

WELCOME

It is a great pleasure to welcome you to the 2011 IEEE International Symposium on Haptic Audio- Visual Environments and Games (HAVE 2011) and the 4th International Workshop on Massively Multiuser Virtual Environments (MMVE 2011), which take place jointly at Yanshan University, Qinhuangdao, Hebei, China from October 15th to 16th, 2011.

HAVE 2011 marks the 10th edition of the HAVE annual workshop series. We are proud to announce that we have received more than 50 papers from 10 different countries and regions. After a rigorous peer-review process, 29 papers for HAVE 2011 and 7 papers for MMVE 2011 were accepted for oral or poster presentation at the conference, resulting in 7 technical sessions. We regret that some excellent papers could not be accommodated.

Similar to the events of previous years, there will be a TIM special issue devoted to the topics covered by the conference. All accepted HAVE 2011 and MMVE 2011 papers that are **registered** and **presented** at the conference are eligible to submit an extended version to the special issue by November 29th, 2011. These manuscripts must be technically extended beyond the scope of the paper that appears in the conference.

Like the edition of previous years, HAVE 2011 is the result of dedicated effort by a large number of volunteers. We wish to express our appreciation and thanks to all the individuals who have contributed to HAVE 2011 and MMVE 2011. Special thanks are extended to our colleagues in the Program Committee for their thorough review of all the submissions, which is vital to the success of this conference. We must also extend our thanks to all the members in the Organizing Committee and our volunteer students who have dedicated their time and efforts in promoting, organizing and helping the conference. Last but not least, our special thanks go to all the authors for contributing their research work, and to the participants in making HAVE 2011 and MMVE 2011 a memorable event.

Thank you and wish you a great conference and enjoyable visit in Qinhuangdao.

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Keynote

Biography

Dr. Guangzheng Fei is a Professor of School of Animation and Digital Arts of Communication University of China, and the founder of the first game design department in China. He obtained his Ph.D. from Institute of Software, Chinese Academy of Sciences in 2001. After his graduation, he studied at Microsoft Research Asia for half a year and then worked as a postdoc in MIRALab of University of Geneva until he joined the current school in 2003. He was a visiting scholar during April 2008 and April 2009 at University of Ottawa. He is also the head of research faculty in VRPlatform Co. Ltd., which is one of the topmost virtual reality companies in China.

He has published more than 50 papers in research areas including sketch based modeling and animation, motion synthesis and motion editing, surface modeling, non-photorealistic rendering, texture synthesis, etc.. He has served as an international program committee member for several international conferences, such as Computer Animation and Social Agents, Pacific Graphics, CAD/CG , and Computer Graphics International.

Dr. Jinyuan Jia is a Professor of School of Software Engineering, Tongji University, Shanghai, China, and the founder of first Web3D Media Research Center in China. He obtained his Ph.D. from Vision & Graphics Lab of HKUST (Hong Kong University of Science and Technology) in 2004. During his Ph.D. program, he got DFG fellowship and visited Max-Planck Institute Fur Informatik as a senior visiting scholar. In 2005, He became a Professor in Department of Computer Science and the founding head of Software Research Institute, Zhuhai College of Jilin University. In 2007, he moved to School of Software Engineering, Tongji University as a Chair Professor, there, he founded a Web3D Graphics Lab to attack all key technologies algorithms on Web3D/WebVR/Webgame. These years, his team has developed more than 20 online WebVR projects successfully, and actively participated in constructing Virtual Shanghai EXPO System on Internet as a consultant. In 2011, his team successfully developed a Web Online Virtual House Design System, HouseDIY 1.0, (<http://design.rryjw.com/bin-release/NewHouseDIY.html>) by using the Flash platform (No Plug-in Installation). His lab has become the Web3D leader in China. Also, he is the CTO of Tongtu 3D Media Co. Ltd and leads a team to develop Flash3D engine.

His research area involves Lightweight Web3D modeling, Progressive P2P Transmission of Large Scale DVE, Lightweight WebVR Algorithms and Programming, Lightweight WebGame Engine, Image Based Web3D Model Retrieving and Agile Development of WebVR Project.

HAVE 2011 Program

October 15, 2011 Saturday

8:00 – 8:30 -- *Registration*

8:30 – 8:35 – *Opening and Welcome*

Peter X. Liu, Abdulmotaleb El Saddik

Shun-Yun Hu, Shervin Shirmohammadi, Gregor Schiele

8:35 – 9:20 – *Keynote*

Prof. Guangzheng Fei (Communication University of China)

Prof. Jinyuan Jia (Tongji University, China)

9:20 – 10:40 – Technical Session I

Session Chair: Peter X. Liu

9:20: *Implementation and Evaluation of a gesture-based Input Method in Robotic Surgery*

Christoph Staub (Technische Universität München, Germany);

Alois Knoll (Technical University Munich Garching, Germany);

Salman Can (Technische Universität München, Germany) ;

Verena Nitsch (University of the Bundeswehr Munich, Germany) ;

Ines Karl (University of the Bundeswehr Munich, Germany);

Berthold Faerber (University of the Bundeswehr Munich, Germany)

9:40: *A 3D FE Dynamic Model of Human Fingertip Based on MRI Data*
Zhongkui Wang (Ritsumeikan University, Japan)

10:00: *Adaptive Hybrid Motion/Force Control of Bilateral Tele-operation with Unsymmetrical Time-Varying Delays*

Zhijun Li (Shanghai Jiao Tong University, China);

Wenjun Ye (Shanghai Jiao Tong University, China)

10:20: *Color-based corner detection by color invariance*

Jun Chu (Nanchang Hangkong University, China);

Jun Miao (Nanchang Hangkong University, China);

Guimei Zhang (Nanchang Hangkong University, China);

Lu Wang (Nanchang Hangkong University, China)

10:40-11:00 -- *Coffee Break*

11:00 –12:20 – Technical Session II

Session Chair: Abdulmotaleb El Saddik

11:00: *RehaBall: Rehabilitation of Upper limbs with a Sensory-Integrated Stress Ball*

Ali Karime (University of Ottawa, Canada);

Abu Saleh Md Mahfujur Rahman (University of Ottawa, Canada);

Abdulmotaleb El Saddik (University of Ottawa, Canada);

Wail Gueaieb (University of Ottawa, Canada);

11:20: *Spring-based measurement equipment for evaluation of 3-DOF haptic rendering algorithms*

Zhixiang Wang (Beihang University, China);

Dangxiao Wang (Beihang University, China);

Tao Song (Beihang University, China)

11:40: *Human Action Recognition from Local Part Model*

Feng Shi (University of Ottawa, Canada);

Emil M. Petriu (University of Ottawa, Canada);

Albino Cordeiro (University of Ottawa, Canada)

12:00: *A Local Constraint Method for Needle Insertion Modeling and Simulation*

Lijuan Wang (Ritsumeikan University, Japan)

12:30-13:50 -- Lunch

14:00 –15:20 – Technical Session III

Session Chair: Guimei Zhang

14:00: *Activity-Centric Streaming of Virtual Environments and Games to Mobile Devices*

Hesam Rahimi (University of Ottawa, Canada);

Ali Asghar Nazari Shirehjini (University of Ottawa, Canada);

Shervin Shirmohammadi (University of Ottawa, Canada)

14:20: *Labeling Watershed Algorithm based on Morphological Reconstruction in Color Space*

Guimei Zhang (Nanchang Hangkong University, China)

14:40: *Opening the Haptic Loop: Network Degradation Limits for Haptic Task Performance*

Rahul Chaudhari (TU Munich, Germany);

Clemens Schuwerk (Technische Universität München, Germany);

Verena Nitsch (University of the Bundeswehr Munich, Germany);

Eckehard Steinbach (Munich University of Technology, Germany);
Berthold Faerber (University of the Bundeswehr Munich, Germany)

15:00: *Transparency Performance Improvement for Bilateral Teleoperation with Direct Force-feedback Control*

Changchun Hua (Yanshan University, China);
Yana Yang (Yanshan University, China)

15:20-15:40 -- Coffee Break

15:40 –17:20 – Technical Session IV

Session Chair: Mehdi Ammi

15:40: *Hybrid Signal-based and Geometry-based Prediction for Haptic Data Reduction*

Xiao Xu (Munich University of Technology, Germany);
Julius Kammerl (Munich University of Technology, Germany);
Rahul Chaudhari (Munich University of Technology, Germany);
Eckehard Steinbach (Munich University of Technology, Germany)

16:00: *Design of Haptic Stimuli for Audio-Haptic concurrent coupling*

Mehdi Ammi (University of Paris-Sud 11, France);
Brian Katz (LIMSI, France)

16:20: *Improvement of the recognition of facial expressions with haptic feedback*

David Bonnet (LRI, France);
Mehdi Ammi (University of Paris-Sud 11, France);
Jean-Claude Martin (Limsi-CNRS, France)

16:40: *Dynamic Load Redistribution Based on Migration Latency Analysis for Distributed Virtual Simulations*

Robson De Grande (University of Ottawa);
Azzedine Boukerche (University of Ottawa)

17:00: *A Study of the Effects of Using Some QoS Mechanisms on Haptic Transmission-Using Opnet Modeler*

Aseel Alturki (King Saud University, Saudi Arabia);
M A Alnuem (King Saud University, Saudi Arabia)

18:00 -20:00 -- Dinner

October 16, 2011 Sunday

8:30 – 9:50 – Technical Session I

Session Chair: Fuchun Sun

8:30: *EDA-based Output Tracking Control for Networked Control Systems with Time Delays and Packet Losses*

HongBo Li (Tsinghua University);

Fuchun Sun (Tsinghua University);

Zengqi Sun (Tsinghua University)

8:50: *Revocable Handwritten Signatures with Haptic Information*

Abdulmotaleb El Saddik (University of Ottawa, Canada);

Marwa Fouad (University of Ottawa, Canada);

Emil M. Petriu (University of Ottawa, Canada)

9:10: *A Novel Haptic Jacket based Alerting Scheme in a Driver Fatigue Monitoring System*

Abu Saleh Md. Mahfujur Rahman (University of Ottawa, Canada);

Niloufar Azmi (University of Ottawa, Canada);

Shervin Shirmohammadi (University of Ottawa, Canada);

Abdulmotaleb El Saddik (University of Ottawa, Canada)

9:30: *Event-based Tele-presence of a Mobile Service Robot*

Xiaohui Zhu (Shanghai Jiao Tong University, China);

Zhijun Li (Shanghai Jiao Tong University, China);

Wenjun Ye (Shanghai Jiao Tong University, China);

Haoran Zhao (Shanghai Jiao Tong University, China)

9:50-10:10 -- Coffee Break

10:10 –11:30 – Technical Session II

Session Chair: Yi Wan

10:10: *A Prototype Haptic EBook System to Support Immersive Remote Reading in a Smart Home*

Abu Saleh Md. Mahfujur Rahman (University of Ottawa, Canada);

Kazi Masudul Alam (University of Ottawa, Canada);

Abdulmotaleb El Saddik (University of Ottawa, Canada)

10:30: *Coherent Hierarchical Collision Detection for Clothing Animation*

Hanwen Li (Lanzhou University, China);

Yi Wan (Lanzhou University, China)

10:50: *Low-Complexity Error-Resilient Data Reduction Approach for Networked*

Haptic Sessions

Fernanda Brandi (Munich University of Technology, Germany);
Eckehard Steinbach (Munich University of Technology, Germany)

11:10: *Modeling and H_{∞} Control of Wireless Network-based Bilateral Teleoperation*

Caiyong Ye (Yanshan University, China);
Changchun Hua (Yanshan University, China)

11:30-13:50 – Closing

12:00-14:00 – Farewell Lunch

Poster Papers:

A Novel Haptic Rendering Algorithm Based on Vector Median Filter

Liyuan Zhou (Nanchang University, China);
Shaoping Xu (Nanchang University, China);
Chunquan Li (Nanchang University, China);

Adaptive Kernels for Data Recovery in Tele-haptic and Tele-operation Environments

Jason P Rhineland (Carleton University, Canada);
Peter Liu (Carleton University, Canada);

The Feedback Force Algorithm for the Wave-Variable Teleoperator With High Stability

Lingyan Hu (Nanchang University, China);
Guoping Liu (Nanchang University, China);
Shaoping Xu (Nanchang University, China)

MMVE 2011 Program

October 15, 2011 Saturday

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8:30 – 8:35 – *Opening and Welcome*

Abdulmotaleb El Saddik, Peter X. Liu

Shun-Yun Hu, Shervin Shirmohammadi, Gregor Schiele

8:35 – 9:20 – *Keynote*

Prof. Guangzheng Fei (Communication University of China)

Prof. Jinyuan Jia (Tongji University, China)

9:20 - 10:40 – **Paper Session 1**

Session Chair: TBD

9:20: *The XFire Online Meta-Gaming Network: Observation and High-Level Analysis*

Siqi Shen (Delft University of Technology, Netherlands)

Alexandru Iosup (Delft University of Technology, Netherlands)

10:00: *Getting Real - Self-Organized Resource Allocation on Second Life Avatar Traces*

Jean Botev (University of Luxembourg, Germany)

Wei Tsang Ooi (National University of Singapore, Singapore)

Ingo Scholtes (University of Trier, Germany)

10:40-11:00 -- *Coffee Break*

11:00 - 12:30 – **Short Papers and Posters**

Session Chair: TBD

11:00: *Finding the best tradeoff between multi resolution content reproduction quality and multi resolution content distribution efficiency*

Romain Cavagna (LIP6-CNRS, UPMC, France)

Maha Abdallah (LIP6-CNRS, UPMC, France)

11:30: *Specifying Consistency Requirements for Massively Multi-User Virtual Environments*

Laura Itzel (University of Mannheim, Germany)

Richard Sueselbeck (University of Mannheim, Germany)

Gregor Schiele (University of Mannheim, Germany)

Christian Becker (University of Mannheim, Germany)

12:00: *Interactive Scalable Crowdcasting*
Shun-Yun Hu (Academia Sinica, Taiwan)

12:30-13:50 -- *Lunch*

14:00 -15:20 – *Paper Session 2*

Session Chair: TBD

14:00: *Crowd Buzz: Scalable Audio Communication for MMVEs using Latency Optimized Hypercube Gossiping*

Philipp Berndt (Technische Universität Berlin, Germany)

Matthias Hovestadt (Technische Universität Berlin, Germany)

Odej Kao (Technische Universität Berlin, Germany)

14:40: *Pithos: A State Persistency Architecture for Peer-to-Peer Massively Multiuser Virtual Environments*

John S. Gilmore (University of Stellenbosch, South Africa)

Herman A. Engelbrecht (University of Stellenbosch, South Africa)

15:20-15:40 -- *Coffee Break*

15:40 - 17:00 – *Open Discussion: Open Research in MMVE systems*

Session Chair: TBD