ISMAR'09

IEEE

Celebrating 125 years
of Engineering the Future

> Starting its second decade as the premiere showcase of Mixed and Augmented Reality, ISMAR expands its program to include Arts, Media and Humanities.

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MELTING THE BOUNDARIES BETWEEN DREAMS & REALITY

Join us in Orlando Florida from October 19-22, 2009 for the International Symposium on Mixed and Augmented Reality. Pioneers from around the world will showcase their latest discoveries, creations & products of emerging innovation of Mixed and Augmented Reality.

Mixed and Augmented Reality is no longer science fiction. The emerging science and technology of blending virtual worlds with real life is more becoming accessible to mainstream users and across diverse applications. Whether from your mobile phone, immersive Head Mounted Displays or embedded projection displays the art and science of augmenting reality with spatially registered simulation is transforming the way we work, play, learn, train and even shop. The latest Research from laboratories from around the world will showcase compelling applications in the fields of education & training, design &
manufacturing, medicine & rehabilitation, entertainment & communication, military & civic practice. The expanded ISMAR program will reflect this growing trend with offerings beyond the traditional research presentation. Hands-on demonstrations, workshops, tutorials will provide the next generation professional the inspiration and techniques to leverage the power of Mixed and Augmented Reality. The power of simulation escapes the confines of the computer with Mixed Reality to extend human experience and enhance performance across industries and disciplines.
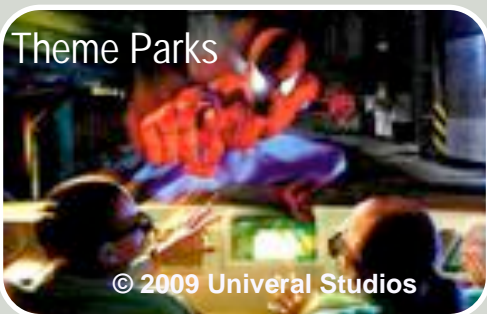
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Mobile Mixed & Augmented Reality
Virtual Assets registered on real world structures with cell phones

Visualization

Medical

Military

Education

Theme Parks

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Top Rated Universities Transferring MR Innovation Across Diverse Applications

ISMAR attracts the top rated universities in the world. It's core academic program will be sponsored by IEEE Computer Society, the oldest and most respected technology organization in the world. ISMAR's highly selective content represents the standard of excellence in regard to the latest advancements in Mixed and Augmented Reality research. Our host, the University of Central Florida (UCF), will be sponsoring a diverse program of how Mixed and Augmented Reality that is transforming application domains from entertainment to education, training, medicine, design and manufacturing. These expanded programs of a comprehensive Tutorial program, Innovation
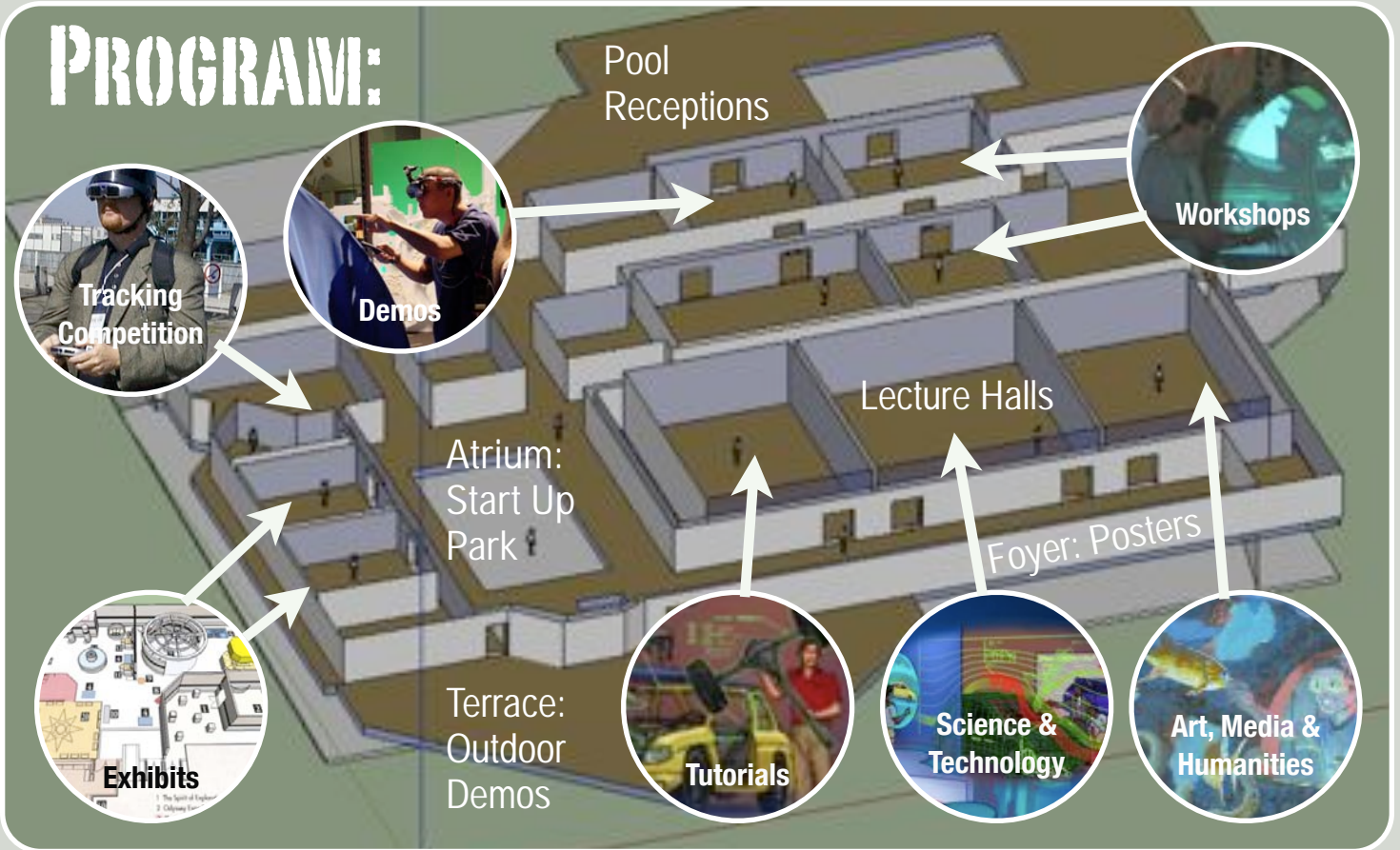
Workshops and hands-on demonstrations will provide the next generation professional training and development with Continuing Education Units (CEU) available for credit to advance the adoption of technology across industries.

Orlando and Central Florida represent a rich and diverse hot bed of innovation for Mixed and Augmented Reality. This high-tech corridor from the space coast to the gulf coast brings new interdisciplinary participants across application domains to ISMAR to take advantage of the new and expanded programs. Regional educational institutions and professional organizations of Central Florida represents the future burgeoning MR/AR market & workforce.

ENTERTAINMENT	MOBILE DEVICES	VIRTUAL HERITAGE	ART & STORIES	MEDICAL IMAGING

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PROGRAM:

Pool
Receptions

Workshops

Tracking Competition

Demos

Lecture Halls

Atrium:
Start Up
Park

Foyer: Posters

Terrace:
Outdoor
Demos

Exhibits

Tutorials

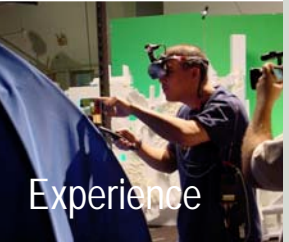Science & Technology

Art, Media & Humanities

The latest advancements in the art and science of Mixed and Augmented Reality

ISMAR has been the global leader for 10 years in bringing together pioneers from around the world under the same roof. Its known for its excellence in representing the latest advancements developed in **Science and Technology** research . An inaugural **Arts, Media and Humanities** Program will be created, juried and curated by leaders in their respected field to represent emerging creative techniques. A comprehensive **Tutorial** Program is being designed to provide a basis of core knowledge for professional development and be taught by pioneers in the field.

Orlando is a Hot Bed of Mixed Reality Innovation

Hands-on demonstrations from leading laboratories and companies around the world will provide opportunities to exchange ideas and insights with the inventors themselves. **Innovation Workshops** will bring leading developers and practitioners of Mixed and Augmented Reality to facilitate exchange of ideas about road mapping the future of industry adoption and its impact on the future of application domains. A**wards and competitions** will set the stage for the next generation pioneer to lead us into the 21st Century.

SCIENCE & TECHNOLOGY	ART, MEDIA & HUMANITIES	COMPREHENSIVE TUTORIALS	INNOVATION WORKSHOPS	HANDS-ON DEMONSTRATIONS
Explore	Express	Employ	Envision	Experience

HANDS-ON DEMONSTRATION:

Product Exhibition

Laboratory Demos

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Research Showcase

Innovation Hot-Bed

ISMAR is the most mount the most comprehensive collection of diverse Mixed and Augmented Reality technology and applications, never before seen. The latest advancements in both technology and applications debut at ISMAR.

Professional networking, lively discussions, Creative Collaborations will be melting more than virtual boundaries at ISMAR.

The 2009 International Symposium on Mixed and Augmented Reality will provide a global intersection that is melting boundaries between generations, disciplines, cultures and sectors. Whether from academic research, commercial development or civic application, ISMAR is stimulating the technology transfer and innovation cycle.

A series of hands-on demonstrations provide new venues for networking, creative collaborations and discourse. The **Commercial Exhibition** will showcase leading industries providing new products and services to the ISMAR community.
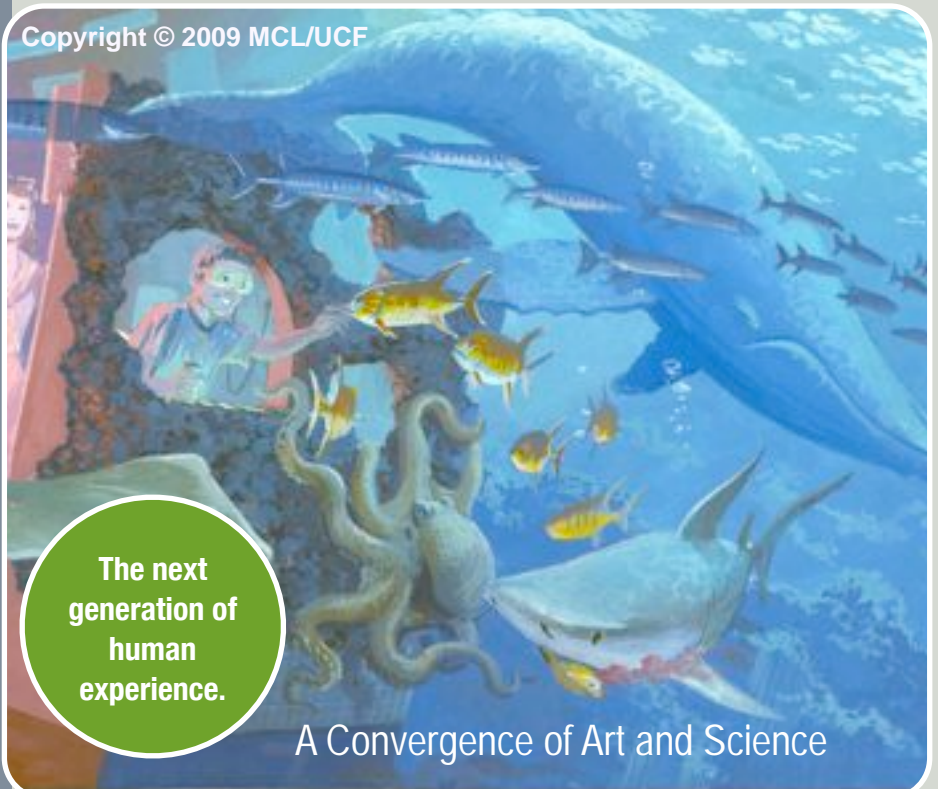
Universities and inventors from around the world will be sharing late-breaking discoveries within the **Laboratory Demonstrations** where attendees will be able to exchange ideas and feedback with the inventors.

The **Research Showcase** will provide an immersive experience of more highly developed creative Mixed and Augmented Reality experiences for diverse application domains.

Special installations are planned such as **Art Gallery**, social **networking** and **technical competition** events to help spark stimulating discourse on future discoveries and emerging trends and talent.

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The next generation of human experience.

A Convergence of Art and Science

ISMAR provides a vision of the future for simulation Scientists, designers, educators and media producers come to ISMAR to be inspired about the next generation experience

Leading researchers and practitioners of Mixed and Augmented Reality will road map future challenges.

The **Innovation Workshops** are designed to bring the leaders and visionaries of the future of Mixed and Augmented Reality to help discuss current challenges and help road map the future research and development. Key application domains such as **Mobile Technology**, **Design** and **Manufacturing**, **Education** and **Entertainment**, **Medical** and **Military training** will draw interdisciplinary innovators of MR/AR technology from across civic, academic and commercial sectors.

Key areas of research from computer science, human factors, art and design, instructional design and training will help define goals of human performance and evaluation to inform strategic developments of investigation, product development, content development as well as tools and application software.

These workshops will start with pre-conference online positions statements and discourse and help launch post-conference international, interdisciplinary collaborations, networking and discourse. This program will provide the spring board for the next generation development of technology, talent and techniques to begin showcasing at ISMAR 2010 in Korea.

INNOVATION WORKSHOPS:

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Going Beyond Technological Function to Define Purpose.

Key application domains inform future academic research and commercial development through expanding human experience and enhancing performance.

Education & Entertainment

Military & Medical

Design & Manufacturing

Mobile Mixed Reality

Designing the Future

Enhancing Human Experience & Performance

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Core technology applied to diverse applications
Human Performance is the common denominator in the success of emerging simulation technology such as Mixed and Augmented Reality.

TUTORIALS:

Interface Design

Content Development

Software

Hardware

Global Access Available Online

Not in Orlando in October? Access the ISMAR Tutorials Online through the UCF Continuing Education Program and tap into the exclusive opportunity to obtain extensive insight augmenting your world.

ISMAR's Tutorial program is the most comprehensive program of its kind taught by the pioneers to inspire the next generation pioneer.

ISMAR comprehensive tutorial program is the first program where you can obtain the breadth and depth of knowledge to the creation and reach of the Mixed and Augmented Reality development. Real-time computer, optical systems, experiential content development, human interface design, technology transfer and commercial application all provide critical enabling capability to the power of Mixed and Augmented Reality.
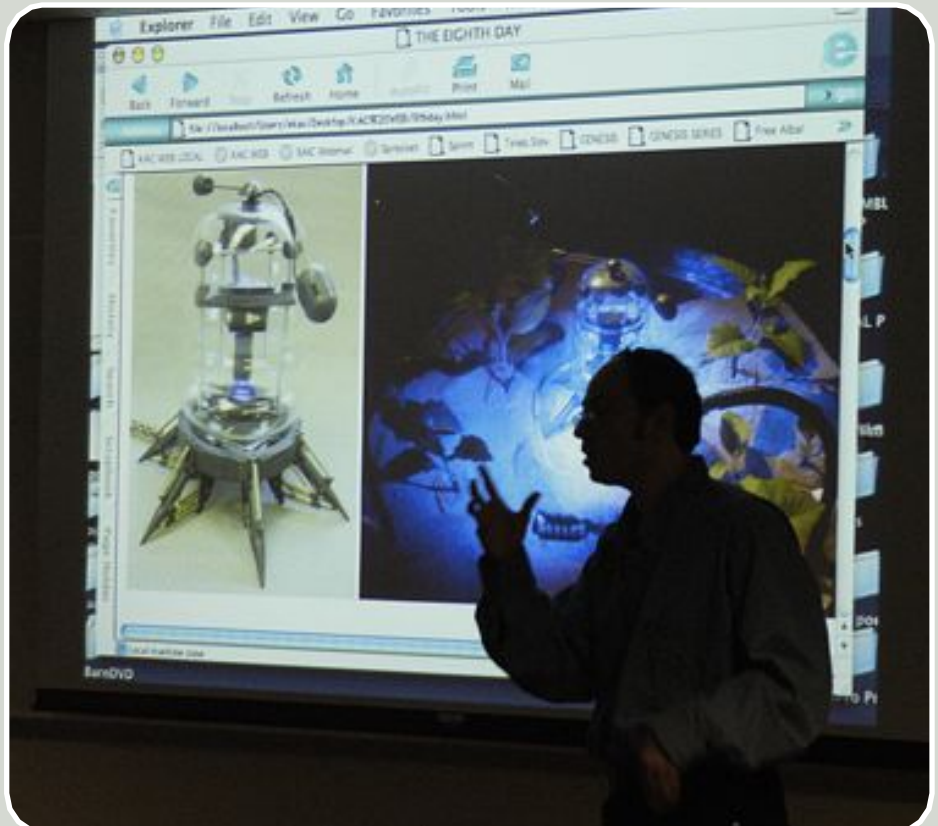
Most every university and company in the next ten years will need to be prepare to train and produce Mixed and Augmented Reality ready programs, products and professionals. The rapid adoption of the technology and techniques are adapting to all media forms from television, the internet, wireless communication and experiential venues such as museums, schools, hospitals, emergency response, design studios, factories and executive conferencing, to name a few.

Mixed and Augmented Reality will be the enabling technology to applying the power of simulation directly to application environments to extend human capability, experience and performance. This is the perfect first time ISMAR experience for the student and young professional.

Online Continuing Education Assessment and Credit Available

2009 is the break-out year for Mixed & Augmented Reality advancing markets and workforce productivity.

The power of simulation technology escapes the confines of the computer to augment our reality and extend human performance. As Mixed and Augmented Reality enters in the multi-hundred billion dollar markets of entertainment, training, education, marketing, design and manufacturing, new economic stimulus is generated by its innovation.

New tools, talents, techniques, products, services are emerging with the technology markets and creating new demands. ISMAR 2009 will become the center of this emerging market of core

Stimulating new economic global markets

technologies expanding diverse application domains.

ISMAR 2009 is providing new enhanced venues and opportunity for commercial entities and academic technology transfer technology transfer initiative to capitalize on this burgeoning market. **Commercial Exhibits** will be integrated with Academic **Laboratory Demonstrations** to stimulate the placement of the next generation talent, technology and techniques. A Industry **sponsored events** are designed for professional recruitment, product placement, media exposure and effective client relations.

The **Start-Up Park** allows for emerging small companies to showcase new products and services to a rapidly growing market. An **ISMAR Directory** of who's who will be a vital tool.

INDUSTRY SHOWCASE

Start-Up Park

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Professional Recruitment

Products & Services

The Next Generation Workforce

Mixed and Augmented Reality will be defining the next generation workforce through its new offerings of Technology, talent and techniques. ISMAR is your first line of engagement for emerging innovation.

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Commercial Exhibition and Event Sponsorship
The commercial exhibit will feature the latest tools, products and services emerging in the market place.

MOBILE MR:

Immersive Mobile Systems

Consumer Electronics

Proposed Attendees:

Research and project managers, strategists and analysts in companies and universities of all sizes and stature that have previously invested in Mixed and Augmented Reality. The participants include those focusing specifically on innovative and effective mobile platforms and applications with the objective of offering new ideas, solutions and services to research, businesses and the general public.

Mobile Mixed and Augmented Reality will be our Magic Wands of

With the enabling mobile technologies, Mixed and Augmented Reality coming into the hands of mobile generation.

ISMAR Mobile Initiative. Mobile technologies are allowing Mixed and Augmented Realities to enter into our everyday lives and how we work, play, learn and even shop. As an important emerging technology, we are planning to showcase these applications within all aspects of the ISMAR program. Our ISMAR Mobile committee will be working with our other chairs to provide cross-over coordination between programs and encouraging participation from the mobile industry.

Background: In the early days, Mixed and Augmented Reality required computational resources that exceeded the capabilities of mobile platforms. This is changing. Publications such as the Technology Review recognized Nokia's research in the area of Mobile AR solutions and awarded the field one of the 10 "hottest technology" awards for 2007 but, in general, the commercialization of these technologies has yet to be the focus of investments. The exceptions are notable: those activities which may be classified as "commercial Mobile AR opportunities" have been almost exclusively driven by defense industry contracts for combat applications. **Today** there are indications that other industries/ markets will use MAR in the next 1-2 years.

> **Mixed & Augmented Reality are as Ubiquitous as the cell phone.**