

# 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

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- **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.

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## THE CONFERENCE

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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 TEMENTIA-V

**Monday, 10 October 2011**

12.00pm -  
12.45pm           **Registration**

12.45pm -           **Welcome address**  
1.00pm           Jean Paul Thiery, Convenor of TEMENTIA-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.
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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 -             
3.40pm           *Afternoon Teabreak*

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

Chairperson:	David M. Epstein OSI Pharmaceuticals, USA
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3.40pm -           **Hongquan Zhang**, Peking University Health Science  
4.10pm           Center, China  
                      Role of an integrin-interacting protein in the regulation of  
                      EMT in cancer and fibrosis

- 4.10pm - **Masatoshi Takeichi**, Center for Developmental Biology,  
4.40pm RIKEN Kobe, Japan  
Adherens Junction Remodeling for Epithelial Migration and Closure
- 4.40pm - **Senthil K. Muthuswamy**, University of Toronto, Canada  
5.10pm *Short talk*: Loss of cell polarity gene Par3 and metastasis
- 5.10pm - **Eric Theveneau**, University College London, United  
5.30pm Kingdom  
*Short talk*: Lipid signalling links EMT and in vivo collective invasion via turnover of the cell-cell adhesion complex
- 5.30pm - **Jianmin Zhang**, Roswell Park Cancer Institute, USA  
5.50pm *Short talk*: Pulsed expression of SNAI-1 implicates epigenetic silencing in epithelial-to-mesenchymal transition

### The EMBO Lecture & Betty Hay Oration

Chairperson:	Jean Paul Thiery Institute of Molecular and Cell Biology, A*STAR, Singapore
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- 5.50pm - *Betty Hay Reception*  
6.50pm
- 6.50pm - **M. Angela Nieto**, Instituto de Neurociencias (CSIC-UMH),  
7.50pm Spain  
The ins and outs of the EMT in health and disease
- 7.50pm - *Dinner & Poster session*  
9.20pm

## Tuesday, 11 October 2011

7.30am -  
8.30am Breakfast & dialogue session

### Session 3: Developmental EMT

Chairperson: Raymond Runyan  
University of Arizona, USA

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

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

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

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

10.10am - **Alpha Yap**, Institute for Molecular Bioscience, Australia  
10.30am *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 - **Jenny Chang**, Methodist Cancer Center, USA  
11.40am 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 - **José Luis de la Pompa**, Centro Nacional de Investigaciones Cardiovasculares (CNIC), Spain  
12.10pm Notch signaling in cardiac valve formation and disease

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

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

1.00pm - **Yukiko Nakaya**, Center for Developmental Biology, RIKEN Kobe, Japan  
1.20pm *Short talk:* CLASP-mediated microtubule anchoring promotes the cell-basement membrane interaction through

dystroglycan in gastrulation EMT

1.20pm -  
1.40pm

**Kyra Campbell**, Institute of Research in Biomedicine  
Barcelona, Spain

*Short talk:* Specific GATA factors act as conserved  
inducers of an epithelial-to-mesenchymal transition

1.40pm -  
2.20pm

TEMTIA Annual General Meeting (TEMTIA Members only)

1.40pm -  
3.30pm

*Lunch & Poster session*

*Afternoon interaction and independent dinner*

## Wednesday, 12 October 2011

7.30am -  
8.30am *Breakfast & dialogue session*

### Session 5: Mathematical Modeling of EMT and Invasion

Chairperson: Donald Newgreen  
The Murdoch Childrens Research Institute, Australia

- 8.30am - **Dawn Walker**, University of Sheffield, United Kingdom  
9.00am Computational Modelling of Cellular Communities – the effect of “Antisocial Cells”
- 9.00am - **Muhammad H. Zaman**, Boston University, USA  
9.30am Multi-scale computation of EMT and collective cell motion in complex environments
- 9.30am - **Ian Overton**, MRC Human Genetics Unit Western General Hospital, United Kingdom  
9.50am *Short talk: Machine Learning Functional Networks to Infer EMT Genes*
- 9.50am - **Véronique Delmas**, Institut Curie, France  
10.10am *Short talk: Biological and mathematical modeling : melanoblast proliferation and dermal to epidermal migration.*
- 10.10am - **J. Guy Lyons**, University of Sydney, Australia  
10.30am *Short talk: A mathematical model to simulate cooperation between carcinoma cells that have undergone an EMT and those that remain well differentiated*
- 10.30am -  
11.00am *Morning Teabreak*

### Session 6: Organ Fibrosis

Chairperson: Raghu Kalluri  
Beth Israel Deaconess Medical Center, USA

- 11.00am - **Valerie LeBleu**, Harvard Medical School/Beth Israel  
11.30am Deaconess Medical Center, USA  
The origin of myofibroblasts and the contribution of EMT in fibrosis
- 11.30am - **Zea Borok**, University of Southern California, USA  
12.00pm EMT in pulmonary fibrosis: fact or fiction?
- 12.00pm - **Simon J. Conway**, Indiana University School of Medicine,  
12.20pm USA  
*Short talk: Lineage mapping cardiac fibroblasts during both normal homeostatic and pathological transformed states*
- 12.20pm - **Raffaele Strippoli**, Centro Nacional de Investigaciones  
12.40pm Cardiovasculares (CNIC), Spain  
*Short talk: Inhibition of transforming growth factor-activated kinase-1 (TAK-1) blocks and reverses epithelial to mesenchymal transition of mesothelial cells*
- 12.40pm - **Yue-Lei Chen**, Chinese Academy of Sciences (CAS),  
1.00pm China  
*Short talk: Sorafenib Inhibits Transforming Growth Factor  $\beta$ 1-Mediated Epithelial-Mesenchymal Transition and*



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*

Thursday, 13 October 2011

### Session 8: Cancer and EMT

Chairperson: Hongquan Zhang  
Peking University Health Science Center, China

- 8.30am - 9.00am **Owen Sansom**, The Beatson Institute for Cancer Research, United Kingdom  
Loss of p53 permits the development of invasive adenocarcinoma following Apc loss
- 9.00am - 9.30am **Raghu Kalluri**, Beth Israel Deaconess Medical Center, USA  
Pericyte Depletion Results in Hypoxia Associated Epithelial to Mesenchymal Transition and Metastasis Mediated by Met Signalling Pathway
- 9.30am - 9.50am **Yibin Kang**, Princeton University, USA  
*Short talk:* miR-200s enforces MET and influences Sec23a-dependent cancer cell secretome to promote metastatic colonization
- 9.50am - 10.10am **Sarah M. Dunlap**, The University of Texas, USA  
*Short talk:* Obesity Promotes Epithelial-To-Mesenchymal Transition and Tumor Progression in a Syngeneic Mouse Model of Claudin-Low Breast Cancer
- 10.10am - 10.30am **Kern Rei Chng**, Genome Institute of Singapore, A\*STAR, Singapore  
*Short talk:* ERG, HDACs and EZH2 promote Epithelial Mesenchymal Transition in Prostate Cancers through Harmonizing AR Transcriptional Output
- 10.30am - 11.00am *Morning Teabreak*
- 11.00am - 11.40am **Yoshiaki Ito**, Cancer Science Institute of Singapore, NUS, Singapore  
Runx3 protects gastric epithelial cells against EMT

### Session 9: : Cancer and EMT

Chairperson: Elizabeth Williams  
Monash University, Australia

- 11.40am - 12.10pm **Klaus Pantel**, University Medical Center Hamburg-Eppendorf, Germany  
Micrometastases, circulating tumour cells and cancer dormancy
- 12.10pm - 12.30pm **Jihe Zhao**, University of Central Florida, USA  
*Short talk:* KLF8 Regulation of EMT and Breast Cancer Metastasis
- 12.30pm - 12.50pm **David I. Bellovin**, Stanford University, USA  
*Short talk:* A Transgenic Model of Twist1-Induced Metastasis is Associated with a Gene Signature that is Prognostic in Patients with Hepatocellular Carcinoma
- 12.50pm - 1.10pm **Ruby Yun-Ju Huang**, Cancer Science Institute of Singapore, NUS, Singapore  
*Short talk:* Epithelial-mesenchymal gene expression

signature defines clinically relevant subtypes in epithelial ovarian cancer

1.10pm -  
1.30pm

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

1.30pm -  
3.00pm

*Lunch & Poster Session*

### Session 10 : Drug Discovery and EMT

Chairperson: M. Angela Nieto  
Instituto de Neurociencias (CSIC-UMH), Spain

3.00pm -  
3.30pm

**David M. Epstein**, OSI Pharmaceuticals, USA  
Epithelial-mesenchymal transition in context of cancer therapy

3.30pm -  
4.00pm

**Patrick Humbert**, Peter MacCallum Cancer Centre, Australia  
Targeting Cell polarity and RAS/MAPK signalling in EMT and Epithelial tumour progression

4.00pm -  
4.40pm

**Sir David Lane**, p53 Laboratory, A\*STAR, Singapore  
New antibodies to cMet

4.40pm -  
5.00pm

**Closing remarks & Award presentation ceremony**  
Erik W. Thompson, Co-convenor of TEMTIA-V  
St. Vincent's Institute, University of Melbourne, Australia