### Preface

It is our great pleasure to present the proceedings of the international ACM Symposium on Applied Perception (SAP), held on August 11-12, 2018 in Vancouver, BC, Canada. As is customary for SAP, conferences held in even years are co-located with SIGGRAPH. The conference chairs are Cindy Grimm and Peter Willemsen, program chairs are Joseph Kearney and Bernhard Riecke.

SAP, formerly known as APGV, aims to broadly support and promote interdisciplinary research at the intersection of perception and computer science, focusing on disciplines such as computer graphics, virtual reality, vision science, haptics and acoustics. Our fifteenth annual event features exciting new research touching all of these disciplines.

This year’s program includes 24 papers selected from 53 total submissions via rigorous double-blind peer review by our 60-member International Program Committee. Four of these 24 papers were selected to appear in a special issue of the ACM Transactions on Applied Perception; the other 20 papers are published here in these proceedings. Our conference program this year includes 15 posters presented in a dedicated session, organized by Posters Chair Betsy Sanders.

We are looking forward to welcoming Sarah H. Creem-Regehr & William B. Thompson as our keynote speakers to discuss their experience as longtime collaborators in their talk titled: “Working Together: Do’s, don’ts, and success stories of multidisciplinary research”.

We are deeply grateful to Stephen Spencer, chair of the ACM SIGGRAPH Publications Committee, whose diligence and effort brought these proceedings successfully together as a coherent whole. We thank the ACM publications board for supporting the idea of fast-tracking select publications directly into TAP, and the TAP editorial staff for working closely with us to ensure that the papers were available in the Digital Library by the time of the symposium.

Finally, the proceedings represent a snapshot of a fast-moving interdisciplinary field at one moment in time. We wholeheartedly thank those members of the field who invested time and energy in the symposium by submitting their work, or by reviewing the submitted work. We saw the work over the course of the submission and review process, and are proud of its quality and the resulting volume.

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### Conference Chairs
Cindy Grimm, Oregon State University
Peter Willemsen, University of Minnesota Duluth

### Program Chairs
Joseph Kearney, University of Iowa
Bernhard Riecke, Simon Fraser University

### Poster Chair
Betsy Sanders, Rhodes College

### Workshop Chair
Wolfgang Stuerzlinger, Simon Fraser University

### SAP 2018 Chairs

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### Friday August 10

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 - 9:00</td>
<td>Registration</td>
</tr>
<tr>
<td>9:00 - 10:00</td>
<td>Opening remarks</td>
</tr>
<tr>
<td>9:10 - 10:10</td>
<td>Keynote</td>
</tr>
</tbody>
</table>

**Keynote**

**Working Together: Do’s, don’ts, and success stories of multidisciplinary research**

Sarah H. Creem-Regehr, Department of Psychology, University of Utah
William B. Thompson, School of Computing, University of Utah

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:10 - 11:00</td>
<td>Coffee break</td>
</tr>
</tbody>
</table>
Saturday August 11

8:30 - 9:00  Registration

9:00 - 10:20  Session 3: Haptics
- 9:00  Touch with Foreign Hands: The Effect of Virtual Hand Appearance on Visual-Haptic Integration
  Valentin Schwind, Lorraine Lin, Massimiliano Di Luca, Sophie Jörg and James Hills
- 9:20  Expanding the Sense of Touch Outside the Body
  Christopher Berger and Mar González-Franco
- 9:40  Learning to Feel Words: A Comparison of Learning Approaches to Acquire Haptic Words
  Jennifer Chen, Robert Turcott, Pablo Castillo, Wahyudinata Setiawan, Frances Lau and Ali Israr
- 10:00  Interaction Between Static Visual Cues and Force Feedback on Perception of Mass of Virtual Objects
  Wenyan Bi, Jonathan Newport, and Bei Xiao (short paper)

10:20 - 11:00  Coffee break

11:00 - 12:00  Session 4: Perception
- 11:00  Analysis of Hair Shine Using Rendering and Subjective Evaluation
  Grish Ramesh, Martin Turner, Franz Wortmann and Bjorn Schroeder (TAP paper)
- 11:20  Investigating Perception Time in the Far Peripheral Vision for Virtual and Augmented Reality
  Xuetong Sun and Ankit Shah
- 11:40  An Appearance Uniformity Metric for 3D Printing
  Michael Ludwig, Gary Meyer, Ingeborg Tastl, Nathan Moroney and Melanie Gottwalds

Chair: Jeanine Stefanucci

12:00 - 14:00  Lunch (catered)

14:00 - 15:20  Session 5: Speech Perception & Eye movement
- 14:00  The Semantic Space for Emotional Speech and the Influence of Different Methods for Prosody Isolation on its Perception
  Martin Schorradt, Susana Castillo and Douglas W. Cunningham

Chair: Betsy Sanders & Bernhard Riecke

14:20  Effects of virtual acoustics on target-word identification performance in multi-talker environments
  Atul Rungta, Nicholas Rewkowski, Carl Schissler, Philip Robinson, Ravish Mehra and Dinesh Manocha

14:40  Analysis of Neural Correlates of Saccadic Eye Movements
  Jan-Philipp Tauscher, Fabian Wolf Schottky, Steve Gregorick, Marcus Magnor and Maryam Mustafa

15:00  A Comparison of Eye-Head Coordination Between Virtual and Physical Realities

Chair: Mary Whitton

15:20 - 16:00  Coffee break

16:00 - 17:20  Session 6: Selective Rendering & Virtual Characters
- 16:00  Foveated Depth-of-Field Filtering in Head-mounted Displays
  Martin Weier, Thorsten Roth, Andre Hinkenjann and Philipp Sussalek (TAP paper)
- 16:20  Assessing Vignetting as a Means to Reduce Simulator Sickness During Amplified Head Rotations
  Nahal Norouzi, Gerd Bruder and Greg Welch
- 16:40  Deep Learning of Biomimetic Visual Perception for Virtual Humans
  Masaki Nakada, Honglin Chen and Demetri Terzopoulos
- 17:00  Perceptual Adjustment of Eyeball and Pupil Diameter Jitter Amplitudes for Virtual Characters
  Sophie Jörg, Andrew Duchowski, Krzysztof Krejtz and Anna Niedzielska (TAP paper)

Chair: Scott Kuhl

17:20 - 18:30  Closing Remarks, Awards and Farewell; Business meeting