MARCH 14-18 LAFAYETTE, LA, USA
IEEE VIRTUAL REALITY 09
IEEE Symposium on 3D User Interfaces

CONFERENCE PROGRAM
<table>
<thead>
<tr>
<th>Time</th>
<th>SATURDAY</th>
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<tbody>
<tr>
<td>7:00</td>
<td>Breakfast</td>
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<td>8:30</td>
<td>TUTORIALS</td>
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<tr>
<td>8:30</td>
<td>Zydeco Room Tutorial 1: Hands On with Commercial VR Packages (full day 8:30am-5pm)</td>
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<tr>
<td>9:00</td>
<td>WORKSHOPS</td>
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<tr>
<td>8:30</td>
<td>Jazz Room Tutorial 2: Hands On with Physics Engines for VR (full day 8:30am-5pm)</td>
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<tr>
<td>9:00</td>
<td>Workshop 1: Software Engineering and Architectures for Realtime Interactive Systems (SEARIS) (full day 8:30am-12:30pm)</td>
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<tr>
<td>10:00</td>
<td>Workshop 3: Workshop on Virtual Environments for Business Applications (half day 8:30am-5:30pm)</td>
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<td>11:00</td>
<td>Lunch Break</td>
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:00</td>
<td>Breakfast</td>
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<td>TUTORIALS</td>
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<tr>
<td>8:30</td>
<td>Zydeco Room Tutorial 3: Hands On with Open/Free VR Packages (full day 8:30am-5pm)</td>
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<td>WORKSHOPS</td>
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<tr>
<td>8:30</td>
<td>Jazz Room Tutorial 4: Conducting Human-Subject Experiments with Virtual and Augmented Reality (full day 8:30am-5:30pm)</td>
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<td>9:00</td>
<td>Workshop 5: Workshop 3: Massively Multiuser Virtual Environment (MMVE) (full day 8:30am-5:30pm)</td>
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<td>10:00</td>
<td>Workshop 1: Workshop 2: Cloud-Mobile Convergence for Virtual Reality (full day 8:30am-5:30pm)</td>
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**PROGRAM AT-A-GLANCE**

- **Second Floor Lobby**
- **Blues Room**
- **Jazz Room**
- **Gospel Room**
- **Zydeco Room**
- **Cajun Room**
- **Workshop 1**
- **Workshop 2**
- **Workshop 3**
- **Workshop 4**
- **Workshop 5**
- **Workshop 6**
- **Tutorial 1**
- **Tutorial 2**
- **Tutorial 3**
- **Tutorial 4**
- **Tutorial 5**
- **Tutorial 6**
- **Lobby Area**
- **Exhibitors Reception**
- **Exhibit Hall A**
- **Keynote Address**
- **Best Paper Award & Closing**
- **3DUI**
- **Posters & Demos**
- **Break**

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**TUTORIALS**
- **Introduction & Session 1: Navigation**
- **Session 2: Body Interaction**
- **Session 3: Performance Analysis**
- **Session 4: Wayfinding & Locomotion**
- **Session 5: Haptics & Multimodal**
- **Session 6: Mixed Reality**

**WORKSHOPS**
- **Software Engineering and Architectures for Realtime Interactive Systems (SEARIS)**
- **Workshop on Virtual Environments for Business Applications**
- **Conducting Human-Subject Experiments with Virtual and Augmented Reality**
- **Massively Multiuser Virtual Environment (MMVE)**
- **Cloud-Mobile Convergence for Virtual Reality**
- **Perceptual Illusion in Virtual Environments (PIVE)**
<table>
<thead>
<tr>
<th>Time</th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
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<tr>
<td>7:00</td>
<td>Second Floor Lobby</td>
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<td>8:00</td>
<td>Festival Ballroom Opening Remarks</td>
<td>Festival Ballroom Keynote Address</td>
<td>Panel: Latency in Virtual Environments Systems</td>
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<td>Break</td>
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<td>9:00</td>
<td>Festival Ballroom Session 2: Displays &amp; Tracking</td>
<td>Festival Ballroom Session 4: Collaboration &amp; Avatars</td>
<td>Lunch Break</td>
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<td>Festival Ballroom Session 7: Clinical &amp; Medical Applications</td>
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<td>Research Demos</td>
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<td>10:30</td>
<td>Festival Ballroom Session 3: Augmented Reality</td>
<td>Festival Ballroom Session 5: Perception &amp; Usability</td>
<td>Session 8: Graphics &amp; Modeling</td>
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<td>12:30</td>
<td>Festival Ballroom Session 1: Haptics &amp; Interaction</td>
<td>Festival Ballroom Session 6: Eye Gaze &amp; Olfactory Displays</td>
<td>Best Paper Awards &amp; Closing Remarks</td>
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<td>Festival Ballroom Student Panel: Building a Career in VR</td>
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<td>Festival Ballroom Student Panel: Building a Career in VR</td>
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<td>Festival Ballroom Session 9: Presence &amp; Perception</td>
<td>Festival Ballroom Student Panel: Building a Career in VR</td>
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Please see [www.vermilionville.org](http://www.vermilionville.org) for more information.
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Hiroaki Yano, University of Tsukuba, Japan
PROGRAM DETAILS

SATURDAY MARCH 14

TUTORIALS
8:30 am - 5:30 pm
- Tutorial 1: Hands On with Commercial VR Packages
- Tutorial 2: Hands On with Physics Engines for VR

WORKSHOPS
8:30 am - 5:30 pm
- Workshop 1: Software Engineering and Architectures for Real-time Interactive Systems (SEARIS)
- Workshop 5: Workshop on Virtual Environments for Business Applications

3DUI SYMPOSIUM
9:15 am - 9:25 am
- Introduction

9:25 am - 10:30 am
- Session 1: Navigation
  - Measuring the Effect of Gaming Experience on Virtual Environment Navigation Tasks, Shamus Smith, Sam Du'Mont
  - A Direct Manipulation Interface for Time Navigation in Scientific Visualizations, Marc Wolter, Bernd Hentschel, Irene Tedjo, Torsten Kuhl
  - Tech-note: Scruticam Camera Manipulation Technique for 3D Objects Inspection, Fabrice Decle, Martin Hachet, Pascal Guittion

10:30 am - 11:00 am
- Break

11:00 am - 12:05 pm
- Session 2: Body Interaction
  - Virtual Multi-Tools for Hand and Tool-based Interaction with Life-size Virtual Human Agents, Aaron Kotranza, Kyle Johnsen, Juan Cendan, Bayard Miller, D Scott Lind, Benjamin Lök
  - A Multiscale Interaction Technique for Large, High-Resolution Displays, Sarah Peck, Chris North, Doug Bowman
  - Tech-note: Device-Free Interaction Spaces, Daniel Stødle, Olga Troyanskaya, Kai Li, Otto Anshus

12:05 pm - 12:30 pm
- Posters & Demos Fast Forward

12:30 pm - 1:30 pm
- Lunch at Exhibit Hall (provided)

3:15 pm - 3:45 pm
- Break

3:45 pm - 5:00 pm
- Session 3: Performance Analysis
  - Selection Performance Based on Classes of Bimanual Actions, Amy C. Ulinski, Zachary Wartell, Paula Goolkasian, Evan A. Suma, Larry F. Hodges
  - The Influence of Input Device Characteristics on Spatial Perception in Desktop-Based 3D Applications, Alexander Kulik, Jan Hochstrate, André Kunert, Bernd Froehlich

SUNDAY MARCH 15

TUTORIALS
8:30 am - 5:30 pm
- Tutorial 3: Hands On with Open/Free VR Packages
- Tutorial 4: Conducting Human-Subject Experiments with Virtual and Augmented Reality

WORKSHOPS
8:30 am - 5:30 pm
- Workshop 2: Cloud-Mobile Convergence for Virtual Reality

1:30 pm - 5:30 pm
- Workshop 6: PIVE - Perceptual Illusion in Virtual Environments

5:30 pm - 7:30 pm
- Exhibitors Reception

3DUI SYMPOSIUM
8:30 am - 9:35 am
- Session 4: Wayfinding & Locomotion
  - Wayfinding Techniques for MultiScale Virtual Environments, Felipe Bacim, Doug Bowman, Marcio Pinho
  - Arch-Explore: A Natural User Interface for Immersive Architectural Walkthroughs, Gerd Bruder, Frank Steinicke, Klaus H. Hinrichs
  - Tech-note: Vtrail: Supporting Trailblazing in Virtual Environments, Daniel laboni, Carolyn MacGregor

9:35am - 10:30 am
- Session 5: Haptics & Multimodal
  - A Tactile Distribution Sensor Which Enables Stable Measurement Under High and Dynamic Stretch, Hassan Alirezaei, Akihiko Nagakubo, Yasuo Kuniyoshi
  - Tech-note: Multimodal Feedback in 3D Target Acquisition, Dalia El-Shimy, Georgios Marentakis, Jeremy R. Cooperstock
MONDAY MARCH 16

VR CONFERENCE
8:30 am - 9:00 am
Festival Ballroom
- Opening Remarks

9:00 am - 10:30 am
Festival Ballroom
- Session 1: Haptics & Interaction
  Spatialized Haptic Rendering: Providing Impact Position Information in 6DOF Haptic Simulations Using Vibrations, Jean Sreng, Anatole Lécuyer, Claude Andriot, Bruno Arnaldi
  Evaluating the Influence of Haptic Force-Feedback on 3D Selection Tasks using Natural Egocentric Gestures, Vijay M. Pawar, Anthony Steed
  Haptic Assembly and Disassembly Task Assistance using Interactive Path Planning, Nicolas Ladeveze, Jean Yves Fourquet, Bernard Puel, Michel Taix

10:00 am - 11:00 am
Exhibit Hall A
- Research Demos

11:00 am - 12:00 pm
Break

12:00 pm - 1:30 pm
Exhibit Hall A
- Lunch at Exhibit Hall (provided)

1:30 pm - 2:35 pm
Blues Room
- Session 6: Mixed Reality
  Egocentric Navigation for Video Surveillance in 3D Virtual Environments, Gerwin de Haan, Josef Scheuer, Raymond de Vries, Frits H. Post
  Visual Clutter Management in Augmented Reality: Effects of Three Label Separation Methods on Spatial Judgments, Stephen D. Peterson, Magnus Axholt, Matthew Cooper, Stephen R. Ellis
  Tech-note: Spatial Interaction using Depth Camera for Miniature AR, Kyungdahm Yun, Woontack Woo

2:35 pm - 2:50 pm
Blues Room
- Best Paper Award & Closing

1:30 pm - 3:15 pm
Festival Ballroom
- Session 2: Displays & Tracking
  An Image-Warping Architecture for VR: Low Latency versus Image Quality, Ferdi Smit, Robert van Liere, Stephan Beck, Bernd Froehlich
  A Distributed Cooperative Framework for Continuous Multi-Projector Pose Estimation, Tyler Johnson, Greg Welch, Henry Fuchs, Eric La Force, Herman Towles
  JanusVF: Accurate Navigation Using SCAAT and Virtual Fiducials, Malcolm Hutson, Steven White, Dirk Reiners
  Image Blending and View Clustering for Multi-Viewer Immersive Projection Environments, Jonathan Marbach

3:15 pm - 3:45 pm
Festival Ballroom
- Break

3:45 pm - 5:30 pm
Festival Ballroom
- Session 3: Augmented Reality
  Indoor vs. Outdoor Depth Perception for Mobile Augmented Reality, Mark A. Livingston, Zhuming Ai, J. Edward Swan II, Harvey S. Smallman
  Virtual Heliodon: Spatially Augmented Reality for Architectural Daylighting Design, Yu Sheng, Theodore C. Yapo, Christopher Young, Barbara Cutler
  Explosion Diagrams in Augmented Reality, Denis Kalkofen, Markus Tatzgern, Dieter Schmalstieg
  Improving Spatial Perception for Augmented Reality X-Ray Vision, Benjamin Avery, Christian Sandor, Bruce H. Thomas

5:30 pm - 7:00 pm
Lobby Area
- Poster Session

6:30 pm - 8:30 pm
- LITE Reception

TUESDAY MARCH 17

VR CONFERENCE
8:45 am - 10:30 am
Festival Ballroom
- Keynote Address:
  Successes and Challenges on Using VR in Product Design and Engineering, Elizabeth Baron, Ford Motor Company

10:00 am - 5:30 pm
Exhibit Hall A
- Research Demos

10:30 am - 11:00 am
Break

11:00 am - 12:30 pm
Festival Ballroom
- Session 4: Collaboration & Avatars
  Eye Tracking for Avatar Eye Gaze Control During Object-Focused Multiparty Interaction in Immersive Collaborative Virtual Environments, William Steptoe, Oyewole Oyekoya, Alessio Murgia, Robin Wolff, John Rae, Estefania Guimaraes, David Roberts, Anthony Steed
VR CONFERENCE

- **WEDNESDAY MARCH 18**
  - **8:30 am - 10:00 am**
    - Panel: Latency in Virtual Environment Systems
  - **10:00 am - 5:30 pm**
    - Research Demos

**10:30 am - 11:45 am**
- **Session 7: Clinical & Medical Applications**
  - A Virtual Iraq System for the Treatment of Combat-Related Post-traumatic Stress Disorder, Shih-Ching Yeh, Brad Newman, Matt Liewer, Jarrell Pair, Anton Treskunov, Greg Reger, Barbara Rothbaum, JoAnn Difede, Josh Spitalnick, Rob McLay, Thomas Parsons, Albert Rizzo
- **Immersive Training for Two-Person Radiological Surveys**, Steven Koepnick, Derek Norpchen, William R. Sherman, Daniel S. Coming

**11:45 am - 12:30 pm**
- **Lunch at Exhibit Hall (provided)**

**12:30 pm - 1:45 pm**
- **Session 8: Graphics & Modeling**
  - Virtualized Traffic: Reconstructing Traffic Flows from Discrete Spatio-Temporal Data, Jur van den Berg, Jason Sewall, Ming Lin, Dinesh Manocha
  - Efficient Large-Scale Sweep and Prune Methods with AABB Insertion and Removal, Daniel J. Tracy, Samuel R. Buss, Bryan M. Woods

**1:45 pm - 3:15 pm**
- **Session 9: Presence & Perception**
  - Does a Gradual Transition to the Virtual World increase Presence? Frank Steinicke, Gerd Bruder, Klaus Hinrichs, Anthony Steed, Alexander L. Gerlach
  - Related Scene-Motion Thresholds to Latency Thresholds for Head-Mounted Displays, Jason Jerald, Mary Whitton

**3:15 pm - 3:45 pm**
- **Break**

**3:45 pm - 5:00 pm**
- **Student Panel: Building a Career in VR**

**5:00 pm - 5:15 pm**
- **Best Paper Awards & Closing Remarks**
First Floor

EXHIBIT HALL B
23,250 SQ. FT.

EXHIBIT HALL A
13,996 SQ. FT.

CONFERENCE ROOM

Second Floor

FESTIVAL MEETING ROOM
12,000 SQ. FT.

OUTDOOR MALL (BELOW)

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