The Viz Lab and MMAD Lab are interdisciplinary creative research labs that focus on emerging visual technologies. The MMAD Lab is a 3D motion capture and high definition video production video studio. The Viz Lab is a brainstorming and project space with a long-standing record of research support. The Labs are utilized by more than 125 researchers from over 20 departments at UMD including Art & Design, Chemical Engineering, Foreign Languages and Literature, Large Lakes Observatory, History and Sea Grant. The Viz Lab and MMAD Lab are under the administration of the School of Fine Arts.

INTERESTED IN SUPPORTING THE VIZ LAB AND MMAD LAB?

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Director of Viz Lab and MMAD Lab
Lisa Fitzpatrick

Video Technician
Dan Fitzpatrick

Humr Miller furniture donated courtesy of Northern Business Products

Handicap Accessible
Viz Lab

This is where most of our equipment lives, where brainstorming happens, and where research starts. We have numerous computers, both PC and Mac, loaded with the newest software for all of your multimedia and research needs, as well as 3D and 2D printers and scanners. Speed Research sessions bring faculty research to the public. The Viz Lab is an emerging technology space where artists, scientists, educators and engineers can meet and collaborate to produce multimedia, interdisciplinary research for publication in scientific literature, or display at museums or performances.

In the past five years the Viz Lab researchers produced:

- Over 20 publications/books/scientific conference posters
- Over 35 art exhibits in the USA and world-wide
- Over 25 musical, theatrical and video-based performances

MMAD Lab: Motion + Media Across Disciplines Lab

An interdisciplinary group of researchers (below), together with the director of the Viz Lab, was awarded an Infrastructure Investment Initiative (I3) grant in 2011 from the Office of the Vice President for Research (OVPR) of the University of Minnesota. Construction of the grant-funded Motion + Media Across Disciplines (MMAD) Lab was completed in fall 2014. The I3 grant was matched with funding from UMD's College of Education and Human Service Professions, Swenson College of Science and Engineering and the School of Fine Arts.

The innovative MMAD Lab is a motion capture and high definition video production studio. Equipped with a multi-camera shooting space and sound booth, this Lab fosters faculty collaboration and creativity in biomechanics, ergonomics, animation, performing arts and computer generated virtual environments research.

Future MMAD Lab Research

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<tr>
<th>DISCIPLINE</th>
<th>DIGITAL ARTS</th>
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<tbody>
<tr>
<td>FACULTY</td>
<td>Assistant Prof. Joellyn Rock</td>
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Interdisciplinary artist Joellyn Rock is particularly interested in how emerging media is changing the ways that stories can be told. Rock teaches digital art and filmmaking for the Department of Art & Design at UMD. Her creative process includes working with digital narrative and multimedia installation in a range of hybrid text/image/video projects. Her recent collaborative work, Sophronia, was shown at the Walker Art Center for Northern Spark 2014.

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<tr>
<th>DISCIPLINE</th>
<th>ERGONOMICS</th>
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<td>FACULTY</td>
<td>Associate Prof. Bob Feyen</td>
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Scientists have been working for centuries to understand the nature of the various interactions between people, the objects they encounter, and the world around them while the engineers have been attempting to apply that knowledge to the design of the objects and systems we use. At the same time, countless creative individuals among us have embraced that understanding and those objects, utilizing them in novel ways to educate, motivate and entertain all of us. It's those boundaries between the scientists, engineers and the creative community that the MMAD Lab will help us push. In fact, we really want to know how to bridge the gaps between these groups: how can we encourage and facilitate the collaboration and communication which, through these efforts, could have far-reaching and significant impact on all of our lives?

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<tr>
<th>DISCIPLINE</th>
<th>BIOMECHANICS</th>
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<td>FACULTY</td>
<td>Associate Prof. Morris Levy</td>
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Biomechanics research deals with performance measurements of equipment and people. The MMAD Lab is a gait analysis facility, building various protocols that can be of use to clinicians (doctors, physical therapists, prosthetics and orthotics makers to name a few). Additionally, there is interest in the mechanics of performing artists, particularly ballet dancers.

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<tr>
<th>DISCIPLINE</th>
<th>THEATRE</th>
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<tr>
<td>FACULTY</td>
<td>Prof. Tom Isbell</td>
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With its multiple cameras, director’s booth and sound studio, the MMAD Lab is a space for writers, directors and actors to come together and create original programming. It also provides a place for actors to work on their craft, focusing on a more truthful style of acting.

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<tr>
<th>DISCIPLINE</th>
<th>COMPUTER SCIENCE</th>
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<tr>
<td>FACULTY</td>
<td>Associate Prof. Peter Willemsen</td>
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Efforts in the lab focus on creating effective virtual environments that leverage understanding of human perception, action, and behavior with multi-person, collaborative virtual spaces that focus on natural interaction. The MMAD Lab, when combined with the SIVE Lab (Simulation and Interaction within Virtual Environments), lends itself to exploring the research problems associated with remote, virtual collaborative efforts.

Some of our equipment

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<thead>
<tr>
<th>Viz Lab</th>
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<tbody>
<tr>
<td>Video and still cameras</td>
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<tr>
<td>Portable professional lighting kits</td>
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<tr>
<td>Audio recording</td>
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<tr>
<td>Large format printers</td>
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<tr>
<td>Emotiv headset</td>
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<tr>
<td>Vinyl cutter</td>
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<tr>
<td>3D printers</td>
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<tr>
<td>Plasma screen presentation set-up</td>
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<tr>
<td>Projectors</td>
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<td>Leap Motion device</td>
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<tr>
<th>MMAD Lab</th>
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<tr>
<td>Chromakey (green screen) area and infinity wall</td>
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<tr>
<td>12 camera Vicon motion capture system</td>
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<tr>
<td>4 ATMI force plates (16 sq. ft.)</td>
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<tr>
<td>Approximately 600 sq. ft. of shooting/capture space</td>
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<tr>
<td>3 camera TV studio with director’s box, Tricaster switcher, ETC light board</td>
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<tr>
<td>Wenger SoundLok isolation room with Virtual Acoustic Environment</td>
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Art & Design Shoot Studio

The Viz Lab shares its space with the Art & Design Department’s photographic shoot studio. All Art & Design students can use the Shoot Studio for creating new photographic or video work or for documenting their designs or artwork.