

TEMTIA-IX (The 9th EMT International Association Meeting)

Nov. 11-14, 2019; Centennial Memorial Hall, Kumamoto University, Kumamoto, Japan

35th International Kumamoto Medical Bioscience Symposium

Nov. 11, 2019; Centennial Memorial Hall, Kumamoto University, Kumamoto, Japan

TEMTIA-IX is organized by

TEMTIA (The EMT International Association)

IRCMS (International Research Center for Medical Sciences)

With additional generous support from

AAA (American Association for Anatomy)

ABiS (Advanced Bioimaging Support, Japan)

COB (Company of Biologists)

CTO (Cells Tissues Organs)

DD (Developmental Dynamics)

ISD (International Society of Differentiation)

JSDB (Japanese Society of Developmental Biology)

KU (Kumamoto University)

NCI (National Cancer Institute)

NICHD (National Institute of Child Health and Human Development)

Wellcome Trust

Program at a glance

Day0 Sunday (ECR symposium)

13:00-18:00 TBA

Day1 Monday

10:05-12:15 **Session 1A: Disease EMT 1**
• Gerhard Christofori (University of Basel)
• Jonas Fuxe (Karolinska Institute)
• Amy Wilson (Hudson Institute of Medical Research) *
• Koshi Mimori (Kyushu University)
• Rik Derynck (UCSF)
• Takanori Eguchi (Okayama University) *

13:30-15:40 **Session 1B: Epithelial morphogenesis and EMT**
• Masatoshi Takeichi (RIKEN BDR)
• Andrew Ewald (Johns Hopkins University)
• Xing Dai (UC Irvine) *
• Pierre-François Lenne (IBDM)
• David Sherwood (Duke University)
• Vignesh Sundararajan (National University of Singapore) *

15:40-18:00 **Poster session A**

Day2 Tuesday

08:30-10:35 **Session 2A: Developmental EMT 1**
• Naoto Ueno (NIBB) **
• Yoshiko Takahashi (Kyoto University)
• Ryuichi Nishinakamura (Kumamoto University)
• Martin Cheung (University of Hong Kong) *
• Roberto Mayor (UCL)
• Keith Mostov (UCSF)

10:45-12:55 **Session 2B: Disease EMT 2**
• Hideo Baba (Kumamoto University)
• Pilar Blancafort (University of Western Australia)
• Klaudia Skrzypek (Jagiellonian University) *
• Andreas Möller (QIMR-B)
• Katia Georgopoulos (Harvard University)
• Dingcheng Gao (Cornell University) *

14:00-16:00 **Session 2C: Omics, Modeling and EMT Spectrum**
• Cedric Blanpain (ULB)
• Qing Nie (UC Irvine)
• Mohit Jolly (Indian Institute of Science) *
• Ruby Huang (National Taiwan University)
• Julia Kleemann (FAU) *
• Kazuhide Watanabe (RIKEN IMS) *

16:00-17:45 **Poster session B**

17:45-18:30 **Betty Hay Oration** (Thomas Brabletz) (FAU)

Day3 Wednesday

08:30-10:40 **Session 3A: Disease EMT 3**
• Hideyuki Saya (Keio University)
• Yibin Kang (Princeton University)
• Nami Sugiyama (University of Basel) *
• Seong-jin Kim (Seoul National University)
• Jean-Paul Thiery (National University of Singapore)
• Ritu Shrestha (University of Queensland) *

10:55-12:45 **Session 3B: Developmental EMT 2**
• Hiroshi Sasaki (Osaka University)
• Christoph Viebahn (Göttingen) *
• Yuki Sato (Kyushu University) *
• Angela Nieto (Alicante)
• Ian Overton (Queen's University Belfast) *
• Sofiane Hamidi (Kumamoto University) *

16:30-18:00 **Session 3C: EMT: Past, present and future**
• Keith Mostov (*Elizabeth Hay*)
• Rik Thompson (*TEMTIA: history and future*)
• Jing Yang (*EMT whitepaper*)
• Panel discussion (Mediator: Raghu Kalluri)

18:00-18:30 **Betty Hay Award** (Kyra Campbell) (Sheffield)

Day4 (Thursday)

08:30-10:30 **Session 4A: Developmental EMT 3**
• Anna-Katerina Hadjantonakis (MSKCC)
• Fuchou Tang (Peking University)
• Yukiko Nakaya (RIKEN BDR) *
• Barry Thompson (Crick Institute)
• Theresa Vincent (Uppsala University) *
• Kathryn Cheah (University of Hong Kong) *

10:45-12:15 **Session 4B: EMT funding and publication**

12:15-12:30 **Awards and Conclusion**
• Yoshiko Takahashi; Hideyuki Saya; Spiros Goulas; Rik Thompson; Panel

Day 1: November 11th

(35th International Kumamoto Medical Bioscience Symposium)

Regular talk: 25' (20' + 5' discussion); Short talk (*): 15' (12' + 3' discussion)

08:30-10:00	Registration open (whole day) Coffee and Poster setup

10:00	TEMTIA-IX Opening (Guojun Sheng)
10:00-10:05	Welcome (KU President Shinji Harada)
10:05-12:15	Session 1A: Disease EMT 1 (supported by KU) (Chair: Hideo Baba and Masao Saitoh) <ul style="list-style-type: none">• Gerhard Christofori (University of Basel) (Abstract S1-1) <i>Regulatory circuits in EMT, cell plasticity and cancer metastasis</i>• Jonas Fuxe (Karolinska Institute) (Abstract S1-2) <i>Epithelial-mesenchymal plasticity in lymph metastasis</i>• Amy Wilson (Hudson Institute of Medical Research) * (Abstract S1-3) <i>DPP4 inhibition alters immune function and delays tumour metastasis in a syngeneic epithelial ovarian cancer mouse model</i>• Koshi Mimori (Kyushu University) (Abstract S1-4) <i>Comprehensive analysis of the cancer evolution from primary to recurrence in sporadic CRC cases</i>• Rik Derynck (UCSF) (Abstract S1-5) <i>Roles of TGF-β signaling in stabilization of epithelial-mesenchymal transition</i>• Takanori Eguchi (Okayama University) * (Abstract S1-6) <i>Cancer exosomes initiate EMT involving drug resistance and tumorigenesis</i>

12:15-13:30	Lunch break and Poster setup (Pre-ordered lunch boxes)

13:30-15:40	Session 1B: Epithelial morphogenesis and EMT (supported by KU) (Chair: Anna-Katerina Hadjantonakis and Kyra Campbell) <ul style="list-style-type: none">• Masatoshi Takeichi (RIKEN BDR) (Abstract S1-7) <i>Contact-dependent regulation of epithelial cell migration</i>• Andrew Ewald (Johns Hopkins University) (Abstract S1-8) <i>Novel roles of cell adhesion in breast cancer metastasis</i>• Xing Dai (UC Irvine) * (Abstract S1-9) <i>EMT-dependent and independent roles of transcription factor Zeb1 in mammary basal stem cell control</i>• Pierre-François Lenne (IBDM) (Abstract S1-10) <i>Shaping cell contacts during tissue morphogenesis</i>• David Sherwood (Duke University) (Abstract S1-11) <i>Powering cell invasion through basement membrane barriers</i>• Vignesh Sundararajan (National University of Singapore) * (Abstract S1-12) <i>Loss of cohesion-mediated chromatin loops during early phase of EMT</i>

15:40-18:00	Coffee and Poster session A (poster session and award supported by DD and AAA) <ul style="list-style-type: none">• Odd number abstracts (15:40-17:00)• Even number abstracts (16:40-18:00)

18:00-20:00	Reception (Toast by Dr. Toshio Suda)

Day 2: November 12th

- 08:30- Registration open (whole day)
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- 08:30-10:35 **Session 2A: Developmental EMT 1 (supported by ABiS and ISD)**
(Chair: Raymond Runyan and Heide Ford)
- **Naoto Ueno (NIBB)** (10') (Abstract S2-1)
ABiS - A challenge for promoting bioimaging in Japan
 - **Yoshiko Takahashi (Kyoto University)** (Abstract S2-2)
Cellular dynamics regulated by blood flow during vascular remodeling
 - **Ryuichi Nishinakamura (Kumamoto University)** (Abstract S2-3)
Rebuilding the kidney from pluripotent stem cells
 - **Martin Cheung (University of Hong Kong)** * (Abstract S2-4)
Recruitment of distinct subcellular complexes by RhoGAP DLC1 in governing avian cranial neural crest specification and epithelial-to-mesenchymal transition
 - **Roberto Mayor (UCL)** (Abstract S2-5)
Mechanical and chemical cues are required for neural crest EMT
 - **Keith Mostov (UCSF)** (Abstract S2-6)
Secreted protein WFDC2 promotes renal tubule recovery after injury
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- 10:35-10:45 Coffee break
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- 10:45-12:55 **Session 2B: Disease EMT 2 (supported by NCI and NICHD)**
(Chair: Hideyuki Saya and Hongquan Zhang)
- **Hideo Baba (Kumamoto University)** (Abstract S2-7)
The regulation of TGF- β signaling in gastric tumor microenvironment
 - **Pilar Blancafort (University of Western Australia)** (Abstract S2-8)
Epigenetic reprogramming of the epithelial to mesenchymal axis by locus specific manipulation of the epigenome in breast cancer
 - **Klaudia Skrzypek (Jagiellonian University)** * (Abstract S2-9)
Novel mechanism of SNAIL transcription factor action in tumor metastasis
 - **Andreas Möller (QIMR-B)** (Abstract S2-10)
A hypoxia and EMT-induced multi-protein exosome signature prognosticates patient outcome in Non-Small Cell Lung Cancer
 - **Katia Georgopoulos (Harvard University)** (Abstract S2-11)
TBA
 - **Dingcheng Gao (Cornell University)** * (Abstract S2-12)
Differential contributions of pre- and post-EMT tumor cells in the breast to lung metastasis
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- 12:55-14:00 Lunch break
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- 14:00-16:00 **Session 2C: Omics, Modeling and EMT Spectrum (supported by NCI and NICHD)**
(Chair: Pierre Savagner and Jianhua Xing)
- **Cedric Blanpain (ULB)** (Abstract S2-13)
Mechanisms regulating EMT tumor transition states
 - **Qing Nie (UC Irvine)** (Abstract S2-14)
Single-cell calculus of epithelial-mesenchymal transition
 - **Mohit Jolly (Indian Institute of Science)** * (Abstract S2-15)
Identifying inhibitors of epithelial-mesenchymal plasticity through a network-based mathematical modeling approach
 - **Ruby Huang (National Taiwan University)** (Abstract S2-16)
GRHL2 as an epithelial gatekeeper in epithelial-mesenchymal plasticity
 - **Julia Kleemann (FAU)** * (Abstract S2-17)
ZEB1 cooperates with YAP and AP-1 on a genome wide level
 - **Kazuhide Watanabe (RIKEN IMS)** * (Abstract S2-18)
Divergent regulations of mesenchymal genes during epithelial-to-mesenchymal transition
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- 16:00-17:45 **Coffee and Poster session B (poster session and award supported by DD and AAA)**
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- 17:45-18:30 **Betty Hay Oration (Chair: Jing Yang) [open to KU members]**
- **Thomas Brabletz (FAU)** (45') (Abstract S2-19)
Cellular plasticity in cancer: Driving force and therapeutic target
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- 18:30-19:30 **TEMTIA business meeting (members only)**

Day 3: November 13th

08:30- Registration open (whole day)

08:30-10:40

Session 3A: Disease EMT 3

(Chair: Raghu Kalluri and Philip Gregory)

- **Hideyuki Saya (Keio University)** (Abstract S3-1)
Role of actin dynamics in cell fate plasticity of microenvironmental cells
 - **Yibin Kang (Princeton University)** (Abstract S3-2)
Epithelial-Mesenchymal plasticity and dynamics in breast cancer metastasis
 - **Nami Sugiyama (University of Basel)** * (Abstract S3-3)
Lineage tracing approach reveals the roles of distinct epithelial-to-mesenchymal transition states in breast cancer malignant progression
 - **Seong-jin Kim (Seoul National University)** (Abstract S3-4)
TGF-beta/Smad3 signaling is a novel therapeutic target for treating metastatic cancers acquired by EMT and cancer stemness
 - **Jean-Paul Thiery (National University of Singapore)** (Abstract S3-5)
Epithelial mesenchymal transition in carcinoma: therapeutic intervention
 - **Ritu Shrestha (University of Queensland)** * (Abstract S3-6)
Immune checkpoint molecules are regulated by transforming growth factor (TGF)- β -induced epithelial-to-mesenchymal transition in hepatocellular carcinoma
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10:40-10:55

Coffee break

10:55-12:45

Session 3B: Developmental EMT 2 (supported by COB and Wellcome Trust)

(Chair: Yoshiko Takahashi and Angela Nieto)

- **Hiroshi Sasaki (Osaka University)** (Abstract S3-7)
Mechanisms of epiblast formation in preimplantation mouse embryos
 - **Christoph Viebahn (Göttingen)** * (Abstract S3-8)
Structural and molecular variability of epithelio-mesenchymal transition in the mammalian primitive streak
 - **Yuki Sato (Kyushu University)** * (Abstract S3-9)
Cell Budding During Endothelial to Hematopoietic Transition is Regulated by Aquaporin Water Channels
 - **Angela Nieto (Alicante)** (Abstract S3-10)
EMT in heart laterality
 - **Ian Overton (Queen's University Belfast)** * (Abstract S3-11)
Functionally coherent transcription factor target networks illuminate control of epithelial remodelling
 - **Sofiane Hamidi (Kumamoto University)** * (Abstract S3-12)
Identification and characterization of the pluripotent status of intermediate state of mesenchymal-epithelial transition in hPSCs cultured in vitro.
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12:45-16:30

Lunch break and excursions (sign up before 9am Nov.13)

Group1/2: Kumamoto Castle/Suizenji Park

Group3: Poster session (for those who do not wish to join the excursion)

16:30-18:00

Session 3C: EMT: Past, present and future (sponsored by CTO)

(Chair: Guojun Sheng and Raymond Runyan)

- **Keith Mostov** *
Elizabeth Hay
 - **Rik Thompson** *
TEM1A: history and future
 - **Jing Yang** *
EMT whitepaper
 - **Panel discussion (45')** (Mediator: Raghu Kalluri)
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18:00-18:30

Betty Hay Award talk [open to KU members]

- **Kyra Campbell** (Abstract S3-13=Abstract P5)
Distinct components of the extracellular matrix are required in a tissue specific manner to mediate coordinated cell migration and MET
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18:30-21:00

Speakers' dinner

Day 4: November 14th

08:30-10:30

Session 4A: Developmental EMT 3 (supported by COB and Wellcome Trust)

(Chair: Kathy Cheah and Yukiko Nakaya)

- **Anna-Katerina Hadjantonakis (MSKCC)** (Abstract S4-1)
Guts & gastrulation: insights into the EMTs & METs driving the morphogenesis of the gut endoderm in the mouse embryo
- **Fuchou Tang (Peking University)** (Abstract S4-2)
Title: Single-cell RNA-seq unveils a prevalent epithelial/mesenchymal hybrid state during mouse organogenesis
- **Yukiko Nakaya (RIKEN BDR)** * (Abstract S4-3)
Title: Mesoderm cells collectively migrate through a dynamic meshwork during chick gastrulation
- **Barry Thompson (Crick Institute)** (Abstract S4-4)
Title: Yap drives EMT in squamous cell carcinoma
- **Theresa Vincent (Uppsala University)** * (Abstract S4-5)
Title: Ribosome biogenesis during cell cycle arrest fuels EMT in development and disease
- **Kathryn Cheah (University of Hong Kong)** * (Abstract S4-6)
Title: Insights into the molecular pathogenesis of intervertebral disc disease at single cell resolution

10:30-10:45

Coffee break

10:45-12:15

Session 4B: EMT funding and publication

(Chair: Elizabeth Williams and Rik Thompson)

- Yoshiko Takahashi (JSDB, AMED)
- Hideyuki Saya (JCA; AMED)
- Spiros Goulas (Dev Cell)
- Rik Thompson (CTO)
- Panel discussion (TBA)

12:15-12:30

Awards and Conclusion