Materialise Announces the Winners of the Mimics Innovation Awards

April 23, 2013
Tuesday, April 23, 2013

Leuven, Belgium – Materialise is proud to announce the winners of the Mimics Innovation Awards. Through the years, the Suite has become an industry standard for processing and editing anatomical data from CT and MRI scans. Incorporating anatomical data is an important component in evidence-based R&D but funding is not always available. In order to ensure that this important research remains possible, Materialise offers 16,000 euros per year to the most innovative uses of the Mimics Innovation Suite.

At Materialise are striving to make the world 'better and healthier' by providing biomedical researchers with the best software solution around and rewarding them when they accomplish amazing things using the software. In the words of Materialise's founder and current CEO, Wilfried Vancraen, "We are convinced that many interesting research projects never get further than the planning stage due to a lack of money. At Materialise, we want to support these researchers in making the world a bit healthier."

In 2005, Materialise established the Mimics Innovation Awards: a prestigious competition in which we support and reward top level research conducted with the assistance of the Mimics Innovation Suite. Participants are invited to send in a research case for evaluation by an independent, international jury, composed of experts in advanced 3D medical image processing. The jury thoroughly evaluates each paper based on pre-defined criteria and selects the most innovative cases.

The 2013 judges included Wilfried Vancrean, CEO and founder of Materialise; Professor Jos Vandersloten, full professor and chair, Division of Biomechanics and Engineering Design at K.U.Leuven; Andy Christensen, President of Medical Modeling Inc., Golden, Colorado, USA; Professor Han Sung Kim, member of the Korean Society of Medical and Biological Engineering, the Korean Society for Precision Engineering and the Korean Society of Biomechanics; and Professor John Middleton, founding editor and Chairman of the Journal of Computer Methods in Biomechanics and Biomedical Engineering and the international symposium series, member of the Institution of Structural Engineers and Fellow of the Royal Society of Arts.

This year's awards fell under five categories: Engineering on Anatomy for Cardiovascular Applications, Engineering on Anatomy for Orthopaedic/Craniomaxillofacial Applications, Open Category, Poster Category for Cardiovascular Applications, and the Poster Category for Orthopaedic/Craniomaxillofacial applications. There were dozens of excellent submissions and the choice was a difficult, but the judges voted and the winners are:

1. Category Engineering on Anatomy for Cardiovascular Applications

First Place:
Ellen Roche, Arne Menz, Pranotti Hiremath, Conor Walsh
School of Engineering and Applied Science, Harvard University
Technische Universitat Munich
Harvard School of Medicine, Harvard Univ.
Wyss Institute for Biological inspired Engineering, Harvard University

"Design of an anatomically accurate, multi material, patient specific cardiac simulator with sensing and controls"

Second Place:
J, Bols, J. Degroote, B. Trachet, B. Verhegge, P.Segers and J. Vierendeels
Department of Flow, Heat and Combustion Mechanics, Faculty of Engineering, Ghent University
IBITech-bioMMeda, Faculty of Engineering, Ghent University

"A computational method to assess in vivo stresses and the unloaded configuration of patient-specific blood vessels"

2. Category Engineering on Anatomy for Orthopaedic/Craniomaxillofacial Applications

First Place:
Stefaan W. Verbruggen, Ted J. Vaughan, Laoise McNamara,
Biomechanics Research Centre, National University of Ireland, Galway

"Strain Amplification in bone mechanobiology: a computational investigation of the in vivo mechanics of osteocytes"

Second Place:
Emmanuel A. Audenaert, Ian Peeters, Lara Vigneron, Nick Baelde and Christophe Pattyn
Ghent University Hospital

“Hip Morphological Characteristics and Range of Internal Rotation in Femoroacetabular Impingement”

3. Open Category

First Place:
Leah Klein
University of Illinois, Master Thesis for Degree of Master of Science in Biomedical Visualization

“Visualizing Pharyngeal Arch Nerve Growth and Muscle innervation During Human Embryological Development”

Second Place:
Matthew Jian-Qiao Peng (Dept. Joint Surgery of 1e Affiliated Hospital of Guangshou Medical College, China)
Xiangyuang ju (Glasgow Dental Hospital and School, Univ of Glasgow, UK)
Balvinder S Khambay (Glasgow Dental Hospital and School, Univ of Glasgow, UK)
Asraf F. Ayoub (Functional & Molecular Imaging Research institute, Pritzker Medical School, Univ. of Chicago, USA)

“Clinical Significance of creative 3D-image Fusion across multimodalities (PET+CT+MR) based on Characteristic co-registration”

4. Poster Category for Cardiovascular Applications

First Place:
Justin Ryan, Rachel Austin, Jonathan Plasencia, Sosan Park CPNP, Randy Richardson MD, Richard Southard MD, John Nigro MD, Stephen Prophal MD, David Frakes Phd. (Arizona State University, Phoenix’s Children’s Hospital, St. Joseph’s Hospital and Medical Center, Phoenix, AZ)

“Virtual Total Artificial Hearth Implantation for Improved Device Eligibility Criteria”

5. Poster Category for Orthopaedics/Caranialmaxillofacial applications

First Place:
David Sengh and Hugh Herr (MIT Media Lab, Biomechatronics Group)

“VIPr Socket: 3D Printing of Prosthetic sockets for Below Knee Amputees”

Congratulations to all who participated! We commend you on your efforts and cutting-edge research. Please consider submitting your exciting research to the 2014 Mimics Innovation Awards. To learn more about awards and the regulations, visit the website: www.materialise.com/MIA.

About Materialise
With its headquarters in Leuven, Belgium, and branches worldwide, Materialise has been playing an active role in the field of Additive Manufacturing (AM) since 1990. In addition to having the largest capacity of AM equipment in Europe, Materialise also enjoys a stellar reputation as a provider of innovative software solutions. They have used their experience and expertise to create a better and healthier world through their involvement in AM for industrial and medical applications, and by providing bio-medical and clinical solutions such as medical image processing and surgical simulations. Materialise has developed unique solutions that make a world of difference for its many customers with their prototyping, production, and medical needs. These customers range from large companies in the automotive, consumer electronics, and consumables sectors; to famous hospitals, research institutes, and clinicians; to individual consumers interested in bringing their own unique creations to life through i.materialise or who want to purchase a celebrated .MGX design.