

# International Conference in Systems Medicine Programme

Sunday 9 <sup>th</sup>	Monday 10 <sup>th</sup>	Tuesday 11 <sup>th</sup>	Wednesday 12 <sup>th</sup>	Thursday 13 <sup>th</sup>
	<b>Registration followed by Conference Opening/Welcome</b> D Fitzgerald & C Kyriakopoulou			
	<b>Systems Medicine -Hype or Hope?</b>	<b>Potential for Therapeutics</b>	<b>Omics to Systems Medicine</b>	<b>Computational Modelling</b>
	<b>Session I</b> Chair: D Fitzgerald H Westerhoff	<b>Session III</b> Chair: M Ferguson R Balling T O'Brien W Watson	<b>Session VI</b> Chair: W Kolch W Kolch J Prehn J Schwaber (Short-talk)	<b>Session VII</b> Chair: B Kholodenko R Linding Oral Presentation Slot 8 & 9
	<b>Tea/Coffee Break #2</b> D Harrison A Eggert S Donnelly	<b>Tea/Coffee Break #4</b> I Zachary Oral Presentation Slot 3 & 4	<b>Tea/Coffee Break #6</b> O Wolkenhauer Y Liu Oral Presentation Slot 7	<b>Tea/Coffee Break #7</b> B Kholodenko H Lehrach
	<b>Lunch Break #2</b>	<b>Lunch Break #3</b>	<b>Lunch Break #4</b>	
ASSET Workshop Registration	<b>Frontiers in Medicine</b>	<b>Drug Discovery</b>	<b>Social Event</b>	<b>Closing</b>
	<b>Session II</b> Chair: P De Meyts M Vidal V Quaranta Oral Presentation Slot 1 & 2	<b>Session IV</b> Chair: J Prehn D Kell L Huber Oral Presentation Slot 5	<b>Dublin City Walking Tour</b>	Conference Closing Speech G FitzGerald Presentation of Awards & Prizes
Lunch Break #1	<b>Tea/Coffee Break #3</b>	<b>Tea/Coffee Break #5</b> J Schlessinger Oral Presentation Slot 6	<b>Guinness Storehouse Tour &amp; Reception</b>	<b>Lunch Break #5</b>
ASSET Workshop (EUF7-HEALTH Programme)	<b>Industry Engagement</b>	<b>Session V - Poster Session</b>		
	<b>Panel Discussion</b> System Medicine - Future Impact Chair: A Henney Panelists: R Balling, B Heavey, A Polack, W Kolch, L Huber, S Donnelly, H Westerhoff, W Finlay	Pre-dinner drinks reception Gala Dinner		
Tea/Coffee Break #1	<b>Exhibition</b> Research and Technology Discovery Path (Including canapé reception)	<b>Gala Dinner</b> Traditional Irish Music in The Kitchen Bar		
BBQ Reception				
Early Conference Registration				
Traditional Irish Music in The Coach House				

# International Conference in Systems Medicine Programme

## Speakers, Session Chairs & Panelists

- Desmond Fitzgerald, VP for Research, University College Dublin, Ireland (C)
- Christina Kyriakopoulou, Health Directorate, DG Research & Innovation, European Commission, Belgium (C)
- Hans Westerhoff, AstraZeneca Professor of Systems Biology and Director of Manchester Centre for Integrative Systems Biology (MCISB), University of Manchester, UK and Chair for Microbial Physiology, VU University Amsterdam, Netherlands and Steering Committee, IT Future of Medicine (S, P)
- David Harrison, Professor of Pathology, University of Edinburgh, UK (S)
- Angelika Eggert, Director, Department of Pediatric Hematology/Oncology, Pulmonology and Cardiology, University Hospital of Essen, Germany (S)
- Pierre De Meyts, Director, De Meyts R&D Consulting SPRLU, Belgium (C)
- Seamas Donnelly, Consultant and Principal Investigator, Education and Research Centre, St. Vincent's Hospital, and School of Medicine, University College Dublin, Ireland (S, P)
- Marc Vidal, Professor, Centre for Cancer Systems Biology, Dana-Farber Cancer Institute/Harvard Medical School, Boston, USA (S)
- Vito Quaranta, Professor of Cancer Biology and Director of Integrative Cancer Biology Center, Vanderbilt University Medical School, Nashville, USA (S)
- Adriano Henney, Director of Obsidian Biomedical Consulting Ltd and Director of the German Virtual Liver Network, University of Heidelberg, Germany (C)
- Barry Heavey, Science and Technology Advisor, Life Sciences, IDA Ireland (P)
- Axel Polack, General Partner, TVM Capital Life Science (P)
- William Finlay, Director, Protein Discovery and Optimisation Group, Global Biologic Therapeutics, Pfizer (P)
- Mark Ferguson, Director General, Science Foundation Ireland (C)
- Rudi Balling, Luxembourg Centre for Systems Biomedicine (LCSB), University of Luxembourg (S, P)
- Tim O'Brien, Director of the Regenerative Medicine Institute, National University of Ireland Galway, Ireland (S)
- William Watson, Associate Professor of Cancer Biology, School of Medicine and Medical Science, University College Dublin, Ireland (S)
- Ian Zachary, Director of the UCL Centre for Cardiovascular Biology and Medicine, Consultant to Ark Therapeutics Ltd (S)
- Douglas Kell, Chief Executive, Biotechnology and Biological Sciences Research Council, UK (S)
- Lukas Huber, Director of the Cell Biology Division, University of Innsbruck and Chief Scientific Officer, Oncotyrol, Austria (S, P)
- Joseph Schlessinger, Professor and Chair of Pharmacology, Yale School of Medicine, Connecticut, USA (S)
- Walter Kolch, Director, SBI and Conway Institute, University College Dublin, Ireland (S, P, C)
- Jochen Prehn, Professor and Chair of Department of Physiology and Medical Physics and Head of the Centre for Systems Medicine, Royal College of Surgeons in Ireland (S, C)
- James Schwaber, Research Associate Professor, Department of Pathology, Anatomy & Cell Biology, Thomas Jefferson University, USA (S-ST)
- Olaf Wolkenhauer, Chair in Systems Biology and Bioinformatics, University of Rostock, Germany (S)
- Yansheng Liu, Institute of Molecular Systems Biology, ETH Zürich, Switzerland (S)
- Rune Linding, Research Group Leader, Department of Systems Biology, Technical University of Denmark (S)
- Boris Kholodenko, Deputy Director, Systems Biology Ireland, University College Dublin, Ireland (S, C)
- Hans Lehrach, Director, Max Planck Institute for Molecular Genetics, Berlin, Germany (S)
- Garret FitzGerald, Professor of Medicine & Pharmacology at the University of Pennsylvania and Director of the Institute for Translational Medicine & Therapeutics, Philadelphia, USA (S)

**Footnote:** S: Speaker C: Chair P: Panelist S-ST: Speaker-short talk

## Sunday 9th September

### Pre-conference Workshop - EUFP7 ASSET\*\* Programme

#### Carton Suite III, Conference Centre

- 11:30 - 13:15**    **Registration (including light lunch)**  
12:30 - 13:15    Lunch in "The Linden Tree Restaurant"
- 13:15 - 13:30**    **Workshop Opening and Welcome**  
*Walter Kolch, Systems Biology Ireland and Conway Institute, University College Dublin, Ireland*
- 13.30 - 15.30**    **Title: Cell Cycle Perturbations in Embryonal Tumours (Part I)**  
13:30 - 14:00    Neuroblastoma and Cell Cycle Overview (TBC)  
*Frank Westermann, Department of Tumor Genetics, Cancer Research Center- DKFZ, Heidelberg, Germany*  
14:00 - 14:15    N-myc Dependent Tumour Models  
*Johannes H. Schulte, Pediatric Oncology Research Lab, University Hospital of Essen, Germany*  
14:15 - 14:45    Copy number alterations in neuroblastoma preferentially target MYCN down-stream genes: implications for modeling and study of MYCN regulated signaling pathways  
*Frank Speleman, Center Medical Genetics, Ghent University, Belgium*  
14:45 - 15:00    Application of Omics Technologies to Elucidate the MYCN Transcriptional Network in Neuroblastoma  
*David Duffy, Systems Biology Ireland, University College Dublin, Ireland*  
15:00 - 15:30    Medulloblastoma Overview  
*Alexandre Arcaro, Paediatric Oncology, Department of Clinical Research, University of Bern, Germany*
- 15:30 - 16:00**    **Coffee break**
- 16.00 - 18.00**    **Title: Cell Cycle Perturbations in Embryonal Tumours (Part II)**  
16:00 - 16:30    Ewing Sarcoma Overview  
*Heinrich Kovar, Children's Cancer Research Institute, Vienna, Austria*  
16:30 - 16:45    Gene Networks in EWS  
*Loredana Martignetti, Institut Curie, Paris, France*  
16:45 - 17:00    Data Integration  
*Ramneek Gupta, University of Copenhagen, Denmark*  
17:00 - 17:15    Modelling approaches  
*Florian Lamprecht, Cancer Research Center - DKFZ, Heidelberg, Germany*  
17:15 - 18:00    Annual Report Preparatory Meeting (ASSET Partners only)
- 19.00**            **BBQ reception in the Coach House**
- 21.00**            **Traditional Irish Music in the Coach House**

\*\* ASSET: Analysing and Striking the Sensitivities of Embryonal Tumours (<http://www.ucd.ie/sbi/asset>)

## Monday 10th September

### SYSMED 2012 Conference (inclusive of Sponsor Exhibition in Carton Suite I)

#### Carton Suite, Conference Centre

- 8.30 - 9.30**      **Registration**
- 9.30 - 10.00**    **Conference Opening and Welcome**  
*Desmond Fitzgerald, University College Dublin, Ireland*  
*Christina Kyriakopoulou, Health Directorate, DG Research & Innovation, European Commission, Belgium*
- 10.00 - 13.10**   **Session I: Systems Medicine - Hype or Hope?**  
*Chair: Desmond Fitzgerald, University College Dublin*
- 10.00 - 10.40    Systems Medicine: How to Capitalise on Molecular Medicine  
*Hans Westerhoff, Manchester Centre for Integrative Systems Biology (MCISB), University of Manchester, UK/VU University Amsterdam, Netherlands/IT Future of Medicine*
- 10.40 - 11.10    Coffee break
- 11.10 - 11.50    Systems Pathology: How much more can tissue tell us?  
*David Harrison, St Andrew's University, UK*
- 11.50 - 12.30    The way to Systems Medicine Approaches in neuroblastoma  
*Angelika Eggert, Department of Pediatric Hematology/Oncology, Pulmonology and Cardiology, University Hospital of Essen, Germany*
- 12.30 - 13.10    Systems Biology and Translational Medicine- Maximising the Synergy  
*Seamas Donnelly, Education and Research Centre, St. Vincent's University Hospital and School of Medicine, University College Dublin, Ireland*
- 13:10 - 14:00**   **Lunch in The Linden Tree Restaurant**
- 14.00 - 16.00**   **Session II: Frontiers in Medicine**  
*Chair: Pierre De Meyts, De Meyts R&D Consulting SPRLU, Belgium*
- 14:00 - 14:40    Interactome Networks and Human Disease  
*Marc Vidal, Centre for Cancer Systems Biology, Department of Genetics, Dana-Farber Cancer Institute/Harvard Medical School, Boston, USA*
- 14.40 - 15.20    Cancer Response to Targeted Agents: Dynamics and Variability from Single Cell Data  
*Vito Quaranta, Integrative Cancer Biology Center, Vanderbilt University Medical School, Nashville, USA*
- 15.20 - 15.40    A Brief View of Systems Medicine and Genetics  
*Jie (Bangzhe) Zeng, Institute of Systems Biological Engineering, China*
- 15.40 - 16.00    Pathway-GPS and SIGORA: Identifying relevant pathways based on the over-representation of their gene-pair signatures  
*David Lynn, Teagasc, Ireland*
- 16.00 - 16.30**   **Coffee break**
- 16.30 - 20.00**   **Panel Discussion, Exhibition and Networking Session**
- 16:30 - 16:50    Introduction to panel discussion  
*Adriano Henney, German Virtual Liver Network, University of Heidelberg, Germany (Chair)*

- 16.50 - 18.00 Panel Discussion - "Systems Biology and the Future of Medicine?"  
*William Finlay, Global Biologic Therapeutics, Pfizer*  
*Rudi Balling, Luxembourg Centre for Systems Biomedicine, University of Luxembourg*  
*Barry Heavey, Life Sciences, IDA Ireland*  
*Axel Polack, TVM Capital Life Science*  
*Walter Kolch, Director, Systems Biology Ireland and Conway Institute, University College Dublin, Ireland*  
*Lukas Huber, Cell Biology Division, University of Innsbruck and Oncotyrol, Austria*  
*Seamas Donnelly, Education and Research Centre, St. Vincent's University Hospital and School of Medicine, University College Dublin, Ireland*  
*Hans Westerhoff, Manchester Centre for Integrative Systems Biology (MCISB), University of Manchester, UK/VU University Amsterdam, Netherlands/IT Future of Medicine*
- 18.00 - 20.00 Research and Technology Discovery Path in The Morrison Room - Exhibition and Networking event including wine and canapé reception  
*Exhibitors: Systems Biology Ireland (UCD & NUIG), Centre for Systems Medicine (RCSI), REMEDI (stem cell research, NUIG), Digital Enterprise Research Institute (NUIG), Complex and Adaptive Systems Laboratory (UCD), Conway Institute (UCD), Marine Biodiscovery Research Programme (NUIG), Shannon Applied Biotechnology Centre (LIT and ITT) and Alimentary Glycoscience Research Cluster (NUIG)*

## Tuesday 11th September

### SYSMED 2012 Conference (inclusive of Poster Session in Carton Suite I)

#### Carton Suite, Conference Centre

- 9.00 - 12.50 Session III: Potential for Therapeutics**  
*Chair: Mark Ferguson, Science Foundation Ireland*
- 9.00 - 9.40 Systems Approaches to Parkinson's Disease  
*Rudi Balling, Luxembourg Centre for Systems Biomedicine (LCSB), University of Luxembourg*
- 9.40 - 10.20 Systems Medicine Approaches to improve the Therapeutic Potential of Mesenchymal Stromal Cells in Critical Limb Ischemia  
*Timothy O'Brien, Regenerative Medicine Institute, National University of Ireland Galway, Ireland*
- 10.20 - 11.00 Biomarker Discovery and Validation for Prostate Cancer patient stratification into Appropriate treatment options: Addressing the Clinical Dilemma  
*William Watson, School of Medicine and Medical Science, University College Dublin, Ireland*
- 11.00 - 11.30 Coffee break
- 11.30 - 12.10 Neuropilin as a therapeutic target in Cancer  
*Ian Zachary, UCL Centre for Cardiovascular Biology and Medicine and Consultant to Ark Therapeutics Ltd, UK*
- 12.10 - 12.30 Unravelling the path to Mesenchymal Stem Cell migration: A co-ordinated effort of beta gamma subunit, PI3K, Rac and Rho signalling  
*Caroline Ryan, Regenerative Medicine Institute, National University of Ireland Galway, Ireland*

- 12.30 - 12.50 Differential localization of A-Raf kinase regulates MST2-mediated apoptosis and differentiation  
*Jens Rauch, Systems Biology Ireland, University College Dublin, Ireland*
- 12.50 - 13.50 Lunch in The Linden Tree Restaurant**
- 13:50 - 17.00 Session IV: Drug Discovery**  
*Chair: Jochen Prehn, Department of Physiology and Medical Physics and Centre for Systems Medicine, Royal College of Surgeons in Ireland*
- 13.50 - 14.30 The Cellular uptake of Pharmaceutical Drugs: A problem not of Biophysics but of Systems Biology  
*Douglas Kell, Biotechnology and Biological Sciences Research Council, UK and School of Chemistry and the Manchester Institute of Biotechnology, The University of Manchester, UK*
- 14.30 - 15.10 New Drug Screening Strategies for Multiple Myeloma Treatment  
*Lukas Huber, Cell Biology Division, University of Innsbruck and Oncotyrol, Austria*
- 15.10 - 15.30 Uncoupling oncogenic receptor kinases from their intracellular nanocomputers  
*Stephan Feller, University of Oxford, UK*
- 15.30 - 16.00 Coffee break
- 16.00 - 16.40 Cell Signaling by receptor tyrosine kinases; From basic principles to cancer therapy  
*Joseph Schlessinger, Yale School of Medicine, Connecticut, USA*
- 16.40 - 17.00 Discovering new lead compound candidates and combination therapy model using traditional Oriental Medicine  
*Jongwook Jeon, Korea Advanced Institute of Science & Technology*
- 17.00 - 18.00 Session V: Poster session in Carton Suite I**
- 19.30 - 20.00 Pre-Conference Dinner Drinks Reception in Carton House Lobby and The Kitchen Bar**  
**20.00 Conference Dinner in Carton Suite**  
**21.30 Traditional Irish Dancing Showcase in Carton Suite**  
**22.30 Traditional Irish Music in The Kitchen Bar**

## Wednesday 12th September

### SYSMED 2012 Conference (inclusive of Social Outing)

#### Carton Suite, Conference Centre

- 9.00 - 12.50 Session VI: Omics to Systems Medicine**  
*Chair: Walter Kolch, Systems Biology Ireland and Conway Institute, University College Dublin, Ireland*
- 9.00 - 9.40 From proteomics and mathematical models to new therapies for colorectal cancer  
*Walter Kolch, Systems Biology Ireland and Conway Institute, University College Dublin, Ireland*
- 9.40 - 10.20 Apoptosis modelling predicts therapy responses in Cancer patients: Towards Personalised Oncology Approaches  
*Jochen Prehn, Department of Physiology and Medical Physics and Centre for Systems Medicine, Royal College of Surgeons in Ireland*



- 10.20 - 10.40 Systems Medicine of Neurogenic Hypertension  
*James Schwaber, Department of Pathology, Anatomy & Cell Biology, Thomas Jefferson University, USA*
- 10.40 - 11.10 Coffee break
- 11.10 - 11.50 Multi-Levelness as the Final Frontier of Systems Medicine  
*Olaf Wolkenhauer, Systems Biology and Bioinformatics, University of Rostock, Germany*
- 11.50 - 12.30 SWATH-MS provides a deep, reproducible and permanent quantitative proteomic reference for biomarker studies  
*Yansheng Liu, Institute of Molecular Systems Biology, ETH Zürich, Switzerland*
- 12.30 - 12.50 Identification of molecular mechanisms underlying MCF-7 cell differentiation using proteomics and systems biology approaches  
*Natalia Volinsky, Systems Biology Ireland, University College Dublin, Ireland*
- 12.50 - 13.50 Lunch in The Linden Tree Restaurant**
- 15:00 - 21.00 Social Outing: Dublin City Walking Tour and Visit to Guinness Storehouse**
- 15.00 Buses depart for Dublin City Centre
- 16.00 Dublin City Walking Tour (to include Trinity College Dublin, Book of Kells, Dublin Castle, Christchurch)
- 18.30 Bus transport to Guinness Storehouse
- 19.00 Guinness Storehouse Tour and Buffet Reception
- 20.30 Buses depart for Carton House

## Thursday 13th September

### SYSMED 2012 Conference (inclusive of Closing Keynote)

#### Carton Suite, Conference Centre

- 9.00 - 12.00 Session VII: Computational Modelling**  
*Chair: Boris Kholodenko, Systems Biology Ireland, University College Dublin, Ireland*
- 9.00 - 9.40 Modelling of Cancer Kinome Networks  
*Rune Linding, Department of Systems Biology, Technical University of Denmark*
- 9.40 - 10.00 Agent-based modelling approach of immune defense against opportunistic human pathogenic fungi  
*Christian Tokarski, Friedrich Schiller University Jena, Germany*
- 10.00 - 10.20 Gene regulatory network controllability to identify cellular reprogramming driver genes  
*Antonio del sol, Luxembourg Centre for Systems Biomedicine, University of Luxembourg*
- 10.20 - 10.40 Coffee break
- 10.40 - 11.20 Signalling Ballet in Four Dimensions  
*Boris Kholodenko, Systems Biology Ireland, University College Dublin, Ireland*
- 11.20 - 12.00 The future of Medicine (And Health)  
*Hans Lehrach, Max Planck Institute for Molecular Genetics, Berlin, Germany*
- 12.00 - 13.00 Closing Keynote**  
Systems Pharmacology and Systems Medicine

*Garret FitzGerald, University of Pennsylvania and Institute for Translational Medicine & Therapeutics, Philadelphia, USA*

**13.00 - 13.15 Presentation of Prizes and Awards**

*Walter Kolch, Systems Biology Ireland and Conway Institute, University College Dublin, Ireland*

**13.15 - 14.00 Lunch in The Linden Tree Restaurant**