Event type: **physical meeting** (with hybrid option)

**Scope:** We are confident that by conference time the pandemic context is settled to an operational mode to allow physical meeting of our event. As a backup plan, however, we also enable hybrid participation to foresee difficulties in visa handling, travelling cost limitations or unforeseen limitations.

We encourage participants to cross-fertilize and endorse the interdisciplinarity of this event. Healthcare systems, biological systems, pharmaceutical systems and everything stemming from these are welcomed topics to our 11th IFAC Symposium on Biological and Medical Systems (BMS2021), organized in Ghent, Belgium, through 19-22 September 2021 as a physical event with hybrid option.

Experimental, clinical and feasibility studies are particularly welcome contributions. The symposium covers all aspects of biomedicine, physiology, biology, pharmaceutical and epidemiological problems interconnected through multidisciplinarity with systems engineering.

We kindly invite you to propose Open Invited Tracks, disseminate the call of our event to your peer network and warmly looking forward to welcome you in Ghent, Belgium.

**Plenary Lectures:** see website updates

**Special Issues:** There will be several special issues featuring selected articles from BMS2021. See conference website for information upon conditions, deadlines, topics, and reduced fees for open access publication.

**Benchmark Challenge Competition**

A competition for control of anesthetic and hemodynamic states in a simulated patient model will be released in Matlab/Simulink by end December 2020. See conference website for updates.
The symposium will address the latest progress and challenges posed in all themes of technical committees:

- model formulation, experiment design, identification and validation, biosignal analysis and interpretation,
- advances in sensing and signal processing,
- tracer kinetic modelling from imaging systems,
- biomedical system approximations
- decision support systems and feedback control
- robotics, devices and sensors
- biological systems and controls
- pharmaceutical processes
- vaccine/drug manufacturing and quality control
- artificial intelligence methods for healthcare
- bionic engineering and biomaterials

Application areas may include, but not limited to:

- cellular, metabolic, cardiovascular, neurosystems,
- healthcare and drug delivery management, disease control, critical care, pandemic response
- fractal pharmacokinetics
- decision support systems for the control of physiological and clinical variables,
- biomedical imaging systems,
- medical information systems
- surgical robotics and medical nano-robotics
- control of voluntary movements, respiration, locomotion
- rehabilitation engineering and robotics,
- kinetic modelling and control of biological systems, artificial organs and biomechanical systems,
- continuous production optimization in pharmaceutical industry, vaccine/drug on demand production
- targeted molecular therapies
- artificial intelligence applied to healthcare

IFAC Young Author Award

In order to stimulate the involvement of young scientists and engineers in IFAC, as well as to recognize top-level contributions of the younger generation in our field and to support their careers, IFAC presents the Young Author Award. Eligibility criteria is to have the PhD-student status of the first and presenting author, at the time of paper submission.

IPC Member List

Cai T., Australia
Desaive T., Belgium
Coene A., Belgium
Volcke E., Belgium
Prodanov D. Belgium
Liu J., Canada
Giri F., France
Pons M.N., France
Leonhardt S.; Germany
Misgeld B., Germany
Walter M., Germany
Chiusso A., Italy
Choi J., Korea
Yeong S.C., Malaysia
Jayawardhana B., Netherlands
Docherty P., New Zealand
Muresan C.I. Romania
Medvedev A., Sweden
Levine W., USA

Kronreif G., Austria
Copot D. Belgium
Segers P., Belgium
Platisa L., Belgium
Tsuzuki M., Brazil
Petrovic I., Croatia
Queinnec I. France
Schauer T., Germany
Moeller K., Germany
Ngo C., Germany
Kovacs L., Hungary
Visioli A., Italy
Clovis F., Lebanon
Steer E., Netherlands
Chase G., New Zealand
Mendonça T., Portugal
Banga J., Spain
Cescon M., USA
Pasik-Duncan B., USA

Copyright Conditions

"All publication material submitted for presentation at an IFAC-sponsored meeting (Congress, Symposium, Conference, Workshop) must be original and hence cannot be already published, nor can it be under review elsewhere. The authors take responsibility for the material that has been submitted. IFAC-sponsored conferences will abide by the highest standard of ethical behavior in the review process as explained on the Elsevier webpage (https://www.elsevier.com/authors/journal-authors/policies-and-ethics), and the authors will abide by the IFAC publication ethics guidelines (https://www.ifac-control.org/events/organizers-policy/PublicationEthicsGuide/PublicationEthicsGuidelines.pdf/view).

Accepted papers that have been presented at an IFAC meeting will be published in the proceedings of the event using the open-access IFAC-PapersOnLine series hosted on ScienceDirect (https://sciedirect.com/). To this end, the author(s) must grant exclusive publishing rights to IFAC under a Creative Commons license when they submit the final version of the paper. The copyright belongs to the authors, who have the right to share the paper in the same terms allowed by the end user license, and retain all patent, trademark and other intellectual property rights (including research data)."

https://www.ifac-control.org/publications/copyright-conditions