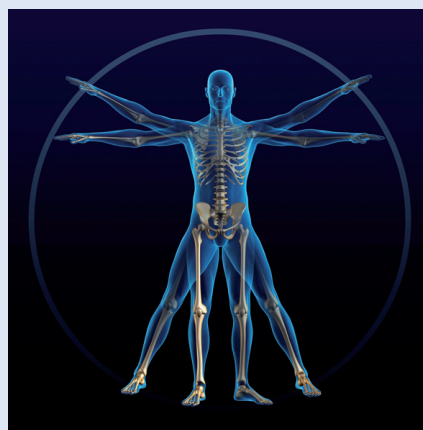


1st Virtual Physiological Human Conference

# CONFERENCE PROGRAMME VPH2010

September 30 - October 1 2010  
Brussels, Belgium



Organised by the  
Virtual Physiological Human  
Network of Excellence  
[www.vph-noe.eu](http://www.vph-noe.eu)  
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## Dear VPH2010 Attendee

We are very pleased to welcome you to VPH2010. This conference is the first of a series of International VPH Conferences, organized by the Virtual Physiological Human Network of Excellence (VPH NoE), and is supported by the European Commission ICT for Health / DG Information Society and Media.

We are delighted that the meeting will be opened with a welcome address by Zoran Stancic, Deputy Director General of DG Information Society. We are also pleased to welcome our four keynote speakers, who are internationally-established leaders in their respective VPH fields: Aleksander Popel (Johns Hopkins University), Nadia Rosenthal (European Molecular Biology Laboratory), Norbert Graf (University Hospital of the Saarland), and Janet Thornton (European Bioinformatics Institute).

Compiling this year's program was a very pleasant challenge, as we received three times as many abstract submissions as we had expected: overall, there will be 167 papers presented at the conference – an excellent achievement for our very first VPH conference. At the time of writing, we have over 230 registered participants and we expect this number to rise further by the time of the conference itself.

VPH2010 will demonstrate the different projects in our area which are taking place, not just across Europe, but also elsewhere in the world. Demonstration stands can be found in the Lower Hall on current activities within the Framework 7 VPH Initiative projects. Oral sessions will be based on a specific theme, with a focus on the Cardiovascular System (Dupreel room), Other Organ Systems (Baugniet room), Policies (Henry James room – 15th Floor) and Tools and Methods (Conseil room).

Poster presentations will be up for the duration of the Conference, with dedicated discussion timings (odd-numbered posters will be over lunchtime and in the evening on the 30th September; even-numbered posters in the evening on the 30<sup>th</sup> September and over lunchtime on 1st October). This will ensure that there is an opportunity for people within one topic to see posters by others in their own field and to increase the time in which interested individuals can talk to authors. Posters are arranged in seven themes: (1) Modelling organ systems and disease; (2) Modelling from cell to organ; (3) Data management, (4) Numerical methods and modelling tools; (5) Research methodology: experiments, probabilistic, integrative, data processing; (6) Systems biology / systems physiology; Screening, diagnosis, testing, medical devices and model assisted planning; and (7) 'Other'.

The conference dinner will take place on the evening of Thursday 30th September, and the conference will finish on Friday 1st October with a prize-giving reception.

Interest in our growing community is large and we are pleased to announce that after the meeting, we will publish a selection of VPH2010 papers (invited for peer-review on the basis of reviewer scores) and the best two posters in Interface Focus in 2011. Interface Focus is a new themed journal of the successful Royal Society Interface Journal. Effective at the beginning of 2011, Interface Focus will become a free-standing Royal Society journal and the VPH2010 issue will be one of its first publications. VPH2010 is also endorsed by the Journal of Engineering in Medicine. These are undoubtedly signs of confidence in our

emerging field, and we are really pleased to have attracted the interest of such prestigious journals.

We wish to give a big thank you to the organizers of VPH2010, in particular Tara Chapman, without whom none of this would be possible. We would like to thank the reviewers (Scientific Committee) of VPH2010 for their enthusiasm and support for this first conference. Last, but not least, we wish to thank you, the VPH community for your support of VPH2010, expressed by your attendance.

We hope you have a very successful and enjoyable conference.

**By the VPH2010 Scientific Committee:**

Peter Coveney, University College London (Chair)

Marco Viceconti, Istituto Ortopedico Rizzoli

Vanessa Diaz, University College London

Peter Hunter, University of Auckland

Peter Kohl, University of Oxford

# VPH2010 Conference Presentation Schedule

Presentation abstracts included on USB key issued to all attendees

## Day 1 - Thursday 30 September 2010

	Dupreel Room	Baugniet Room	Henry James Room (15th Floor)	Conseil room
	Cardiovascular	Other Organ Systems	Policies	Tools & Methods
08.00 - 08.55	<b>Registration (first floor, Main Hall)</b>			
08.55 - 09.00	<b>Introduction to VPH2010 - by Peter Coveney, VPH NoE Project Coordinator</b>			
09.00 - 09.30	<b>European Commission Welcome Address - The role of the European Commission in the VPH Initiative</b> Zoran Stancic, Deputy Director General, DG Information Society (Dupreel Room)			
09.30 - 10.15	<b>Keynote Address - Systems Biology of Angiogenesis</b> Aleksander Popel, Director of the Systems Biology Laboratory, John Hopkins University, USA (Dupreel Room)			
	50 Years Cardiac Electrophysiology Modelling: from cell to organ #1	Musculo-skeletal Modelling #1	From Nano to VPH	Models for the VPH
	<i>Chair: Peter Kohl</i>	<i>Chair: Rita Stagni and Andrea Perissinotto</i>	<i>Chair: Ferran Sanz</i>	<i>Chair: Peter Coveney</i>
10.15 - 10.35	<b>Minimum Information for Cardiomyocyte Electrophysiology (MICE): addressing the challenges of correlating electrophysiology experiments and modelling</b>  Burton, RAB., Garny, A., Bollensdorff, C., Quinn, TA., Fink, M., Bub, G., Mirams, G., Fletcher, K., Noble, D., Kohl, P.	<b>A validation of subject-specific FE models of the human femur in side-fall conditions</b>  Grassi, L., Schileo, E., Taddei, F., Zani, L., Juszczak, M., Cristofolini, L., Viceconti, M.	<b>Genetics meets multiscale and multiphysics modeling</b>  Omholt, S.	<b>What is a model? A tentative taxonomy for scientific models</b>  Viceconti, M.
10.35 - 10.55	<b><i>In silico</i> models for predicting arrhythmic effect of drugs</b>  Saiz, J., Cardona, K., Ferrero, JM (Jr.), Trenor, B., Carbonell, B., Sebastián, R.	<b>Registering heterogeneous human musculoskeletal system data with IhpFusionBox</b>  Moiseev, F., Sholukha, V., Salvia, P., Dugailly, PM., Mahieu, C., Rooze, M., Van Sint Jan, S.	<b>The ACTION-Grid White Paper. Nanoinformatics: expanding the VPH vision towards nanomedicine</b>  Maojo, V., De la Iglesia, D., Martin-Sanchez, F., Hermosilla, I., Potamias, G., Moustakis, V., Gonzalez de Quiros, F., Otero, P., Gonzalez-Nilo, F., Perez-Acle, T., Legre, Y., Keuchkerian, S., Kern, J., Fister, K., Kulikowski, C., Mitchell, JA.	<b>The Virtual Physiological Human ToolKit - evolution and sustainability</b>  Cooper, J., Fenner, J., McCormack, K., Gavaghan, D., Coveney, P.
10.55 - 11.25	<b>Coffee break (Main Hall and ground floor)</b>			

	<b>Dupreel Room</b>	<b>Baugniet Room</b>	<b>Henry James Room (15th Floor)</b>	<b>Conseil room</b>
	<b>50 Years Cardiac Electrophysiology Modelling: from cell to organ #2</b>	<b>Musculo-skeletal Modelling #2</b>	<b>VPH Projects and Tools: State of the Art #1</b>	<b>VPH Standards, Ontologies, and Workflows #1</b>
	<i>Chair: Denis Noble &amp; Philippe Jehenson</i>	<i>Chair: Marco Viceconti &amp; Michel Rochette</i>	<i>Chair: Toni Giorgino &amp; Horst Hahn</i>	<i>Chair: Pedro Omedas</i>
11.25 - 11.45	<b>Towards real-time simulations of cardiac electrophysiology</b>	<b>Shape indexing of human femora using morphing and principal component analysis</b>	<b>Visualisation and simulated surgery of the left ventricle in VPH2</b>	<b>Standards: VPH data and developments in data format conversion</b>
	Mitchell, L., Niederer, SA., Smith, NP., Henty, DS., Plank, G.	Boichon, C., Rochette, M., Marchal, T., Schileo, E., Grassi, L., Taddei, F., Viceconti, M.	McFarlane, NJB., Lin, X., Zhao, Y., Clapworthy, GJ., Dong, F., Redaelli, A., Testi, D.	Fenner, J., Varma, S., Cooper, J., McCormack, K.
11.45 - 12.05	<b>A Reynolds number-like biomarker index categorizing cardiac reentrant wave: a hint from fluid dynamics</b>	<b>Modelling the electromechanical behaviour of skeletal muscles and its applications</b>	<b>euHeart: Personalised and Integrated Cardiac Care using Patient-specific Cardiovascular Modelling</b>	<b>An ontology-based connectivity framework for the anatomical integration of clinical data and physiology models</b>
	Shim, EB., Hong, SB., Lim, KM., Leem, CH., Youn, CH., Earm, YE., Noble, D.	Röhrle, Oliver., Davidson, JB., Pullan, AJ.	Ecabert, O., Hunter, P., Weese, J., Chapelle, D., Frangi, A., Delingette, H., Spaan, J., Hose, R., Razavi, R., Smith, N.	de Bono, B., Grenon, P., Stevens, R., Hunter, P.
12.05 - 12.25	<b>Archived tissue architecture for computing propagation in the mammalian myocardium</b>	<b>An object-oriented multibody environment for embeddable biomechanics simulation</b>	<b>A clinical study protocol for the ARCH project: towards computational modelling for improvement of outcome after vascular access creation</b>	<b>A formalisation of multiscale and multi-science processes for integrative biology</b>
	Al-Owais, MMA., Benson, AP., Bernus, O., Dierckx, H., Gilbert, SH., Greenwood, J., Holden, AV., Plein, S., Radjenovic, A., Walton, R.	Kecskemethy, A., Albassam, H., Raab, D.	Bode, A., Caroli, A., Rota, S., Araujo, L., Planken, N., Malovrh, M., Remuzzi, A., Tordoir, J.	Vanessa, D., Pichardo-Almarza, C.
12.25 - 12.45	<b>Patient-specific computational models of the heart for a cardiac resynchronization therapy planning platform</b>	<b>Kinematics reconstruction by Scalable Double Step Registration (SDSR)</b>	<b>@neurIST Complex Information Processing toolchain for the integrated management of cerebral aneurysms</b>	<b>Modeling and understanding multi-scale complex diseases in the presence of model and parameter uncertainty: workflows and ensemble computation</b>
	Riccobene, C., Romero, D., Pashaei, A., Sebastian, R., Sukno, F., Butakoff, C., De Craene, M., Omedas, P., Frangi, AF., Velut, J., Philipot, C., Toumoulin, C., Billet, F., Mansi, T., Sermesant, M., Wallman, M., Rodriguez, B., Lamata, P., Smith, N., Chinchapatnam, P., Duckett, S., Razavi, R., Groth, A., Weese, J., Ecabert, O., Camara, O.	Sholukha, V., Van Sint Jan, S., Moiseev, F., Salvia, P., Rooze, M.	Villa-Uriol, MC., Berti, G., Singh, P., Marzo, A., Chiarini, A., Penrose, J., Schmidt, JG., Frangi, AF.	Gomez-Cabrero, D., Compte, A., Tegner, J.



	<b>Dupreel Room</b>	<b>Baugniet Room</b>	<b>Henry James Room (15th Floor)</b>	<b>Conseil room</b>
	<b>Cardiac Structure Function Modelling</b>	<b>Cancer modelling</b>	<b>VPH Projects and Tools: State of the Art #2</b>	<b>VPH Standards, Ontologies, and Workflows #3</b>
	<i>Chair: Nic Smith &amp; Jonathan Cooper</i>	<i>Chair: Ioannis Tollis</i>	<i>Chair: Gordon Clapworthy &amp; Manuel Capel-Tunon</i>	<i>Chair: David Nickerson</i>
16.15 - 16.35	<b>In-vivo myocardial fibre architecture imaging for personalised cardiac models</b>  Toussaint, NT., Stoeck, CS., Kozerke, SK., Batchelor, PB., Sermesant, MS.	<b>Image-based multi-scale physiological planning for ablation cancer treatment</b>  Bost, C., Flanagan, R., O'Neill, DP., Payne, SJ., Peng, T.	<b>ContraCancrum: clinically oriented translational cancer multilevel modelling</b>  Marias, K., Sakkalis, V., Roniotis, A., Wan, S., Giatili, S., Graf, N., Bohle, R., Messe, E., Stenzhorn, H., Kim, YJ., Coveney, PV., Zasada, S., Folarin, A., Buchler, P., Bardyn, T., Bauer, S., Reyes, M., Clapworthy, G., Liu, E., Bily, T., Bednar, V., Karasek, M., Franz, A., Grewer, R., Dionysiou, D.	<b>Enhancing COMPUCELL3D with workflows and data provenance</b>  Heiland, R., Belmonte, J., Swat, M., Silva, C., Lumsdaine, A., Glazier, JA.
16.35 - 16.55	<b>Personalisation of a 3D Macroscopic Cardiac Electrophysiology Model for Simulation of Induced Ischemic Ventricular Tachycardia</b>  Relan, J., Sermesant, M., Chinchapatnam, P., Delingette, H., Rhode, K., Razavi, R., Ayache, N.	<b>IN silico oncology: Multiscale modelling of clinical tumour response to treatment. The oncosimulator concept</b>  Stamatakos, G., Dionysiou, D., Georgiadi, E., Kolokotroni, E., Giatili, S., Graf, N.	<b>OncoPET_DB: A Database of Realistic PET Images for Oncology based on a Virtual Human Model</b>  Lartizien, C., Marache- Francisco, S., Friboulet, D., Prost, R.	<b>Phy-SIM: Physiological Model Simulation, Integration and Modeling Framework</b>  Erson, EZ., Cavusoglu, MC.
16.55 - 17.15	<b>Patient-Specific Modelling of Whole Heart Anatomy, Dynamics and Hemodynamics from 4D cardiac CT Images</b>  Mihalef, V., Ionasec, IR., Sharma, P., Georgescu, B., Huber, M., Comaniciu, D.	<b>An ICT Environment for Patient Specific Multiscale Cancer Modelling and Treatment</b>  Wang, T., Manos, S., Liu, E., Zasada, SJ., Coveney, PV., Clapworthy, G.	<b>PredictAD – a Clinical Decision Support System for Early Diagnosis of Alzheimer’s Disease</b>  Mattila, J., Koikkalainen, J., van Gils, M., Lötjönen, J., Waldemar, G., Hviid Simonsen, A., Rueckert, D., Thurfjell, L., Soininen, H.	<b>Grid computing as a daily scientific instrument for medical imaging research</b>  Glatard, T., Camarasu- Pop, S., Friboulet, D.
17.15 - 18.15	<b>Belgian beer and cheese with poster session - All posters (Main Hall)</b>			



11.05 - 11.45

## Coffee break (Main Hall)

<p><b>Dupreel Room</b></p> <p><b>Vascular Modelling #2: Patient-specific models</b></p> <p><i>Chair: Rob MacLeod &amp; Ron Summers</i></p>	<p><b>Baugniet Room</b></p> <p><b>Vascular Modelling: Tools and Approaches</b></p> <p><i>Chair: Rod Hose</i></p>	<p><b>Henry James Room (15th Floor)</b></p> <p><b>VPH Projects and Tools: State of the Art #4</b></p> <p><i>Chair: Stefan Zasada</i></p>	<p><b>Conseil room</b></p> <p><b>Tools and Techniques #2</b></p> <p><i>Chair: Shu Takagi &amp; John Fenner</i></p>
<p><b>Patient-specific modeling of cavopulmonary connections</b></p> <p>Migliavacca, F., Pennati, G., Corsini, C., Schievano, S., Hsia, TY., Dubini, G.</p>	<p><b>Sensitivity analysis of the Guyton circulatory dynamic model and integration of pulsatile ventricles using a multiresolution modelling environment</b></p> <p>Le Rolle, V., Ojeda, D., Carrault, G., Thomas, SR., Hernández, Al.</p>	<p><b>Visibility Analysis of VPH-I projects with respect to infrastructure vs. modeling-related research</b></p> <p>Engelbrecht, G., Bisbal, J.</p>	<p><b>Multiscale visualisation and interaction</b></p> <p>Testi, D., Larrabide, I., Clapworthy, G., Aylward, S., Frangi, A., Hunter, P., Viceconti, M.</p>
<p><b>Segmentation of contrast enhanced MRA for patient-specific hemodynamic modeling</b></p> <p>Merkx, M.A.G., Bosboom, E.M.H., Oliván Bescós, J., Kroon, W., Bode, A.S., Tordoir, J.H.M., Breeuwer, M., van de Vosse, F.N.</p>	<p><b>Integration of an endocrine renin-angiotensin system into Guyton large circulatory models of blood pressure regulation</b></p> <p>Hannaert, P., Guillaud, FG.</p>	<p><b>Toward interoperability of VPH clinical application development frameworks synergistic development roadmap between MAF - GIMIAS</b></p> <p>Planes, X., Quadrani, P., Giunchi, D., Omedas, P., Frangi, AF., Viceconti, M.</p>	<p><b>The Utah integrated environment for image based modeling, simulation, and visualization</b></p> <p>MacLeod, R., Swenson, DJ., Stinstra, JG., Steffen, M., Whitaker, RT., Johnson, CR., Brooks, DB.</p>
<p><b>Multi-scale blood flow simulations in the human arterial tree</b></p> <p>Grinberg, L., Fedosov, D., Caswell, B., Karniadakis, GE.</p>	<p><b>Modelling and simulating In-Stent Restenosis with complex automata</b></p> <p>Hoekstra, A., Lawford, P., Hose, R.</p>	<p><b>Development and application of Entelos PhysioLab disease models to predict human efficacy and safety for novel therapeutics</b></p> <p>Kadambi, A.</p>	<p><b>Fast and robust multi-atlas segmentation of magnetic resonance images: application to hippocampus</b></p> <p>Lötjönen, J., Wolz, R., Koikkalainen, J., Thurfjell, L., Lundqvist, R., Waldemar, G., Soininen, H., Rueckert, D.</p>
<p><b>Lunch (Ground Floor and Main Hall) combined with Poster session (even number posters - Main Hall) and demonstration stands (Ground Floor)</b></p>			
<p><b>Keynote Address - The VPH NoE from a clinical perspective: On the way to personalized medicine</b> Norbert Graf Director, Paediatric Haematology and Oncology, University Hospital of the Saarland, Homburg, Germany (Dupreel Room)</p>			

	Dupreel Room	Baugniet Room	Henry James Room (15th Floor)	Conseil room
	<b>Vascular Modelling #3: Computational Approaches</b>	<b>Sub-cellular domain modelling</b>	<b>Cell-environment interaction effects</b>	<b>Tools and Techniques #3</b>
	<i>Chair: Vanessa Diaz &amp; Patricia Lawford</i>	<i>Chair: Frederic Bois &amp; Stig Omholt</i>	<i>Chair: Aleksander Popel &amp; Peter Coveney</i>	<i>Chair: Bernard de Bono</i>
14.45 - 15.05	<b>Hemodynamics In Stented Aneurysmatic Cerebral Vessel: Comparison Of Different Computational Approches For Stent Deployment</b>  Bernardini, A., Larrabide, I., Morales, H., Pennati, G., Petrini, L., Frangi, AF.	<b>Computational Estimation of Binding Affinities for Patient Derived HIV-1 Protease Sequences Bound to Lopinavir</b>  Wright, DW., Sadiq, SK., Kenway, OA., van de Vijver, D., Frentz, D., Coveney, PV., Jha, S.	<b>Personalized Drug Ranking in Clinical Decision Support</b>  Wan, S., Wright, D., Sadiq, SK., Zasada, SJ., Coveney, PV.	<b>NeuroLOG Multi-centric Neuroimaging Data Federation Layer</b>  Michel, F., Gaignard, A., Ahmad, F., Barillot, C., Batrancourt, B., Dojat, M., Gibaud, B., Girard, P., Godard, D., Kassel, G., Lingrand, D., Malandain, G., Montagnat, J., Pélégriani-Issac, M., Pennec, X., Rojas Balderrama, J., Wali, B.
15.05 - 15.25	<b><i>Paper withdrawn</i></b>	<b>Mathematical Modelling of Ion Channels in Nociceptors: A Multiscale Approach</b>  Pichardo-Almarza, C., Kosinsky, Y., Plyusnina, T., Demin, O., Benson, N.	<b>A systems biology approach to explaining the logic of dorsal-ventral patterning of progenitors in the vertebrate neural tube</b>  Panovska-Griffiths, J., Page, K., Briscoe, J.	<b>Patient-Specific Modelling of the liver for surgical planning and education</b>  Soler, L., Mutter, D., Marescaux, J.
15.25 - 15.45	<b><i>Paper withdrawn</i></b>	<b>Exploring the Kinetics of Drug Binding to The hERG Channel through Large-Scale Simulations</b>  Giorgino, T., D'Abramo, M., Gervasio, F., De Fabritiis, G.	<b>Primitive streak formation driven by dipolar chemotaxis: simulation of the early embryo using the Subcellular Element Model</b>  Sandersius, SA., Chuai, M., Weijer, CJ., Newman, TJ.	<b>Integration of a 3D visualization and modeling software into a workflow environment for cardiac therapy planning applications</b>  Steghöfer, M., Omedas, P., Pashaei, A., Camara, O., Lamata, P., Smith, N., Britten, R., Christie, R., Sorby, H., Wu, A., Hunter, PJ., Frangi, AF.
15.45 - 16.15	<b>Coffee break - (Main Hall)</b>			

	Dupreel Room	Baugniet Room	Henry James Room (15th Floor)	Conseil room
	<b>Cardio-Vascular Modelling: Clinical Applications</b> <i>Chair: Gabriele Dubini</i>	<b>Organ Domain modelling</b> <i>Chair: Peter Harris</i>	<b>VPH Strategic Actions</b> <i>Chair: Mary Margot Maleckar &amp; Alex Frangi</i>	<b>Tools and Techniques #4</b> <i>Chair: Peter Hunter &amp; Jonathan Swinton</i>
16.15 - 16.35	<b>Left Ventricle Modelling: A Functional Assessment Tool Combined With a Predictive Tool for Evaluation of Post-operative Mechanical Performance</b> Conti, C., Votta, E., De Marchi, D., Corsi, C., Stevanella, M., Maffessanti, F., Lombardi, M., Parodi, O., Caiani, E., Redaelli, A.	<b>Numerical approaches for simulating an impact on a hollow organ: A preliminary study</b> Beillas, P., Soni, A.	<b>Training Strategies in the Virtual Physiological Human Network of Excellence</b> Bisbal, J., Martin, C., Lawford, PV., Narracott, AJ., McCormack, K., Brook, B., Zachariou, M., Diaz, V.	<b>CellML Modeling of Cardiovascular Response under Impeller Pump VAD Support</b> Shi, Y., Brown, AG., Hose, DR., Lawford, PV.
16.35 - 16.55	<b>The importance of LVAD-imparted swirl when evaluating assisted aortic flow fields</b> Brown, AG., Shi, Y., Hose, DR., Lawford, PV.	<b>Electrodynamics and Geometry of the Virtual Gravid Human Uterus</b> Benson, AP., Blanks, A., Choi, C., Gilbert, SH., Holden, AV., Shmygol, A., Taggart, MJ., Tong, WC., Zhang, H.	<b>PhysiomeSpace: New Features For a Better Service</b> Testi, D., Balasso, M., Farinella, G., Viceconti, M.	<b>A framework for dynamic geometry assessment and patient-specific modeling of the mitral valve from CMR imaging</b> Stevanella, M., Maffessanti, F., Conti, CA., Trunfio, S., Votta, E., Roghi, A., Parodi, O., Caiani, EG., Redaelli, A.
16.55 - 17.30	<b>Closing remarks/ Prizes (Dupreel)</b>			

*Presentation abstracts included on USB key issued to all attendees*

# Posters

Poster presentations will be up for the duration of the Conference: odd-numbered posters will be staffed over lunchtime and in the evening on the 30th September; even-numbered posters in the evening on the 30<sup>th</sup> September and over lunchtime on 1st October.

Posters are arranged in seven themes: (1) Modelling organ systems and disease; (2) Modelling from cell to organ; (3) Data management, (4) Numerical methods and modelling tools; (5) Research methodology: experiments, probabilistic, integrative, data processing; (6) Systems biology / systems physiology; Screening, diagnosis, testing, medical devices and model assisted planning; and (7) 'Other'.

	<b>Modelling: organ systems and disease</b>
<b>1</b>	<b>An automated procedure for the personalization of digital human models for human motion analysis.</b> Robert, T., Ausejo, S., Beurier, G., Celigueta, JT., Sholukha, V., Van Sint Jan, S., Viossat, P., Wirsching, HJ., Wang, X.
<b>2</b>	<b>cvREMODO – Convergence of Medical Technologies for complete management of cardiovascular remodelling.</b> Jordan, B., Vallespin, B., Alberich-Bayarri, A., Arroyo, V., Barbero, M., Barcelo, A., Cavero, C., Sanz, R., Martí, L., Frangi, A.
<b>3</b>	<b>Prototype tool for the extraction of the coronary vessels centreline.</b> Velut, J., Philipot, C., Riccobene, C., Omedas, P., Frangi, A., Toumoulin, C.
<b>4</b>	<b>Sensitivity analysis of the Guyton model of blood pressure regulation. I. Global Analysis of the whole model.</b> Grosse, T., Bazin, J., LeRolle, V., Fontecave-Jallon, J., Guillaud, F., Hannaert, P., Baconnier, P., Hernandez, A., Thomas, SR.
<b>5</b>	<b>Multi-scale modeling of blood flows in extended coronary arteries. S.</b> Melchionna, S., Bernaschi, M., Bisson, M., Latt, J., Succi, S., Kaxiras, E.
<b>6</b>	<b>ImmunoGrid.</b> Pappalardo, F., Sansom, C., Pennisi, M., Shepherd, A., Motta, S., Lollini, P., Brusica, V.
<b>7</b>	<b>CFD Simulations of Airflow in Human Alveolar Ducts.</b> Ishimine, Y., Sera, T., Noda, S., Suzuki, S., Wada, S., Takagi, S.
<b>8</b>	<b>FE models of the human tympanic membrane.</b> Vollandri, Gaia., Carmignani, C., Di Puccio, F., Forte, P.
<b>9</b>	<b>Study of the influence of pelvic floor muscle activation during vaginal delivery.</b> Natal J, R., Parente, MPL., Mascarenhas, T., Fernandes, AA.

<b>Modelling: from cell to organ</b>	
10	<b>Activ8: An Integrated Multilayer Visualization, Modelling and Professional Networking Environment to Handle Complex Diseases.</b> Dalton, J., Hernandez, M., Lalinde, W., Tortajada, J., Mutlu, S., Villà-Freixa, J.
11	<b>Multiscale Modeling of Peritoneal Transport Across Structured Interstitium.</b> Waniewski, J., Stachowska-Pietka, J., Flessner, M., Lindholm, B.
12	<b>Analytical description of biological fibrous tissue failure.</b> Brunon, A., Bruyere-Garnier, K., Coret, M., Combescure, A.
13	<b>Mapping longitudinal changes in the brain affected by Alzheimer's disease.</b> Lorenzi, M., Frisoni, G., Ayache, N., Pennec, X.
14	<b>The Virtual Tendon - Development of a Multi-scale Computational Model.</b> Khodabakhshi, G., Walker, D., Hose, R.
15	<b>Reasoning on proximal model for multiscale spatial dynamics in Bone Remodelling.</b> Cacciagrano, DC., Corradini, FC., Merelli, EM., Viceconti, MV.
16	<b>Development of a multiscale simulation system for cardiotoxicity prediction.</b> Obiol-Pardo, C., Gomis-Tena, J., Saiz, J., Pastor, M., Sanz, F.
17	<b>Modelling Human Metabolic Flux Distributions.</b> Gavai, AK., van Beek, J., Supandi, F.
18	<b>Intermediate States in the Trajectory of Synaptic Channel Activation: Modelling Drug Efficacy in the Nicotinic Superfamily from Single Molecule Data.</b> Lape, R., Colquhoun, D., Sivilotti, L.

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19	<b>ftpGUI, an Adaptive Thin Client for FTP Repositories With Meta-Data Management Requirements.</b> Inda, MA., Antiga, L., Wouters, F., Tesanovic, A., Rusch, J., van Driel, R., Breeuwer, M.
20	<b>Model-Guided Therapy.</b> Lemke, HU., Berliner, L
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22	<b>Biomedical Vertical DataWarehouse Integration:Assessment of Challenges&amp; Opportunities at the Center of Excellence for Research onInflammation&amp;Cardiova.</b> Abugessaisa, I., Tegnér, J.
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26	<b>Orbital Stability Of Step Climbing: Analysis Of Muscle Activations In Young Subjects.</b> Riva, F., Bisi, MC., Stagni, R., Cristofolini, L.
27	<b>Intensity-based X-ray mammography – MRI registration using an EM-MRF for breast tissue classification.</b> Mertzaniidou, T., Hipwell, JH., Cardoso, M-J., Tanner, C., Ourselin, S., Hawkes, DJ.
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29	<b>Blood Flow Simulation in 3D Patient-Specific MRI Reconstructed Carotid Arteries.</b> Sakellarios, A., Siogkas, P., Tsakanikas, V., Stefanou, K., Naka, K., Michalis, L., Fotiadis, D.
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34	<b>Load bearing evaluation on spinal posterior column by measuring surface strain from lumbar pedicles – an in vitro study.</b> Ouyang, J., Sun, P., Zhao, W., Chen, C., Tang, L.
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45	<b>Open Problems on the Multi-Scale Spatio-Temporal Visualization of Biomedical Data.</b> Cardenes, R., Larrabide, I., Omedas, P., Mazzeo, M., Testi, D., Viceconti, M., Frangi, AF.
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50	<b>Current and Future Challenges in Bioanalytical Workflows and Data Exchange.</b> Mattmueller, S., Naal, S., Leiber, M.
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54	<b>Integrating biological knowledge, novel imaging modalities, and modeling in breast cancer diagnosis.</b> Karssemeijer, N., Huisman, H., Hawkes, D., Hipwell, J., Boehler, T., Lesniak, J., Tanner, Ch., Szekely, G., Niessen, W., Hahn, H.
55	<b>Data Mining in Multi-modal, Multi-scale and Multi-level Data; Examples from the @neurIST Project.</b> Friedrich, CM., Ebeling, C., Risselada, R., Sturkenboom, MMCJM., Cruz-Villa, M., Cambien, F., Yilmaz, S., McGregor, J., Bauer-Mehren, A., Chiarini, A., Marzo, A., Lycett, R., Pozo, J., Berti, G., Hofmann-Apitius, M., Hose, R., Bijlenga, P0., Frangi, A., Rashid, M.
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60	<b>CardioLab: development of a software suite for characterization and quantification of myocardial pathologies.</b> Carotenuto, L., Barbarito, V., Planes, X., Riccobene, C., Martelli, Y., Omedas, P., Butakoff, C., De Craene, M., Camara, O., Sukno, F., Frangi, A.

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