International Students Olympiad in Hot Bulk Forging and Extrusion Technologies 2019

Students of mechanical engineering are invited to take part in the International Students Olympiad in Hot Bulk Forging Technologies, which will take place in April 2019 at universities around the world.

The competition between students will consist of the following parts: students will get a drawing of an axisymmetric part after machining and should design the hot forged part and die impression for the final forging and then determine necessary technological chain for its manufacturing and then simulate proposed forging process. Since this year students can choose alternative task for developing technological process of hollow aluminium profile extrusion. Simulation will be performed in QForm software for estimation and verification of the developed technology.

Organizers are asked to submit a competition entry with a list of applicant students. If the local organizer invites students from multiple universities then each university is limited to 3 participating students so if more are interested in participating, then each university must pre-select 3 most qualified participants. If only one university is involved with a local organizer, then more than 3 students may participate. On the day of the event in April 2019 competing students should arrive to assigned class room and each student will work on a personal computer with QForm simulation and CAD software installed and will have 6 hours to design the technology, to simulate it and to create a report using text editor such as Microsoft Word. Students' reports should include calculations and justification of the proposed technology, applications and drawings in text file as well as saved QForm FE-simulation file. Each report will have special random number to achieve fair and unbiased judging. The results will be judged by a local committee. Winners will get diplomas and prizes. Then 1st place winners from each country will move on to the Scientific Committee judgment between countries where three best students' reports from around the world will get special diplomas and prizes.

Designed technology will be judged by the following criteria:

- computation of hot forged part drawing;
- justification of designed bulk forging technology;
- effectiveness and efficiency of proposed technology based on the results of simulation in QForm. Optimally designed technology should provide no defects, complete filling of the die impression, consist of minimum number of technological chain steps with high forging energy efficiency and high material consumption efficiency with optimal grain flow.

Basic language of the Olympiad is English. Each Organizer may use different languages for reports but the students' reports for International Committee judgment have to be translated into English.

Deadlines:
Competition entry from university: March, 2019
List with applicant students: March, 2019

Dates of competition: April 2019

Additional conditions:
All universities taking part in the Olympiad will get a free 3-month network QForm software license for 3 places to practice before the Olympiad by request. The universities will also get the solved example from the previous Olympiad for review as well as a training course of simulation in QForm.

Organizational Committee

QForm Group
Bauman Moscow State Technical University
University «St. Cyril and Methodius»
National University of Science and Technology MISIS
Technical University of Sofia
AGH University of Science and Technology
Kongju National University
University Politehnica of Bucharest
Hanoi University of Science and Technology
University of Ljubljana
Budapest University of Technology and Economics
BTU Cottbus-Senftenberg
University of Stuttgart (IFU)
Omsk State Technical University
Gebze Technical University
National Chung Hsing University
Kalashnikov Izhevsk State Technical University
National Metallurgical Academy of Ukraine
Goce Delcev University
Pillai College of Engineering
Beijing Jiaotong university

Scientific Committee

AGH University of Science and Technology (Poland), Department of Metal Forming WIMiIP www.ppm.agh.edu.pl	Head of Department Prof., Ph.D., D.Sc. Janusz Majta
Bauman MSTU (Russia), Department of Metal Forming www.bmstu.ru	Ph.D., Asst. Professor Yuri Gladkov
Kangwon National University (Korea), Department of Mechanical and Biomedical Engineering www.kangwon.ac.kr	Prof., Ph.D. Hyung Jong Kim
Hanoi University of Science and Technology (Vietnam) School of Graduate Education www.hust.edu.vn	Dean of Graduate School Professor, Ph.D. Nguyen Dac Trung
OmSTU (Russia), Institute for Continuing Professional Education www.omgtu.ru	Head of Institute Ph.D., Asst. Professor Igor Markechko
Politecnico di Torino (Italy), Department of Management and Production Engineering www.polito.it	Asst. Professor Dario Antonelli
Technical University of Sofia (Bulgaria), Department of Materials Science and Technology mtm.tu-sofia.bg	Head of Department Ph.D., Asst. Prof. Valentin Kamburov
University POLITEHNICA of Bucharest (Romania), Materials Processing and Ecometallurgy Department www.upb.ro	Vice President of the Romanian Forging Association, Ph.D., Lecturer Nicolae Serban
Universität Stuttgart (Germany), Institut für Umformtechnik www.ifu.uni-stuttgart.de	Head of Institute Univ.-Prof. Dr.-Ing. Dr. h. c. Mathias Liewald
Miskolc University (Hungary), Institute of Physical Metallurgy, Metal Forming and Nanotechnology www.uni-miskolc.hu	Prof., Ph.D. György Krallics
University of Nis (Serbia), Department for production and IT www.ni.ac.rs	Professor Miroslav Trajanović
National Central University (Taiwan), Department of Mechanical Engineering www.ncu.edu.tw	Professor Yiin-Kuen Fuh
QuantorForm Ltd. www.qform3d.ru	CEO, Ph.D. Sergey Stebunov

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