Record of the 5th International EMT Meeting

Monday October 10 - Thursday October 13, 2011
Convenors: Jean-Paul Thiery and Erik (Rik) Thompson

Hosted by The Institute of Molecular and Cell Biology, Singapore
Conference Flyer

AWARDS

- TEMTIA: Betty Hay Award
- TEMTIA Poster Award and Travel Bursaries
- AAA (American Association of Anatomists): Travel Bursaries

PRIZE WINNERS

TEMTIA-V Betty Hay Award

Sarah M. Dunlap, University of Texas Austin

Obesity Promotes Epithelial-To-Mesenchymal Transition and Tumor Progression in a Syngeneic Mouse Model of Claudin-Low Breast Cancer.

TEMTIA-V Travel Bursary

Anjum Zafar The Australian National University, Canberra

Chromatin associated Protein Kinase C family members and their dual role in regulating Epithelial to mesenchymal transition, stemness and miRNAs

Paul W. Sou University of Sydney

Interactions between carcinoma cells that express Snail2 and those that express mutant Hras enhance tumour growth and invasion.
Epithelial-Mesenchymal Transition (EMT) is a cellular process where cells in an epithelium acquire the ability to invade the underlying extracellular matrix or adjacent tissue. It is a normal process in development used for the formation of three-dimensional structure in the embryo but is usually associated with pathologies in the adult.

This meeting is designed to bring together Developmental Biologists, Cancer Biologists and Pathologists, who might not normally interact in discipline-specific meetings, to discuss the common and disparate elements of EMT in their research. We expect that results presented in the areas of cancer metastasis, organ fibrosis, wound healing and embryonic development will lead to new insights and approaches that will move each of the respective research fields and advance health research.

Platform talks will be given by a combination of senior investigators in the field and newer investigators selected from submitted abstracts. Substantial poster presentation time will enable each participant to share their work with the other attendees.
**PROGRAM TEMTIA-V**

**Monday, 10 October 2011**

12.00pm - **Registration**
12.45pm

12.45pm - **Welcome address**
1.00pm Jean Paul Thiery, Convenor of TEMTIA-V
Institute of Molecular and Cell Biology, A*STAR, Singapore

**Session 1: Cell/Molecular Biology of EMT**

**Chairperson:** Erik W. Thompson
St. Vincent's Institute, University of Melbourne, Australia.

1.00pm - **Shigeo Ohno**, Yokohama City University, Japan
1.30pm Epithelial cell polarity and the Par-aPKC complex

1.30pm - **Russ P. Carstens**, University of Pennsylvania, USA
2.00pm Defining the complex role of alternative splicing in the EMT

2.00pm - **Yeesim Khew-Goodall**, Centre for Cancer Biology, SA
2.30pm Pathology, Australia
The miR-200 family of microRNAs in EMT

2.30pm - **Michael J. Murray**, The University of Melbourne, Australia
2.50pm *Short talk*: Identification of new EMT factors in the fly: an RNAi screen using Wing Eversion

2.50pm - **Carole LaBonne**, Northwestern University, USA
3.10pm *Short talk*: Coordinate regulation core EMT regulatory factors

3.10pm - **Afternoon Teabreak**

**Session 2: Cell/Molecular Biology of EMT**

**Chairperson:** David M. Epstein
OSI Pharmaceuticals, USA

3.40pm - **Hongquan Zhang**, Peking University Health Science Center, China
Role of an integrin-interacting protein in the regulation of EMT in cancer and fibrosis
4.10pm - 4.40pm  
**Masatoshi Takeichi**, Center for Developmental Biology, RIKEN Kobe, Japan  
**Adherens Junction Remodeling for Epithelial Migration and Closure**

4.40pm - 5.10pm  
**Senthil K. Muthuswamy**, University of Toronto, Canada  
*Short talk: Loss of cell polarity gene Par3 and metastasis* 

5.10pm - 5.30pm  
**Eric Theveneau**, University College London, United Kingdom  
*Short talk: Lipid signalling links EMT and in vivo collective invasion via turnover of the cell-cell adhesion complex*

5.30pm - 5.50pm  
**Jianmin Zhang**, Roswell Park Cancer Institute, USA  
*Short talk: Pulsed expression of SNAI-1 implicates epigenetic silencing in epithelial-to-mesenchymal transition*

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**The EMBO Lecture & Betty Hay Oration**

Chairperson: Jean Paul Thiery  
Institute of Molecular and Cell Biology, A*STAR, Singapore

5.50pm - 6.50pm  
*Betty Hay Reception*

6.50pm - 7.50pm  
**M. Angela Nieto**, Instituto de Neurociencias (CSIC-UMH), Spain  
The ins and outs of the EMT in health and disease

7.50pm - 9.20pm  
*Dinner & Poster session*
Tuesday, 11 October 2011

7.30am - 8.30am  Breakfast & dialogue session

**Session 3: Developmental EMT**
Chairperson: Raymond Runyan  
University of Arizona, USA

8.30am - 9.00am  Roberto Mayor, University College London, United Kingdom  
Collective cell migration and EMT in the neural crest cells

9.00am - 9.30am  Shinichi Aizawa, Center for Developmental Biology, RIKEN Kobe, Japan  
Post-transcriptional Regulation of Cadherin and Integrin by EPB41L5 in Epithelial-Mesenchymal Transition

9.30am - 9.50am  Ali Nawshad, The University of Nebraska Medical Center, USA  
*Short talk*: TGFβ induced cell cycle arrest is the prerequisite for EMT in palate development

9.50am - 10.10am  Paul M. Kulesa, Stowers Institute for Medical Research, USA  
*Short talk*: The Developmental Program of the Neural Crest Influences Malignant Melanoma to Drive Plasticity and Invasion

10.10am - 10.30am  Alpha Yap, Institute for Molecular Bioscience, Australia  
*Short talk*: Dysregulation of the junctional actin cytoskeleton by HGF: a novel mechanism that acutely disrupts the epithelial zonula adherens

10.30am - 11.00am  Morning Teabreak

11.00am - 11.40am  Jenny Chang, Methodist Cancer Center, USA  
Therapeutic Resistance of Tumour-initiating Cells in Breast Cancer

**Session 4: Developmental EMT**
Chairperson: Guojun Sheng  
Center for Developmental Biology, RIKEN Kobe, Japan

11.40am - 12.10pm  José Luis de la Pompa, Centro Nacional de Investigaciones Cardiovasculares (CNIC), Spain  
Notch signaling in cardiac valve formation and disease

12.10pm - 12.40pm  David McClay, Duke University, USA  
The gene regulatory network controlling EMT in sea urchin embryos

12.40pm - 1.00pm  Kathy K.H. Svoboda, Texas A&M Health Science Center, USA  
*Short talk*: Ephrin reverse signaling promotes palate fusion through a PI3 Kinase dependent mechanism

1.00pm - 1.20pm  Yukiko Nakaya, Center for Developmental Biology, RIKEN Kobe, Japan  
*Short talk*: CLASP-mediated microtubule anchoring promotes the cell-basement membrane interaction through
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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>1.20pm - 1.40pm</td>
<td>Kyra Campbell, Institute of Research in Biomedicine Barcelona, Spain</td>
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<td>Short talk: Specific GATA factors act as conserved inducers of an epithelial-to-mesenchymal transition</td>
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<tr>
<td>1.40pm - 2.20pm</td>
<td>TEMTIA Annual General Meeting (TEMTIA Members only)</td>
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<tr>
<td>1.40pm - 3.30pm</td>
<td>Lunch &amp; Poster session</td>
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*Afternoon interaction and independent dinner*
# Session 5: Mathematical Modeling of EMT and Invasion

**Chairperson:** Donald Newgreen  
*The Murdoch Childrens Research Institute, Australia*

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<thead>
<tr>
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<th>Title or Discussion</th>
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<tbody>
<tr>
<td>8.30am</td>
<td>Dawn Walker, University of Sheffield, United Kingdom</td>
<td>Computational Modelling of Cellular Communities – the effect of “Antisocial Cells”</td>
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<td>9.00am</td>
<td>Muhammad H. Zaman, Boston University, USA</td>
<td>Multi-scale computation of EMT and collective cell motion in complex environments</td>
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<tr>
<td>9.30am</td>
<td>Ian Overton, MRC Human Genetics Unit Western General</td>
<td><strong>Short talk:</strong> Machine Learning Functional Networks to Infer EMT Genes</td>
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<tr>
<td>9.50am</td>
<td>Véronique Delmas, Institut Curie, France</td>
<td><strong>Short talk:</strong> Biological and mathematical modeling: melanoblast proliferation and dermal to epidermal migration.</td>
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<tr>
<td>10.30am</td>
<td>J. Guy Lyons, University of Sydney, Australia</td>
<td><strong>Short talk:</strong> A mathematical model to simulate cooperation between carcinoma cells that have undergone an EMT and those that remain well differentiated</td>
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**Morning Teabreak**

# Session 6: Organ Fibrosis

**Chairperson:** Raghu Kalluri  
*Beth Israel Deaconess Medical Center, USA*

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<tbody>
<tr>
<td>11.00am</td>
<td>Valerie LeBleu, Harvard Medical School/Beth Israel</td>
<td>The origin of myofibroblasts and the contribution of EMT in fibrosis</td>
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<td>11.30am</td>
<td>Zea Borok, University of Southern California, USA</td>
<td>EMT in pulmonary fibrosis: fact or fiction?</td>
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<tr>
<td>12.00pm</td>
<td>Simon J. Conway, Indiana University School of Medicine, USA</td>
<td><strong>Short talk:</strong> Lineage mapping cardiac fibroblasts during both normal homeostatic and pathological transformed states</td>
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<td>12.20pm</td>
<td>Raffaele Strippoli, Centro Nacional de Investigaciones</td>
<td><strong>Short talk:</strong> Inhibition of transforming growth factor-activated kinase-1 (TAK-1) blocks and reverses epithelial to mesenchymal transition of mesothelial cells</td>
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<td>12.40pm</td>
<td>Yue-Lei Chen, Chinese Academy of Sciences (CAS), China</td>
<td><strong>Short talk:</strong> Sorafenib Inhibits Transforming Growth Factor β1-Mediated Epithelial-Mesenchymal Transition and</td>
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Apoptosis in Mouse Hepatocytes

1.00pm - 2.30pm  Lunch & Poster Session

Session 7: Stem Cells and EMT
Chairperson: Pierre Savagner
Institut de Recherche en Cancérologie de Montpellier, France

2.30am - 3.00pm  Alain Puisieux, Centre de Recherche de Cancrologie de Lyon, France
Commitment to an EMT program catalyzes oncogene-induced cell transformation and initiates tumor initiation

3.00pm - 3.30pm  Gary L. Johnson, University of North Carolina, USA
Histone H2A/H2B Acetylation Regulated by MAP3K4 and CBP Controls Epithelial-Mesenchymal Transition in Trophoblast Stem Cells

3.30pm - 4.00pm  Thomas Brabletz, University of Freiburg, Germany
MicroRNAs, EMT and Cancer Stem Cells

4.00pm - 4.20pm  Aristidis Moustakas, Uppsala University, Sweden
Short talk: Regulation of cancer stem cell potential by the EMT inducers HMGA2 and Snail1

4.20pm - 4.40pm  Abdelkader SELMI, Institut de Recherche en Cancérologie de Montpellier, France
Short talk: Slug regulates stem/progenitor cell dynamics during mammary gland morphogenesis

4.40pm - 6.30pm  Afternoon Teabreak & Poster session

6.30pm  Depart to Banquet Venue (Transport is provided from conference venue)

7.00pm - 10.00pm  TEMTIA-V Banquet
## Session 8: Cancer and EMT

**Chairperson:** Hongquan Zhang  
**Peking University Health Science Center, China**

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<tr>
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<th>Speaker</th>
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<tbody>
<tr>
<td>8.30am</td>
<td><strong>Owen Sansom</strong></td>
<td>The Beatson Institute for Cancer Research, UK</td>
<td>Loss of p53 permits the development of invasive adenocarcinoma following Apc loss</td>
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<tr>
<td>9.00am</td>
<td><strong>Raghu Kalluri</strong></td>
<td>Beth Israel Deaconess Medical Center, USA</td>
<td>Pericyte Depletion Results in Hypoxia Associated Epithelial to Mesenchymal Transition and Metastasis Mediated by Met Signalling Pathway</td>
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<td>9.30am</td>
<td><strong>Yibin Kang</strong></td>
<td>Princeton University, USA</td>
<td>Short talk: miR-200s enforces MET and influences Sec23a-dependent cancer cell secretome to promote metastatic colonization</td>
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<tr>
<td>10.10am</td>
<td><strong>Sarah M. Dunlap</strong></td>
<td>The University of Texas, USA</td>
<td>Short talk: Obesity Promotes Epithelial-To-Mesenchymal Transition and Tumor Progression in a Syngeneic Mouse Model of Claudin-Low Breast Cancer</td>
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<td>10.30am</td>
<td><strong>Kern Rei Chng</strong></td>
<td>Genome Institute of Singapore, A*STAR, Singapore</td>
<td>Short talk: ERG, HDACs and EZH2 promote Epithelial Mesenchymal Transition in Prostate Cancers through Harmonizing AR Transcriptional Output</td>
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<td>11.00am</td>
<td><strong>Yoshiaki Ito</strong></td>
<td>Cancer Science Institute of Singapore, NUS, Singapore</td>
<td>Runx3 protects gastric epithelial cells against EMT</td>
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## Session 9: Cancer and EMT

**Chairperson:** Elizabeth Williams  
**Monash University, Australia**

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<tr>
<td>11.40am</td>
<td><strong>Klaus Pantel</strong></td>
<td>University Medical Center Hamburg-Eppendorf, Germany</td>
<td>Micrometastases, circulating tumour cells and cancer dormancy</td>
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<tr>
<td>12.10pm</td>
<td><strong>Jihe Zhao</strong></td>
<td>University of Central Florida, USA</td>
<td>Short talk: KLF8 Regulation of EMT and Breast Cancer Metastasis</td>
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<td>12.30pm</td>
<td><strong>David I. Bellovin</strong></td>
<td>Stanford University, USA</td>
<td>Short talk: A Transgenic Model of Twist1-Induced Metastasis is Associated with a Gene Signature that is Prognostic in Patients with Hepatocellular Carcinoma</td>
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<td>12.50pm</td>
<td><strong>Ruby Yun-Ju Huang</strong></td>
<td>Cancer Science Institute of Singapore, NUS, Singapore</td>
<td>Short talk: Epithelial-mesenchymal gene expression</td>
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signature defines clinically relevant subtypes in epithelial ovarian cancer

1.10pm - Geert Berx, Ghent University, Belgium
1.30pm Short talk: Role of EMT-inducing Transcription Factors in Epithelial Cancer Progression

1.30pm - Lunch & Poster Session

**Session 10 : Drug Discovery and EMT**

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<tr>
<td>3.00pm</td>
<td>David M. Epstein</td>
<td>OSI Pharmaceuticals, USA</td>
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<tr>
<td>3.30pm</td>
<td>Epithelial-mesenchymal transition in context of cancer therapy</td>
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<td>3.30pm</td>
<td>Patrick Humbert</td>
<td>Peter MacCallum Cancer Centre, Australia</td>
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<tr>
<td>4.00pm</td>
<td>Targeting Cell polarity and RAS/MAPK signalling in EMT and Epithelial tumour progression</td>
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<td>4.00pm</td>
<td>Sir David Lane</td>
<td>p53 Laboratory, A*STAR, Singapore</td>
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<td>4.40pm</td>
<td>New antibodies to cMet</td>
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<td>4.40pm</td>
<td>Closing remarks &amp; Award presentation ceremony</td>
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<td>5.00pm</td>
<td>Erik W. Thompson, Co-convener of TEMTIA-V</td>
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<td>St. Vincent’s Institute, University of Melbourne, Australia</td>
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