# PROGRAM
September 17 – 20, 2015
The Bolger Center, Potomac, MD, USA

## THURSDAY, SEPTEMBER 17

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>4:00 pm-7:30 pm</td>
<td>Arrival and Registration</td>
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<td></td>
<td>Housing: Guest Check-In Desk</td>
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<td></td>
<td>Meeting Materials: H. Owney Lounge, across from Guest Check-In Desk</td>
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<tr>
<td>5:30 pm-7:15 pm</td>
<td>Dinner</td>
<td>Osgood Dining Room, Osgood Building</td>
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<tr>
<td>7:30 pm-7:40 pm</td>
<td>Welcome Remarks</td>
<td>Room F004, Franklin Building</td>
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<tr>
<td>7:40 pm-8:40 pm</td>
<td>Keynote Lecture</td>
<td>Room F004, Franklin Building</td>
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<td></td>
<td>Charles Craik, University of California, San Francisco, USA</td>
<td>Studying the role of TMPRSS2 in androgen-responsive metastatic prostate cancer using conformation-selective recombinant antibodies (1)</td>
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<tr>
<td>8:45 pm-10:30 pm</td>
<td>Welcome Networking Reception</td>
<td>Pony Express Patio, off the hotel lobby</td>
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FRIDAY, SEPTEMBER 18

7:30 am-9:00 am  Breakfast  
*Osgood Dining Room, Osgood Building*

9:00 am-10:40 am  Session 1:  
**Membrane-Anchored Serine Proteases as Guardians of Epithelial Integrity**  
*Room F004, Franklin Building*

**Co-Discussion Leaders:**  
Raymond J. Peroutka, University of Maryland, USA  
Per Svenningsen, University of Southern Denmark, Denmark

9:00 am-9:40 am  Roman Szabo, NIDCR, NIH, USA  
*Prostasin - Proteolysis and More (2)*

9:40 am-10:00 am  Chen-Yong Lin, Georgetown University, USA  
*Plasminogen-Dependent Matriptase Activation Accelerates Plasmin Generation by Differentiating Primary Human Keratinocytes (3)*

10:00 am-10:20 am  Marguerite S. Buzza, University of Maryland, USA  
*The Role of the Prostasin-Matriptase Proteolytic Cascade in Protection of Intestinal Epithelial Barrier Function during Inflammation (4)*

10:20 am-10:40 am  Stine Friis, University of Copenhagen, Denmark  
*The Zymogen Form of Prostasin (CAP1/PRSS8) Supports Matriptase Activation during Epidermal Differentiation (5)*

10:40 am-11:00 am  Break (refreshments available at the nourishment hub)
FRIDAY, SEPTEMBER 18 continued

11:00 am-12:40 pm  Session 2:
Membrane-Anchored Serine Proteases in Cancer Development and Progression
Room F004, Franklin Building

Co-Discussion Leaders:
Stine Friis, University of Copenhagen, Denmark
Fausto Varela, Wayne State University School of Medicine, USA

11:00 am-11:20 am  Andrew Murray, Wayne State University School of Medicine, USA
Dissecting the Role of TMPRSS13 in Breast Cancer (6)

11:20 am-11:40 am  Juha Klefström, University of Helsinki, Finland
What Makes Elevated Hepsin Expression Oncogenic in Breast Cancer (7)

11:40 am-12:00 pm  Yike Jiang, University of California, San Diego, USA
Fibroblast Activation Protein (FAP) in Invadopodia-Mediated Extracellular Matrix (ECM) Degradation and Breast Tumor Metastasis (8)

12:00 pm-12:20 pm  Ming-Shyue Lee, National Taiwan University, Taiwan
Androgen-Induced TMPRSS2 Promotes Prostate Cancer Cell Invasion, Tumor Growth and Metastasis (9)

12:20 pm-12:40 pm  Jelani Zarif, Johns Hopkins University, USA
Androgen Receptor Non-Nuclear Regulation of Prostate Cancer Cell Invasion Mediated by Src and Matriptase (10)

12:40 pm-2:00 pm  Lunch
Osgood Dining Room, Osgood Building

2:00 pm-4:00 pm  Free Time
FRIDAY, SEPTEMBER 18 continued

4:00 pm-6:00 pm  
Session 3:  
Membrane-Anchored Serine Proteases as Regulators of Infectious Diseases  
Room F004, Franklin Building  

Co-Discussion Leaders:  
Denis Belitškin, University of Helsinki, Finland  
Hiroaki Kataoka, University of Miyazaki, Japan

4:00 pm-4:40 pm  
Eva Böttcher-Friebertshäuser, Philipps-University, Germany  
Proteolytic Activation of Influenza Viruses by TMPRSS2 and HAT in the Airways (11)

4:40 pm-5:00 pm  
Jeremy Murray, Genentech, Inc., USA  
Structural Biology of Staphylococcus Aureus Signal Peptidase Inhibitors and Their Potential for the Treatment of MSRA Infection (12)

5:00 pm-5:20 pm  
Helena Botella, Weill Cornell Medical College, USA  
A Shield against Host Stress, Mycobacterial Peptidoglycan Remodeling Activated by the Periplasmic Protease MarP (13)

5:20 pm-6:00 pm  
Makoto Takeda, National Institute of Infectious Diseases, Tokyo, Japan  
Host and Viral Determinants of in Vivo Proteolytic Activation of Influenza Viruses (14)

6:00 pm-7:30 pm  
Dinner  
Osgood Dining Room, Osgood Building

7:30 pm-10:00 pm  
Poster Session and Reception  
Rooms F022 and F023, Franklin Building  
See pages 9-10 for poster presentations
SATURDAY, SEPTEMBER 19

7:30 am-9:00 am  Breakfast  
*Osgood Dining Room, Osgood Building*

9:00 am-11:20 am  Session 4:  
*Development of Tools for Diagnosis, Imaging and Targeting of Membrane-Anchored Serine Proteases in Human Disease*  
*Franklin Building, Room F004*

  **Co-Discussion Leaders:**  
  Charles Craik, University of California, San Francisco, USA  
  Gregory D. Conway, University of Maryland, USA

9:00 am-9:40 am  Eric Marsault, Université de Sherbrooke, Canada  
*Host-Based Serine Protease Inhibitors as an Emerging Treatment against Influenza (15)*

9:40 am-10:00 am  Feng-Pai Chou, Georgetown University, USA  
*Matriptase Proteolytic Activity as a Cost-Effective and Simple Means to Detect Neoplastic B-Cells in Peripheral Blood of Chronic Lymphocytic Leukemia Patients (16)*

10:00 am-10:20 am  Natalia Sevillano, University of California, San Francisco, USA  
*Development of Antibody Based Probes for Detecting Active Cancer Associated Serine Proteases (17)*

10:20 am-10:40 am  Break (refreshments available at the nourishment hub)

10:40 am-11:00 am  Stephen Leppla, LPD, NIAID, National Institutes of Health, USA  
*Treating Solid Cancers with Tumor-Associated Protease-Activated Anthrax Toxins (18)*

11:00 am-11:20 am  Erik Martin, University of Maryland, USA  
*Development of Membrane-Anchored Serine Protease-Targeted Anthrax Toxin Proteins as Prodrugs to Target Ovarian Tumors (19)*
SATURDAY, SEPTEMBER 19 continued

11:20 pm-12:20 pm  Free Time

12:20 pm-2:00 pm  Lunch
                   Osgood Dining Room, Osgood Building

2:00 pm-5:20 pm  Session 5:
                   Membrane-Anchored Serine Proteases: Regulation, Structure,
                   Synthesis, Zymogen Activation, Inhibition, Substrates, Trafficking and
                   Beyond
                   Franklin Building, Room F004

                   Co-Discussion Leaders:
                   Peter Andreasen, University of Aarhus, Denmark
                   Andrew Murray, Wayne State University, USA

2:00 pm-2:40 pm  Qingyu Wu, Cleveland Clinic, USA
                   Molecular Mechanisms in Regulating Corin Cell Surface Expression and
                   Zymogen Activation (20)

2:40 pm-3:00 pm  James Janetka, Washington University School of Medicine, USA
                   Targeting Oncogenic Kinase Signaling and Cross-Talk with "Triplex"
                   Inhibitors of Matriptase, Hepsin, and HGFA Serine Proteases (21)

3:00 pm-3:20 pm  Charles Eigenbrot, Genentech, Inc., USA
                   Marapsin Activation by Antibody Binding: Structural and Biochemical
                   Studies (22)

3:20 pm-3:40 pm  Break (refreshments available at the nourishment hub)
<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Institution and Location</th>
<th>Title</th>
<th>Reference</th>
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<tbody>
<tr>
<td>3:40 pm-4:20 pm</td>
<td>Jan K. Jensen</td>
<td>University of Aarhus, Denmark</td>
<td><em>First Structural Insights to Functional Roles of Non-Inhibitory Domains of Hepatocyte Growth Factor Activator Inhibitor (HAI-1)</em> (23)</td>
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<td>4:20 pm-4:40 pm</td>
<td>Karl X. Chai</td>
<td>University of Central Florida, USA</td>
<td><em>Proteolytic Cleavages in the Extracellular Domain of Receptor Tyrosine Kinases by Membrane-Associated Serine Proteases</em> (24)</td>
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<td>4:40 pm-5:00 pm</td>
<td>Hyeong-Reh Kim</td>
<td>Wayne State University School of Medicine, USA</td>
<td><em>Matriptase Regulates Platelet-Derived Growth Factor D Activity and Its Extracellular Spatial Distribution</em> (25)</td>
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<td>5:00 pm-5:20 pm</td>
<td>Li-Mei Chen</td>
<td>University of Central Florida, USA</td>
<td><em>Effects of the Non-Steroidal Anti-Inflammatory Drug Ibuprofen on the Expression and Function of Membrane-Associated Serine Proteases</em> (26)</td>
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<tr>
<td>5:20 pm-5:30 pm</td>
<td>Attention Poster Presenters</td>
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<td><em>Remove all posters before dinner</em></td>
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<tr>
<td>5:30 pm-7:00 pm</td>
<td>Dinner</td>
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<td><em>Osgood Dining Room, Osgood Building</em></td>
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SATURDAY, SEPTEMBER 19 continued

7:00 pm-9:00 pm  Session 6: Membrane-Anchored Serine Proteases as Regulators of Homeostasis
Franklin Building, Room F004

Co-Discussion Leaders:
Makiko Kawaguchi, University of Miyazaki, Japan
Lotte Vogel, University of Copenhagen, Denmark

7:00 pm-7:40 pm  Thomas R. Kleyman, University of Pittsburg, USA
Proteolytic Activation of Epithelial Na+ Channels (27)

7:40 pm-8:00 pm  Anna Keppner, University of Lausanne, Switzerland
The Channel Activating Protease CAP2/Tmprss4 is Not Required for ENaC-Mediated Sodium Homeostasis in Vivo (28)

8:00 pm-8:20 pm  Per Svenningsen, University of Southern Denmark, Denmark
Characterization of Proteolytic Activation of γENaC in Human Kidneys Using Cleavage Specific Monoclonal Antibodies (29)

8:20 pm-9:00 pm  Nathan Subramaniam, The QIMR Berghofer Medical Research Institute, Brisbane, Australia
TMPRSS6: Elucidating the Role in the Regulation of Iron Homeostasis (30)

9:00 pm-10:00 pm  Business Meeting
Franklin Building, Room F004

All attendees are welcome and encouraged to attend
Agenda: poster awards, conference evaluation, organizing future meetings

SUNDAY, SEPTEMBER 20

7:00 am-8:30 am  Final Networking Breakfast
Osgood Dining Room, Osgood Building

11:00 am  Hotel Check-Out
<table>
<thead>
<tr>
<th>Poster Board Number</th>
<th>Abstract Number</th>
<th>Title</th>
<th>Last Name</th>
<th>First Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>Dissecting the role of TMPRSS13 in breast cancer</td>
<td>Murray</td>
<td>Andrew</td>
<td>Wayne State Univ.</td>
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<tr>
<td>2</td>
<td>8</td>
<td>Fibroblast activation protein (FAP) in invadopodia-mediated extracellular matrix (ECM) degradation and breast tumor metastasis</td>
<td>Jiang</td>
<td>Yike</td>
<td>Univ. of California, San Diego</td>
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<tr>
<td>3</td>
<td>10</td>
<td>Androgen receptor non-nuclear regulation of prostate cancer cell invasion mediated by Src and matriptase</td>
<td>Zarif</td>
<td>Jelani</td>
<td>Johns Hopkins Univ. Sch. of Med.</td>
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<tr>
<td>5</td>
<td>13</td>
<td>A shield against host stress, Mycobacterial peptidoglycan remodeling activated by the periplasmic protease MarP</td>
<td>Botella</td>
<td>Helene</td>
<td>Weill Cornell Medical Col.</td>
</tr>
<tr>
<td>6</td>
<td>14</td>
<td>Host and viral determinants of in vivo proteolytic activation of influenza viruses</td>
<td>Takeda</td>
<td>Makoto</td>
<td>National Inst. of Infectious Diseases</td>
</tr>
<tr>
<td>7</td>
<td>17</td>
<td>Development of antibody based probes for detecting active cancer associated serine proteases</td>
<td>Sevillano</td>
<td>Natalia</td>
<td>Univ. of California, San Francisco</td>
</tr>
<tr>
<td>8</td>
<td>19</td>
<td>Use of membrane-anchored serine protease-targeted anthrax toxin proteins to reduce tumor growth and metastasis</td>
<td>Martin</td>
<td>Erik</td>
<td>Univ. of Maryland Sch. of Med.</td>
</tr>
<tr>
<td>9</td>
<td>29</td>
<td>Characterization of proteolytic activated of γENaC in human kidneys using cleavage specific monoclonal antibodies</td>
<td>Svenningsen</td>
<td>Per</td>
<td>Univ. of Southern Denmark</td>
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<tr>
<td>10</td>
<td>31</td>
<td>The Aldosterone Mineralocorticoid Receptor Pathway Promotes Urine Prostasin Excretion through Glomerular Barrier Injury</td>
<td>Svenningsen</td>
<td>Per</td>
<td>Univ. of Southern Denmark</td>
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<td>11</td>
<td>32</td>
<td>Elevated hepsin expression downmodulates its cognate inhibitor HAI-1 by enhanced shedding, suggesting a derepression model for oncogenic activation of hepsin</td>
<td>Belitškin</td>
<td>Denis</td>
<td>Univ. of Helsinki</td>
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<tr>
<td>12</td>
<td>33</td>
<td>The Role of Testisin and PAR-2 Signaling in Metastatic Ovarian Cancer</td>
<td>Conway</td>
<td>Gregory</td>
<td>Univ. of Maryland, Baltimore</td>
</tr>
<tr>
<td>13</td>
<td>34</td>
<td>The insufficient pericellular activity of hepatocyte growth factor activator inhibitor type 1 (HAI-1) induces recruitment of cancer-associated fibroblasts</td>
<td>Kanemaru</td>
<td>Ai</td>
<td>Miyazaki Univ.</td>
</tr>
<tr>
<td>14</td>
<td>35</td>
<td>Protease-activated receptor-2 is not involved in the susceptibility to DSS-induced colitis associated with HAI-1 deficiency</td>
<td>Kawaguchi</td>
<td>Makiko</td>
<td>Miyazaki Univ.</td>
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<tr>
<td>15</td>
<td>36</td>
<td>Cell surface human airway trypsin-like protease (HAT) is lost during squamous cell carcinogenesis</td>
<td>Page</td>
<td>Khaliph</td>
<td>Wayne State Univ. Sch. of Med.</td>
</tr>
<tr>
<td>16</td>
<td>37</td>
<td>Defining the Role of Testisin, a Membrane Anchored Serine Protease, in the Endothelium and Angiogenesis</td>
<td>Peroutka</td>
<td>Raymond</td>
<td>Univ. of Maryland</td>
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<tr>
<td>17</td>
<td>38</td>
<td>Peptidomimetic inhibition of host-targeted serine proteases as a treatment against influenza</td>
<td>Plancq</td>
<td>Baptiste</td>
<td>Université de Sherbrooke, Canada</td>
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<tr>
<td>18</td>
<td>39</td>
<td>Potential Pro-Onogenic Role for the Type II Serine Protease TMRSS13 in Colorectal Cancer</td>
<td>Varela</td>
<td>Fausto</td>
<td>Wayne State Univ.</td>
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<tr>
<td>19</td>
<td>40</td>
<td>HAI-2 regulates the folding/maturation of matriptase in the early secretory pathway</td>
<td>Vogel</td>
<td>Lotte</td>
<td>Univ. of Copenhagen</td>
</tr>
</tbody>
</table>
William F. Bolger Center
Franklin Building

- Session Room #4
- Main Entrance
- Friday evening Poster Session Rooms 22&23
Hotel Check-In Building

Thursday evening
Welcome Reception
Pony Express Patio
**SHUTTLE PICK UP AND DROP OFF LOCATIONS:**

**Montgomery Mall:** "Sears Merchandising". Please wait outside the merchandise pickup entrance.

**Bethesda Metro Stop:** Come up the escalator and exit diagonal to the left. Please wait by the Dunkin Donuts.

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### MONDAY THRU FRIDAY

*The Bolger Center reserves the right to suspend/alter service based on low hotel occupancies.*

Please call ahead to confirm the schedule for your travel needs.

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<tr>
<th>BOLGER CENTER Hotel Check In Bldg</th>
<th>CVS</th>
<th>BETHESDA METRO Dunkin Donuts</th>
<th>CVS</th>
<th>MONTGOMERY MALL Sears Merchandise</th>
<th>BOLGER CENTER Hotel Check In Bldg</th>
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### SATURDAY AND SUNDAY

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*Seats on the complimentary shuttle are given on a first come-first serve basis. No more than thirteen seats are available on one shuttle. The Bolger Center is not responsible for transportation if seats are unavailable for any reason on the shuttle bus. Since safe service is our top priority, this schedule may be affected by weather and traffic.*