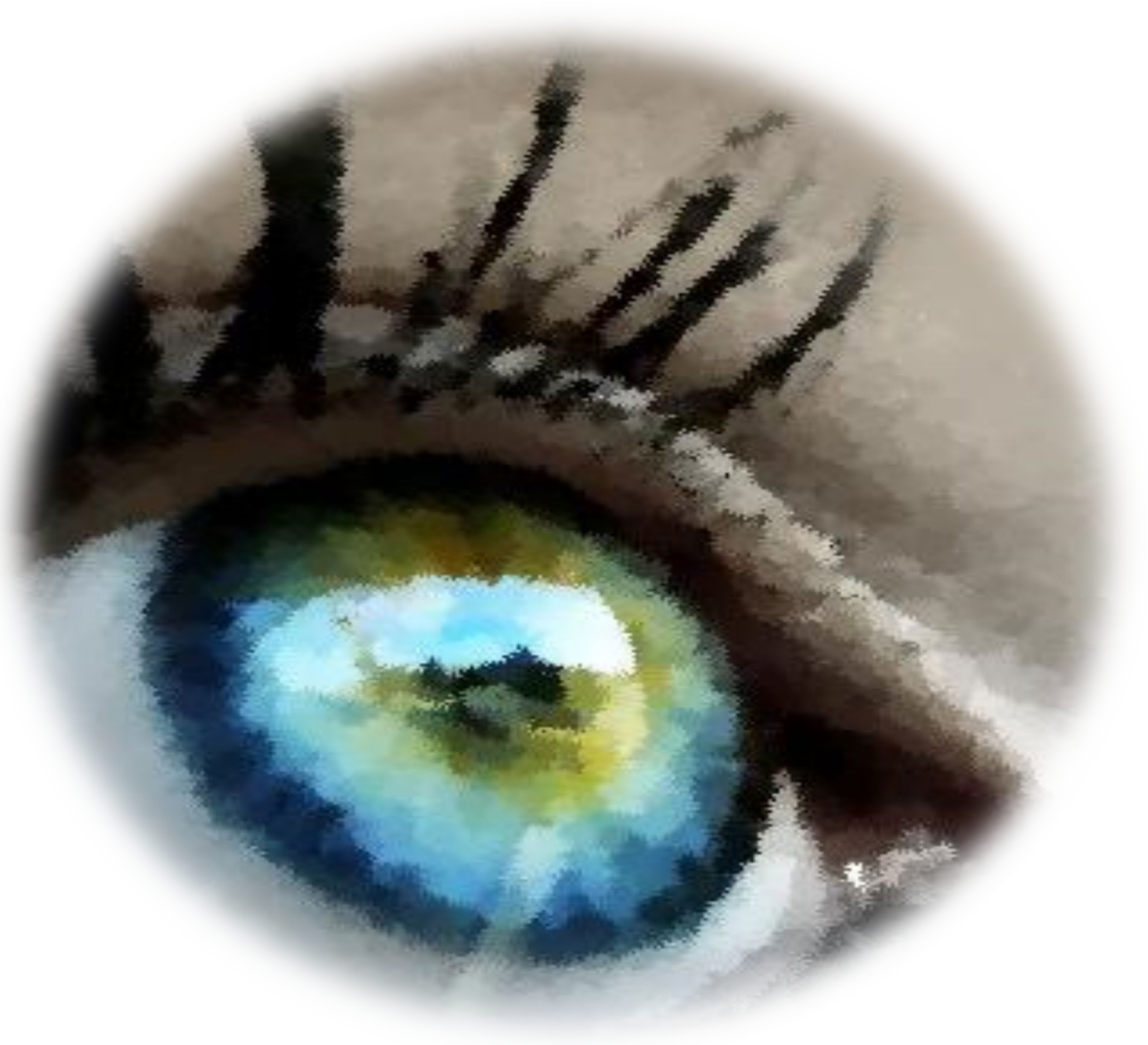# Interactive Cross Reality (iXR) Lab

Dr. Margarita Vinnikov
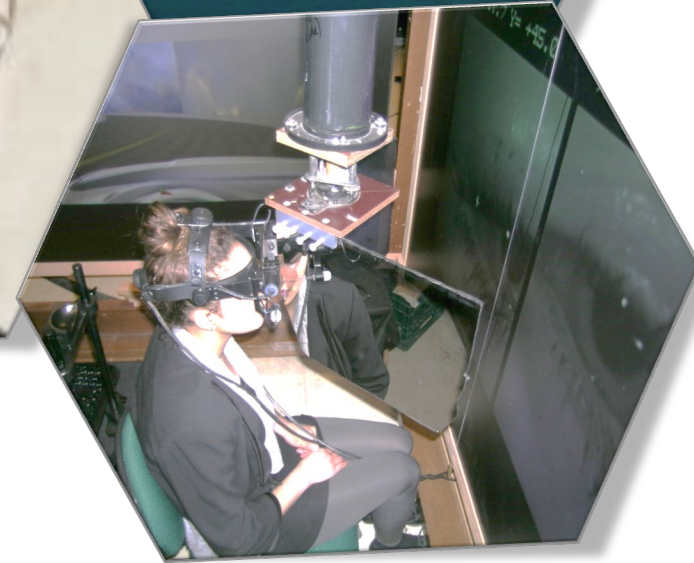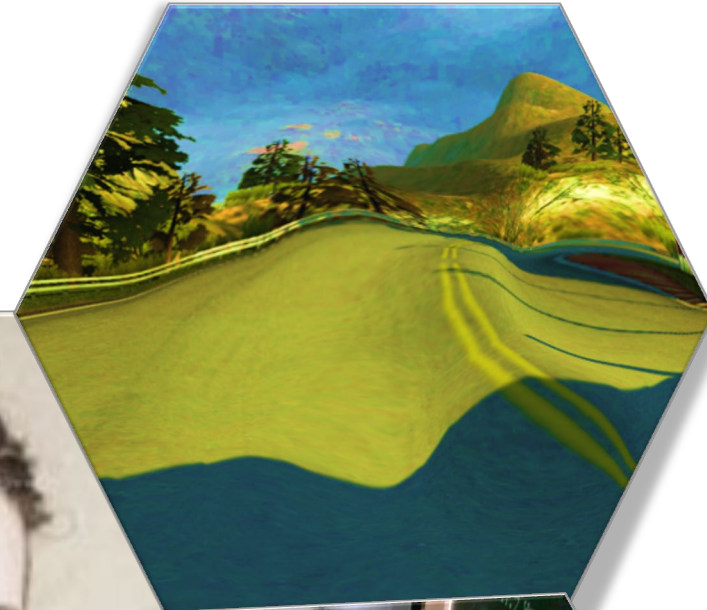
Dr. Margarita Vinnikov

GITC 3802

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http://margaritavinnikov.com/about-me/

What do we do in the lab?
We build and evaluate
virtual reality, augmented reality,
and mixed reality simulations and
experiences

Crossed Reality

Reality-Virtuality Continuum

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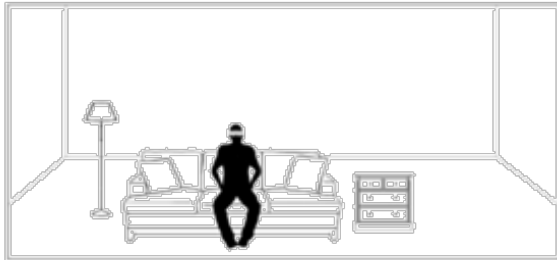
NJIT
New Jersey Institute of Technology

Specific Projects

HoloLens Multi-player

Learning Outcomes

- Augmented Reality/Virtual Reality
- Multi-user platform
- Sever/Client technology
- Database design and management

Responsibilities

- Develop a multi-user application for Virtual Reality/Augmented Reality
- Regular updates and dedicated times each week
- Documentation

Skills Needed

- C#
- Unity
- Basic DB

MIXR User Studies

Learning Outcomes

- Empirical Research

- User/Usability study Design

- Data Analysis

Responsibilities

- Design Input File

- Design and follow Experimental Protocols

- Conduct and facilitate experiments

- Help with data cleaning and analysis

Skills Needed

- R/MATLAB

- Python

Body Tracking/Object Tracking For Vive

Learning Outcomes

- Tracking

- AI for pose estimation

- Animation/Rigging

Responsibilities

- Implement a unity plugging that records locations of physical objects/body joints

- Documentation

Skills Needed

- Unity

Gaze-Contingent Visibility
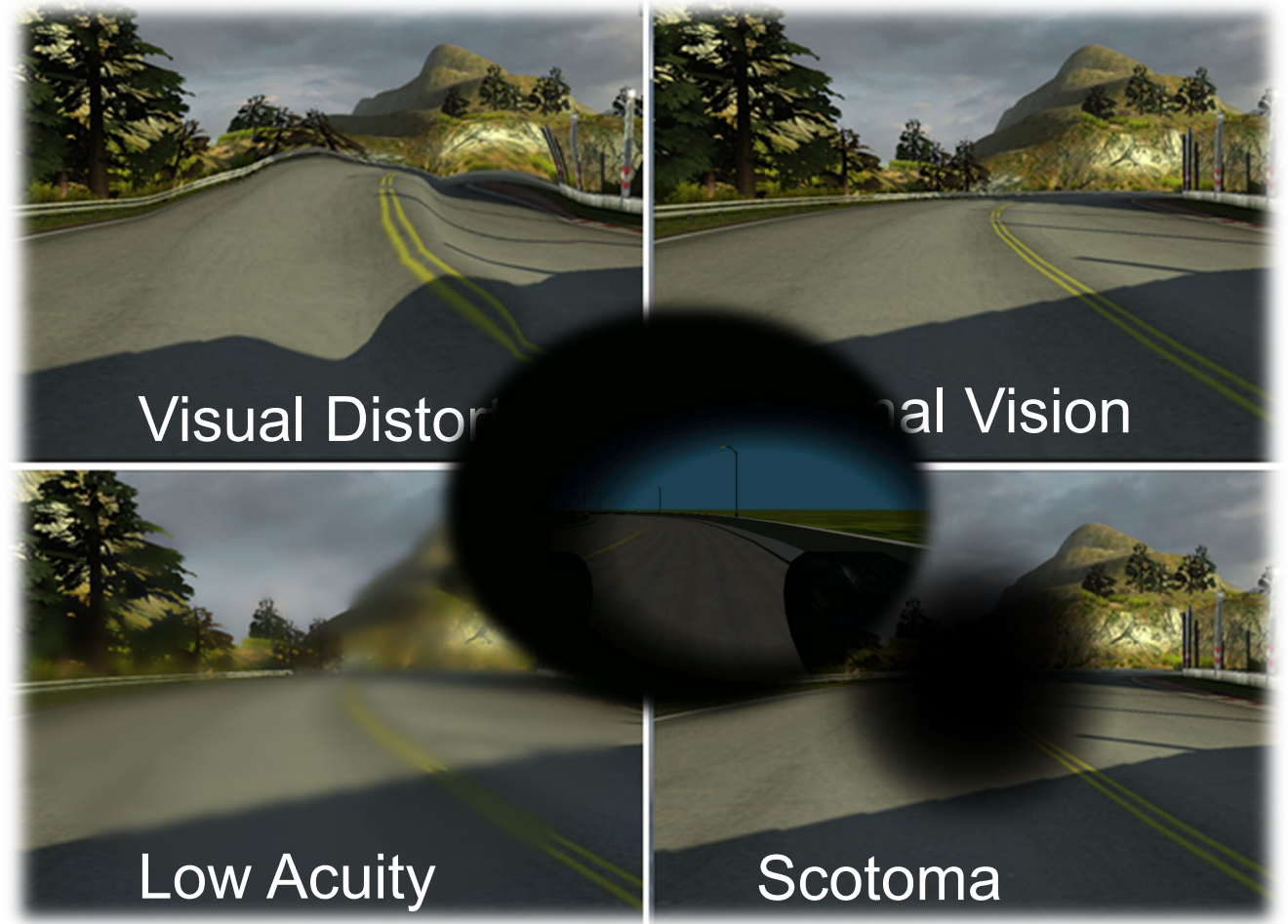
Learning Outcomes

- Gaze-Contingent Displays
- Eye-tracking

Responsibilities

- Implement a unity plugging that simulates visual disability
- Documentation

Skills Needed

- Unity
- Shaders

Visual Distor... ...al Vision

Low Acuity   Scotoma

Applicants should be willing to

- Learn new skills
- Be punctual and diligent
- Be dedicated to the project
  - Min of 6 hours a week dedicated to the project
  - Weekly Meetings

- Cover letter stating your skills and interests
- Time you are available to online interview
- CV

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