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Plastikářský klastr

Pozvánka na odborný workshop Plastikářského klastru na téma

PROBLEM SOLVING IN EXTRUSION AND INJECTION MOLDING WITH THE HELP OF RHEOLOGY AND COMPUTER SIMULATION

který se bude konat v pátek
4. 5. 2018 v 9:30 – 13:00
v prostorách **Centra polymerních systémů**
třída Tomáše Bati 5678, 760 01 Zlín

Program:

Je nám velkou ctí, že naše pozvání přednášet přijal **profesor John Vlachopoulos** z McMaster University (Hamilton, Kanada), který patří ke světové špičce v oblasti vytlačování a vstřikování ve vazbě na počítačové simulace a reologické chování polymerních materiálů.

Abstrakt přednášky je k dispozici v příloze.

Registrace do 31. 3. 2018 (počet míst je omezen) na vopatova@plastr.cz, případně telefonicky +420 775 505 348.

Věříme, že si tuto jedinečnou akci nenecháte ujít a těšíme se na Vaši účast!

Ve Zlíně 5.3.2018

Abstract

PROBLEM SOLVING IN EXTRUSION AND INJECTION MOLDING WITH THE HELP OF RHEOLOGY AND COMPUTER SIMULATION

John Vlachopoulos
Professor Emeritus of Chemical Engineering
McMaster University, Hamilton, ON, Canada

Knowledge of viscosity as a function of shear rate and temperature, is necessary for rational design of screw extruders, extrusion dies and injection molds. Such data are introduced into software packages, which simulate the transport of solids, melting, melt pumping, flow through channels, dies and in mold cavities. Instead of trial-and-error procedures involving production equipment, design and scale-up is carried out on the computer screen. However, for problem solving, rheological measurements of polymer elasticity might also be necessary. Some rheological measurements are very sensitive to differences in molecular weight distribution and long chain branching. Frequently, even small differences may have significant impact in process stability and in product quality. Detailed rheological characterization of polymers can be very time consuming and expensive. However, by understanding the problem and knowing what to look for, the effort and expenses can be significantly reduced. Several examples will be given, for production of plastic film, sheet, pipe, medical tubing, injection molding of twist-off caps, injection molding of an electrical housing and others. It will be explained how it is possible, with the combination of rheological measurements and computer simulations, to determine the root causes of many problems and eventually solve them.

Professor John Vlachopoulos

Acts as a **consultant** to process and polymer industry, **licensor of software packages** and **expert witness** in legal disputes involving patent litigation and product liability. Consulting contracts and software licensing agreements include a number of corporations totalling **over 500, in 30 countries**.

Besides, he is a **member** of the Editorial Board of Advances in Polymer Technology, Member of the Editorial Board of International Polymer Processing, Member of Advisory Board of Progress in Polymer Processing (Hanser Publishers). He also acts as **journal referee**, **reviewer** of research proposals, external **Ph.D. thesis examiner** for several universities, course director and principal **lecturer.** John Vlachopoulos is also the **founder** and **director** of CENTRE FOR ADVANCED POLYMER PROCESSING AND DESIGN (CAPPA-D) research centre established by the McMaster University.

More info http://www.polydynamics.com