No

H. Students and Early Career Researchers

How many students early career researchers participated in the event?

~30

Was any provision made to encourage the participation of students and early career researchers?

Yes

Were any specific networking/mentoring event organized as part of the overall program?

No

I. PUBLICATION and WWW-activities

In case the event was a workshop, will PoL be used as publication outlet?

Will your proceedings be published on IFAC PapersOnline?

Have you sent the copyright transfer forms to IFAC Secretariat

Did you use paper submission system? Yes No

If yes, which

How long will the www-site be maintained for the event? Who will maintain the www-site?

J. RECOMMENDED PAPERS FOR PUBLICATION IN IFAC JOURNALS (Revised/Extended Versions)

Number of revised/extended versions recommended to any of the IFAC journals.

- Automatica
- Control Engineering Practice 4
- Annual Reviews in Control 1
- Engineering Application of Artificial Intelligence
- Journal of Process Control
- Mechatronics
- Nonlinear Analysis: Hybrid Systems
- IFAC Journal of Systems and Control 1

Number of revised/extended versions recommended to other journals.

- to which journals Cognition, technology & Work and how many 5

K. OVERALL ASSESSMENT

Provide your comments on the overall technical as well as social aspects of the conference. Are there any lessons learnt that you would like to pass onto the next organizers?

1. It become difficult to find reviewers. Some associated editors have sent up to 20 requests to review the papers where is no more than 3 were answered positively.
2. Industry is willing to participate as the co-sponsor or keynote lecture speakers but less interested in submitting papers.
3. PaperCept stuff is very supportive but modus operandi of the PaperCept is not intuitive. For example creating conference program in this system is complicated.

L. REPORT FOR NEWSLETTER

Provide a short overview of the event. Focus on the highlights, the keynote/plenary speakers, industry participation, young authors and student participation aspects. Add any news of interest to a larger IFAC audience. For examples, see https://www.ifac-control.org/publications/newsletter_archives

The 14th IFAC/IFORS/IFIP/IEA symposium on Analysis, Design and Evaluation of Human-Machine systems was held in Tallinn, Estonia from September 16-19, 2019 in the Park Inn Radisson Meriton SPA and Conference Hotel. More Information can be found on the symposium website <https://cs.ttu.ee/hms2019/>.

IFAC HMS 2019 is a triennial symposium sponsored by the IFAC Technical Committee on Human-Machine Systems (4.5) and co-sponsored by the IFAC Technical Committee Adaptive and Learning Systems (1.2), IFAC Technical Committee Control Design (2.1) and IFAC Technical Committee Social Impact of automation (9.2). The symposium was also supported by the following organizations: International Federation of Information Processing, International Federation of Operation Research Societies and International Ergonomics Association.

The objective of the symposium is to provide an international forum for the latest scientific and technological achievements in Human-Machine Systems research. The symposium aims to bring together researchers working in this field and provide them with opportunities to exchange ideas, to overview achieved results and develop the vision for future research. The role of human is important in a wide-range of applications in the domains of intelligent and autonomous systems, robotics, virtual reality, healthcare, etc., requiring advanced solutions for efficient and safe human-machine interaction.

During the last twenty-five years Estonia has experienced rapid technological development and now is one of the leading countries in areas such as e-governance, cyber-security and e-medicine. All these areas rely heavily on human-machine interaction technologies and were set as main themes of this symposium together with the established themes of previous IFAC HMS symposiums.

IFAC HMS strongly promotes the research of young scientists in the field. This time IFAC Young Author Award was given to Mr. Husam Muslim for the paper *Trust and Acceptance of Adaptive and Conventional Collision Avoidance Systems*. Best paper award was given to Mareijn Willems, Daan Marinus Pool, Kasper van der El, Herman J. Damveld, Rene van Paassen, Max Mulder for the paper *Analysis of Human Skill Development in Manual Ramp-Tracking Tasks*.

Five keynote lectures were given during the symposium. "Incident Response case studies: Reality vs Security Theatre" by Kieren Ni colas Lovell. Main attention of the lecture was payed to the cybersecurity aspects and dangers of social networks. Prof. Aaro Toomela discussed problems of Intelligence versus Artificial Intelligence from the viewpoint of psychology. In order to strengthen contacts between academia and local industry three keynote lectures were organized. "Remote Tower for ATM - Possibilities and Challenges" by Dr. Meelis N mm Cybernetica AS, "Meaningful Human Control of Unmanned Ground Vehicles" by Prof Mart Noorma, Milrem Robotics and "Unmanned aircraft systems (UAS) – present and the future" by Martin J esaar, Threod Systems.

M. SUBMISSION OF REPORT

Submitted by (name/affiliation): Dr. Sven N mm Dpt. Software Sciences, School of Information Technology TalTech (Tallinn University of Technology), Estonia

Date: 27.10.2019