XIVth International Workshop Molecular and Cellular Biology of Plasminogen Activation

Tuesday, June 4th, 2013

Notre Dame Conference Center (McKenna Hall)

5:00 pm - Registration
6:00 pm - Opening Reception (Harpist - Devon Haupt)
7:30 pm - Opening Comments (Francis J. Castellino)
7:30 pm - **Keynote Address - Désire Collen -** ***Serendipity in the Development of Tissue-type Plasminogen Activator***

Wednesday, June 5th, 2013

McKenna Hall

8:00 am - **Registration**

8:45 am - **Welcoming Address (Robert Bernhard, V. P. Research)**

9:00 am - **Oral Session 1 – Protease Systems in Inflammation** (Chairs: Toni Antalis and Enming Joseph Su)

9:00 am - **01** ● Apo(a) inhibits plasminogen-dependent MMP-9 activation in inflammation
Menggui Huang, Yanqing Gong, Jessica Grondolsky, Nan Zhao, Francis J. Castellino, Victoria A. Ploplis, Jane Hoover-Plow

9:15 am - **02** ● Molecular mechanisms of antiphagocytic activity mediated by plasminogen-binding group A streptococcal M-like protein
Garima Agrahari, Zhong Liang, Victoria A. Ploplis, Francis J. Castellino

9:30 am - **03** ● A role of plasminogen in macrophage foam cell formation
Edward Plow

9:45 am - **04** ● A mannose receptor-mediated collagen degradation pathway by M2 macrophages identified by imaging collagen turnover in vivo
Daniel Madsen, Daniel Leonard, Andrius Masedunskas, Amanda Moyer, Henrik Jürgensen, Diane Peters, Panomwat Amornphimoltham, Arul Selvaraj, Susan Yamada, Lars Engelholm, Niels Behrendt, Kenn Holmbeck, Roberto Weigert, Thomas Bugge

10:00 am - **05** ● Plasminogen regulates macrophage phagocytosis
Riku Das

10:15 am - **06** ● Prostasin is required for matriptase activation during the formation and maintenance of the intestinal epithelial barrier
Marguerite Buzza, Erik Martin, Kathyrn Driesbaugh, Antoine Desilets, Richard Leduc, Toni Antalis

10:30 am - **Break**

10:45 am - **Oral Session 2 – Clinical and Pharmacological Advances in Plasminogen Activation and Fibrinolysis** (Chairs: Tetsumei Urano and Claire Booyjzsen)

10:45 am - **07** ● TM5441, a novel PAI-1 antagonist, prevents hypertension and arteriosclerosis in an experimental model for vascular aging
Amanda E Boe, Mesut Eren, Sheila B. Murphy, Christine E. Kamide, Toshio Miyata, and Douglas Vaughan

11:00 am - **08** ● Site-specific PEGlation of human plasminogen activator inhibitor type 2: Fine tuning the pharmacokinetic and biodistribution properties for improved diagnostic and therapeutic potential
Maria Ranson, Vineesh Indira Chandran, Nathaniel Harris, Sergei Lobov, Kara Vine

11:15 am - **09** ● Role of PAI-1 in side effects of radiation therapy: an update
Fabien Milliat

11:30 am - **10** ● Is the phenotype manifested by complete PAI-1 deficiency in human compatible to that in mouse?
Kotomi Nagahashi, Takayuki Iwaki, Katsuhiro Takano, Yukio Ozaki, Naohiro Kanayama, Kazuo Umemura, Tetsumei Urano

11:45 pm - **11** ● Incidence of fibrinolysis measured by thromboelastography in patients with early coagulopathy of Traumatic Brain Injury (CTBI): Implication for therapeutic effectiveness of tranexamic acid (TXA)
Chitta Hanuma, Joseph Capannari, Mark Walsh, Braxton Fritz, Scott Thomas, Michael Chapman, Victoria Ploplis, Deborah Donahue, Megan Maloney, Patrick Davis, Francis Castellino

12:00 pm - **12** ● Engineering allosteric activators of pro-hepatocyte growth factor for met signaling with zymogen activator peptides (ZAPtides) by phage display
Kyle E. Landgraf, Micah Steffek, Clifford Quan, Jeffrey Tom, Christine Yu, Lydia Santell, Henry Maun, Charles Eigenbrot, Robert A. Lazarus

12:15 pm - **Lunch and Free time (Business meeting after lunch in auditorium)**

2:00 pm - **Campus tour (Eck Alumni Hall)**

4:00 pm - **State-of-the-art talk - Lindsey Miles - *Plasminogen Biology: Retrospectives and Prospectives***

4:30 pm - **Break**

4:45 pm - **Oral Session 3 – Structure/Function of the Plasminogen System and Related Proteins** (Chairs: Nuala Booth and Hongmin Sun)

4:45 pm - **13** ● Structure and function studies on human plasminogen glycoforms
Ruby Law, Tom Caradoc-Davies, Nathan Cowieson, Bernadine Lu, Adam Quek, Anita Horvath, Paul Coughlin, James Whisstock

5:00 pm - **14** ● Latency transition of zebrafish PAI-1: A protein conformational change sterically hindered by an N-linked glycan
Rene Bager, Jesper S. Johansen, Jan K. Jensen, Allan Stensballe, Agnieszka Jendroszek, Hans Peter Sorensen, Peter A. Andreasen

5:15 pm - **15** ● Human tissue kallikreins 3 and 5 can act as plasminogen activator releasing active plasmin
Lucas R. de Souza, Pollyana M. Melo, Thaysa Paschoalin, Adriana K. Carmona, Marcia Kondo, Izaura Y. Hirata, Michael Blaber, Ivarne Tersariol, Joyce Takatsuka, Maria A. Juliano, Luiz Juliano, Roseli A. Gomes, Luciano Puzer

5:30 pm - **16** ● Key residues within core-domain of group A streptococcal plasminogen-binding M-like protein downplays the role of dimerization in plasminogen binding
Sarbani Bhattacharya, Zhong Liang, Victoria A. Ploplis, Francis J. Castellino

5:45 pm - **17** ● Identification of a novel, nanobody-induced, mechanism of TAFI inactivation and its in vivo application
Maarten Hendrickx, Monika Zatloukalova, Gholamreza Hassanzadeh-Ghassabeh, Serge Muyldermans, Ann Gils, Paul Declerck

6:00 pm - **18** ● Rezymogenation of active urokinase-type plasminogen activator, induced by an inhibitory antibody
Longguang Jiang, Kenneth A. Botkjaer, Lisbeth M. Andersen, Cai Yuan, Mingdong Huang, Peter Andreasen

7:00 pm - Dinner (Club Naimoli at the Purcell Pavillion) (Steve Gibons – violinist)

Thursday, June 6th, 2013

McKenna Hall

8:30 am - **State-of-the-art talk - Martina Sanderson-Smith - *Understanding the Nexus Between Microbes and Plasminogen in Invasive Pathogens***

9:00 am - **Oral Session 4 – Regulation of Infection by Components of the Plasminogen System** (Chairs: Mark Walker and Shaun Lee)

9:00 am - **19** ● Plasminogen activation, coagulation, and fibrinolysis in primary pneumonic plague
Adam Caulfield, Lindsay Gielda, Jay Schroeder, Lauren Bellows, Jay Degen, Wyndham Lathem

9:15 am - **20** ● Plasmin acquisition by group A streptococcus protects against C3b-mediated neutrophil phagocytosis
Diane Ly, Jude Taylor, James Tsatsaronis, Mercedes Monteleone, Amanda Skora, Cortny Donald, Tracy Maddocks, Victor Nizet, Nicholas West, Marie Ranson, Mark Walker, Jason McArthur, Martina L. Sanderson-Smith

9:30 am - **21** ● Characterization of streptokinases SK1 and SK2b from group A streptococci
Yueling Zhang, Zhong Liang, Jeffery Mayfield, Kristofor Glinton, Victoria A. Ploplis, Francis J. Castellino

9:45 am - **22** ● Contribution of human plasmin(ogen) to invasive disease propensity of group A streptococci
Mark J. Walker

10:00 am - **23** ● Pharmacological targeting of plasmin prevents inflammatory diseases like septic shock and acute graft-versus-host disease
Aki Sato, Heissig Beate, Koichi Hattori

10:15 am - Break and Group Picture

11:00 am - **Oral Session 5 - Proteolytic Processes in Vascular Cell Biology** (Chairs: Dudley Strickland and Linda Fredriksson)

11:00 am - **24** ● uPAR's domain 2 regulates single chain urokinase-mediated angiogenesis through β1-integrin and VEGFR2
Alvin Schmaier, Gretchen LaRusch, Alona Merkulova, Fakhri Mahdi, Douglas Cines

11:15 am - **25** ● An urokinase receptor-derived peptide inhibiting VEGF-dependent directional migration and vascular sprouting
Katia Bifulco, Eleonora Liguori, Luigi Mele, Gioconda Di Carluccio, Claudio Arra, Domenica Rea, Maria Teresa Masucci, Maria Patrizia Stopelli, Maria VIncenza Carriero

11:30 am - **26** ● In vivo effects of mutation of tyrosine 573 in the cytoplasmic tail of membrane-type 1 matrix metalloproteinase (MT1-MMP)
Paolo Mignatti

11:45 am - **27** ● Real time imaging analysis of secreted-tPA dependent fibrinolytic activity on vascular endothelial cell surface and its enhancement by newly synthesized PAI-1 inhibitor

Hideki Yasui, Yuko Suzuki, Tomasz Brzoska, Hideto Sano, Takafumi Suda, Takashi Dan, Toshio Miyata, Tetsumei Urano

12:00 pm –**28** ● Converging pathways of uPAR up-regulation in cancer and endothelial cells
Anna Laurenzana, Francesca Margheri, Simona Serrati, Nicola Schiavone, Laura Papucci, Lucia Magnelli, Anastasia Chillà, Francesca Bianchini, Lido Calorini, Mario Del Rosso, Gabriella Fibbi

12:15 pm Official Welcome to the 22nd International Congress of Fibrinolysis and Proteolysis (2014) in Marseille, France
Marie-Christine Alessi

12:30 pm - **Lunch and Free time**

4:00 pm - **Manned Poster Session**

6:30 pm - **Bus pick-up (at hotels and McKenna Hall)**
7:00 pm - **Workshop Banquet - Studebaker Museum (Music: Cecile Savage Jazz Quartet)**
10:00 pm - **Return to Hotels**

Friday, June 7th, 2013

McKenna Hall

8:30 am - **Oral Session 6 – Effects of the Plasminogen System in Cell Signaling** (Maria Patrizia Stoppelli and Takayuki Iwaki)

8:30 am - **29** ● Ligand-specific co-receptor recruitment determines the signaling activity of LRP1 in response to tissue-type plasminogen activator and myelin-associated glycoprotein
Elisabetta Mantuano, Travis L. Stiles, Dustin Hicks, Steven L. Gonias

8:45 am - **30** ● Novel role of the urokinase receptor in regulating the tumor suppressor PTEN
Matthias Unseld, Anastasia Chilla, Clemens Pausz, Johannes Breuss, Marina Poettler, Gernot Schabbauer, Gerald Prager

9:00 am - **31** ● Urokinase receptor mediates osteogenic differentiation of mesenchymal stem cells via the complement C5a receptor and NFκB
Parnian Kalbasianaraki, Margret Patecki, Sergey Tkachuk, Hermann Haller, Inna Dumler

9:15 am - **32** ● Regulation of hepatic stellate cells through LRP1: a signaling role for t-PA in liver
Liang-I Kang, Kumicko Isse, Anne Orr, William C. Bowen, Anthony J. Demetris, Selen C. Muratoglu, Dudley K. Strickland, George K. Michalopoulos, Wendy M. Mars

9:30 am - **33** ● Requirement of specific sphingolipids to uPAR and EGFR signaling
Maria Patrizia Stoppelli, Paola Franco, Anna De Vincenzo, Maria Nappo, Stefania Belli

9:45 am - **34** ● uPAR bridges the mesenchymal and amoeboid style of cell migration
Francesca Margheri, Anna Laurenzana, Simona Serrati, Alessio Biagioni, Nicola Schiavone, Laura Papucci, Lucia Magnelli, Cristina Luciani, Anastasia Chillà, Paola Chiarugi, Maria Letizia Taddei, Gabriella Fibbi, Mario Del Rosso

10:00 am – **Break**

10:30 am - **Oral Session 7 – Tissue plasminogen activator in neurobiology** (Chairs: Robert Medcalf and Patrick Sheets)

10:30 am - **35** ● Neuroserpin/tPA regulate vascular integrity and seizure severity in the murine CNS
Linda Fredriksson, Tamara S. Stevenson, Enming Joseph Su, Margaret Ragsdale, Kris Mann, Daniel Lawrence

10:45 am - **36** ● Is tPA involved in the entorhinal cortice-dependent spatial learning processes?
Marie Hebert, Denis Vivien, Veronique Agin

11:00 am - **37** ● The benefit of compartmentalizing tissue plasminogen activator during stroke
EJ Su, Linda Fredriksson, David Bushart, Margaret Ragsdale, Daniel A. Lawrence

11:15 am - **38** ● Synergistic inhibitors halt brain and systemic hemorrhage after tissue plasminogen activator treatment for ischemic stroke
Yi Zhang, Aiilyan Houng, Guy Reed

11:30 am -**39** ● Single-chain tPA versus two-chain tPA in the control of NMDA receptors signaling
Thomas Bertrand, Jérôme Parcq, Flavie Lesept, Axel Montagne, Jean-Marie Billard, Yannick Hommet, Jialing Wu, Manuel Yepes, Roger Lijnen, Patrick Dutar, Denis Vivien

11:45 am - **40** ● The contribution of alpha 2-antiplasmin to tissue plasminogen activator therapy for stroke: Effects on neuronal cell death, brain swelling, breakdown of the blood brain barrier and mortality
Dong Wang, Aiilyan Houng, Guy Reed

12:00 pm - **Lunch and Free time**

2:00 pm - **Campus tour (Eck Alumni Hall)**

Jordan Science Hall

4:30 pm - **State-of-the-art talk - Denis Vivien -** ***The "Ying-Yang" of Tissue-type Plasminogen Activator in the Central Nervous System***

5:00pm - **Break**

5:15 pm - **Oral Session 8 – The Plasminogen System in Regulating Cell Function** (Chairs: Steven Gonias and Kamlesh Gupta)

5:30 pm - **41** ● Tissue-type plasminogen activator is an extracellular mediator of Purkinje cell damage and altered gait
Elisa Cops, Maithili Sashindranath, Maria Daglas, Kieran Short, Candida da Fonseca Pereira, Terence Pang, Ian Smyth, Anthony Hannan, Andre Samson, Robert Medcalf

5:45 pm - **42** ● Tissue-type plasminogen activator mediates the detection and adaptation to metabolic stress in the central nervous system
Manuel Yepes, Fang Wu, Andrew D. Nicholson, Woldeab B. Haile, Enrique Torre

6:00 pm - **43** ● TAFI is a growth-regulating factor of proliferating hepatocytes through the localization of plasmin on the matured hepatocytes
Taiichiro Seki, Nobuaki Okumura, Kasumi Ishii, Atsushi Miura, Takashi Hosono

6:15 pm - **44** ● Characterization of a uPAR-LDLR-like protein interaction site and its impact on cell migration and angiogenesis
Clemens Pausz, Rula Mawas, Anastasia Chillá, Matthias Unseld, René Novotny, Gerald Prager

6:30 pm - **45** ● PAI-2 inhibits bacterial proteases
Jessica Neilands, Gunnel Svensäter, Bertil Kinnby

6:45 pm - **46** ● Involvement of both tPA and LRP-1 in regulating circadian clock phase
Joanna Cooper, Rebecca Prosser

7:00 pm - **Outdoor Grill, Digital Visualization Theater, Tour of Jordan Hall**

Saturday, June 8th, 2013

McKenna Hall

8:30 am - **Oral Session 9 – In vivo Models of the Plasminogen System and Related Proteins in Regulating Biological and Pathobiological Responses** (Chairs: Katherine Hajjar and Riku Das)

8:30 am - **47** ● LRP1 protects the vasculature by regulating protein levels of connective tissue growth factor and HtrA1 in the aorta
Selen C. Muratoglu, Shani Belgrave, Brian Hampton, Mary Migliorini, Ling Chen, Irina Mikhailenko, Dudley K. Strickland

8:45 am - **48** ● The urokinase plasminogen activator receptor (uPAR) regulates intestinal macrophage phagocytosis and polarization in experimental colitis
Marco Genua, Silvia D-Alessio, Javier Cibella, Alessandro Gandelli, Emanuela Sala, Carmen Correale, Vincenzo Arena, Alberto Malesci, Stefania Vetrano, Silvio Danese

9:00 am - **49** ● Understanding the mechanism of activated protein C inhibition by PAI-1 in the presence of vitronectin using an in vivo model system
Kamlesh Gupta, Deborah Donahue, Francis Castellino, Victoria Ploplis

9:15 am - **50** ● PAI-1 is a critical determinant of senescence and survival in klotho mice, a murine model of accelerated aging
Mesut Eren, Amanda Boe, Sheila B. Murphy, Aaron T. Place, Varun Nagpal, Luisa Morales-Nebreda, Daniela Urich, G. R. S. Budinger, Gökhan M. Mutlu, Toshio Miyata, Douglas E. Vaughan

9:30 am - **51** ● Real time imaging of plasminogen accumulation in platelet-rich micro-thrombus and its effective lysis by tPA infusion in vivo
Aki Tanaka, Yuko Suzuki, Tomasz Brzoska, Hideto Sano, Tetsumei Urano

9:45 am - **52** ● The annexin A2 system, a novel player in innate immune responses.
Katherine A. Hajjar, Elle Flood, Brian Scharf, Laura Santambrogio

10:00 am - **Break**

10:15 am - **Oral Session 10 – Protease Systems and Receptors in Cancer (M. Sharon Stack and Marco Genua)**

10:15 am - **53** ● Glycolipid anchored and soluble uPAR forms are independent prognostic markers in colorectal cancer
Martin Illemann, Tine Thurison, Ida Lund, Hans Jergen Nielsen, Ole Didrik Laerum, Ib Jarle Christensen, Gunilla Høyer-Hansen

10:30 am - **54** ● A novel uPAR targeted monoclonal antibody, ATN-658, binds to a previously unidentified epitope on uPAR and inhibits tumor growth and metastasis in vivo
Andrew P. Mazar, Irawati Kandela, Andrey Ugolkov, Giulio Francia, Shafaat Rabbani, Robert S. Kerbel, Xiang Xu, Cai Yuan, Mingdong Huang

10:45 am - **55** ● 11:00 am - **55** ● Activation of uPAR signaling in treated glioblastoma multiforme
Jingjing Hu, Jill Wykosky, Webster K. Cavenee, Scott R. VandenBerg, Frank Furnari, Steven L. Gonias

11:00 am - **56** ● Chemical probing of the urokinase receptor in cancer metastasis
Samy Meroueh

11:15 am - **57** ● Matriptase promotes squamous cell carcinogenesis through a PAR-2-NFκB signaling axis
Katiuchia Sales, Stine Friis, Sine Godiksen, Joanne Konkel, Karina Hansen, Roman Szabo, Lotte Vogel, Wanjun Chen, Silvio J. Gutkind, Thomas Bugge

11:30 am - **Closing Remarks – Francis J. Castellino**

11:45 am - **Box Lunch and Departure**