MAVRIC

PRESENT REALITIES
VIRTUAL FUTURES

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Speaking Schedule

Welcome to the Inaugural Mixed/Augmented/Virtual Reality Conference!

We are so pleased that you have joined us and would like to take this opportunity to thank you for your support of AR/VR/MR in the Mid-Atlantic region. Without the fantastic work that you and your peers in the region are doing, there would be no reason for the conference, so thank you! We hope that you will find the sessions interesting, the demos fascinating, and the connections you make invaluable.

We have two fantastic days of talks planned in the Ballrooms, and some great demos available in Rever Hall of Fame. The Speaker/Work room is on the opposite side of the rotunda, and all are welcome to use it when you need to check email, charge your devices, or find a quiet area to talk. The wifi passwords are available from the reception desk. We have two coffee breaks scheduled each day, as well as lunch in Room B, and we hope you will stay for the reception at the end of the first day. The first hour's drinks are on us!

I'd like to thank our Speakers, Advisors, and Sponsors, without whom none of this would be possible!

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October 17

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Time	Ballroom A	Heise Ballroom
9:15am	**Opening Remarks**	
9:45am	**AR Is White Hot, VR Is Not, Yet** Charlie Fink - Forbes, CharlieFink.com	**Avatar and agent movements for Social VR** Dinesh Manocha - University of Maryland, College Park
10:15am	**Disinformation in Future Reality** Justin Hendrix - NYC Media Lab	**Data-Rich Observation of Humans in Virtual Worlds** Lee Boot - UM Baltimore County
10:45am	**Break**	
11:05am	**Leveraging XR Technology to Further Social Impact Goals** Susanna Pollack - Games for Change Cezara Windrem – AARP Dr. Marc Ruppel - National Endowment for Humanities Emma Mankey Hidem - SunnySide VR Rachel Henderson - Warschawski	**Immersed in Immersive Design** Sean T. McBeth - XR Developer
12:05pm	**Lunch**	
1:20pm	**Building a Better World: Why Diversity and Inclusion Matters in All Realities** Jen MacLean - International Game Developers' Association (IGDA)	**Designing an Avatar with Amazon Sumerian for Virtual Cultural Heritage Projects** Kashyap Sridhar - VRUXDC Rob Cloutier - Digital History Studios
1:50pm	**How can Virtual Reality Improve Police-Civilian Encounters?** Dr. Rashawn Ray - University of Maryland, College Park	**Expanding the effectiveness of safety training through virtual reality.** Geoff Gill - Mosaic Learning
2:25pm	**Where are we now? 360 video in Journalism** Josh Davidsburg - University of Maryland, College Park	**Reconstructing Reality: From Physical World to Virtual Environments** Dr. Ming C Lin - University of Maryland, College Park
2:55pm	**Succeeding Your Way Out of Business In VR: A How-To** Demetri Detsaridis - Experiment 7	**Fostering an XR Community in the Enterprise** Nick DeMatt - Johns Hopkins Applied Physics Laboratory
3:25pm	**Break**	
3:45pm	**VR HUD Navigation UI/UX for First Responders** Hurriyet Aydin Ok - VRT-U Jonathan Powell - Look On Media	**Using Virtual Reality at the NIST Measurement Science Laboratory** Dr. Judith Devaney Terrill - NIST
4:15pm	**Keeping Stem Real in Virtual Reality** Jennifer Javornik - Filament Games	**Lost City of Mer: inspiring RW action through a cross-platform VR experience** Liz Canner - Lost City of Mer, LLC
4:45pm	**Extending The Experience** Joseph Cathey - Capitol Interactive	**Novel Perception** Ariel M. Greenberg - Johns Hopkins Applied Physics Laboratory
5:15	**Reception**	

October 18

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Time	Ballroom A	Heise Ballroom
9:15am	**Opening Remarks**	
9:30am	**Imagining Future Cities** Dr. M A Greenstein - MaMax Studio / Art Center College of Design	**AR in Higher Education: What students are already doing to visualize and what we can do to help.** Joseph Schiarizzi - Fourth Wave
10:00am	**Around The World In 360 Degrees** Mark E Lambert - VArtisans	**Augmented Reality: Making Surgery Safer** Dr. Amitabh Varshney - University of Maryland, College Park Dr. Sarah Murthi - University of Maryland, Baltimore
10:30am	**Break**	
10:50am	**NIST Digital Library of Mathematical Functions meets Virtual Reality** Sandy Ressler - NIST	**3D Acquisition and Rendering for AR and VR Applications** Dr. Matthias Zwicker - University of Maryland, College Park
11:20am	**Collaborative VR supporting Cybersecurity - Lessons Learned and Insights** Alex Rieschick - Army Research Lab Barry Byrd - Army Research Lab Lee Trossbach - Army Research Lab	**Leveraging Immersive Media in Education** Justin Berry - Yale Nick Jushchyshyn - Drexel University Susan Poulton - Door 44 Digital Tom Armbruster - 209 Group
12:20pm	**Lunch**	
1:20pm	**Building an XR Lab on a Budget** Blake Schreurs - Johns Hopkins Applied Physics Laboratory	**Interaction design for mobile VR** Jeremie Lasnier - LiveLike VR
1:50pm	**Scene Reconstruction Engines – A critically needed component for improving the AR / VR experience.** Karthik Murthy - Quidient Scott Ackerson - Quidient	**Immersive Earth Science: VR Connects the Dots Between Data and Reality** Shayna Skolnik - Navteca
2:20pm	**Enhancing Cyber Defense Situational Awareness Using 3D Visualizations** Kaur Kullman - US Army Research Lab	**Mixed Reality for Mission Impact: Lessons Learned Exploring Geospatial Concepts** Jordan Higgins - Byte Cubed
2:50pm	**Break**	
3:10pm	**Businesses Moving the Needle with AR and VR** Moderator: Will Gee - Balti Virtual Dr. Gislin Dagnelie - The Johns Hopkins Wilmer Eye Institute Elizabeth Muse - University of Virginia John J. Thompson - Northrop Grumman	**Transmedia - Everyone is a Hero** Skye Von - little GIANT Wolf
3:40pm		**Virtual Reality, Music and Pain: An Interdisciplinary Approach to Pain Management** Craig Kier - Maryland Opera Studio Dr. Amitabh Varshney - University of Maryland, College Park Dr. Luana Colloca - UMB School of Nursing
4:15pm	**Evidence-based VR Therapy: The surprising role of narrative and play** Daniel Greenberg - Media Rez Russell Shilling – Fmr DARPA PM/ Consultant	**Adaptive Immersive Analytics** Andrea Batch - iSchool at University of Maryland
4:45pm	**Closing Remarks**	

Poster Sessions

Available during Breaks, Lunches, and the evening reception

Paul Armstrong

Virtual Reality as a Tool for Cell Microscopy

Our project is an investigation into the practicality and usability of visualizing microscope data in a virtual reality environment. We visualize the cell scaffold, cell growth, and pre-computed contact points. WebVR framework A-Frame allows us to create and distribute virtual reality scenes in a web browser. We create functionality for navigating the scene, interacting with the scene, and marking poorly computed contact points. We evaluate the effectiveness of three methods of marking poorly computed contact points: spherical marking, brush marking, and voxel grid marking. We successfully show the effectiveness of virtual reality for visualization of this microscopic data.

James Biggins

Virtual Tours: Experiments in Monoscopic and Stereoscopic Virtual Reality

Currently, one of the foremost applications of Virtual Reality(VR) is in the form of virtual tours. This session illustrates how software like Unity, although traditionally used for game development, can be utilized to create both monoscopic and stereoscopic interactive VR tours. In addition to containing elements such as informational pop-ups, audio, and video, the user is allowed to move at their own pace and receive a personalized experience. Additionally, because the tours can be developed with minimal computer experience and viewed in a web browser, non-computer scientists may soon be able to give public access to their private spaces.

Colin F Dunphy

Lessons from Mixed Reality Agritourism

Colin Dunphy uses Mixed Reality to tell the story of enslaved African Americans that lived on his farm in Clinton, MD. Guests can view the cabins the enslaved African Americans lived in as they were on the farm using a mobile app. This agritourism enterprise introduces users to augmented reality and a unique experience of American History, illuminating the intersection of art and technology in storytelling. Presentation attendees will learn lessons from his development process including his novel use of the term "interlocutor" as an agent in the discussion of the virtual and real worlds.

Dr. Zexin "Marsha" Ma

Using Immersive Storytelling to Prevent Driving Under the Influence

This study explores the potential use of immersive storytelling to promote health and safety behavior. Specifically, it investigates whether 360° video stories viewed on HMDs (vs. tablets) are more effective to prevent driving under the influence (DUI). Findings from a controlled experiment show that the 360° video viewed on HMDs (vs. tablets) is more effective to reduce participants' willingness to engage in DUI. This effect is more salient among those with greater previous drunk driving involvement. These findings suggest that practitioners should distribute VR headsets to achieve greater effectiveness when using 360° videos as an intervention.

Kashyap Sridhar

Survey and findings from Virtual Cultural Heritage VR Projects

Have you taken or interested in a Virtual cultural heritage tour? Have you wondered how some of these experiences were made? If so, this poster session will be very interesting for you. Attendees will learn about key insights and findings from academic research and private virtual cultural heritage projects in VR, the technologies, the institutions, the countries involved and the key research conclusions from some of the virtual cultural heritage VR academic projects. They will also learn about best practice criteria and design conclusions for designing immersive, engaging experiences.