



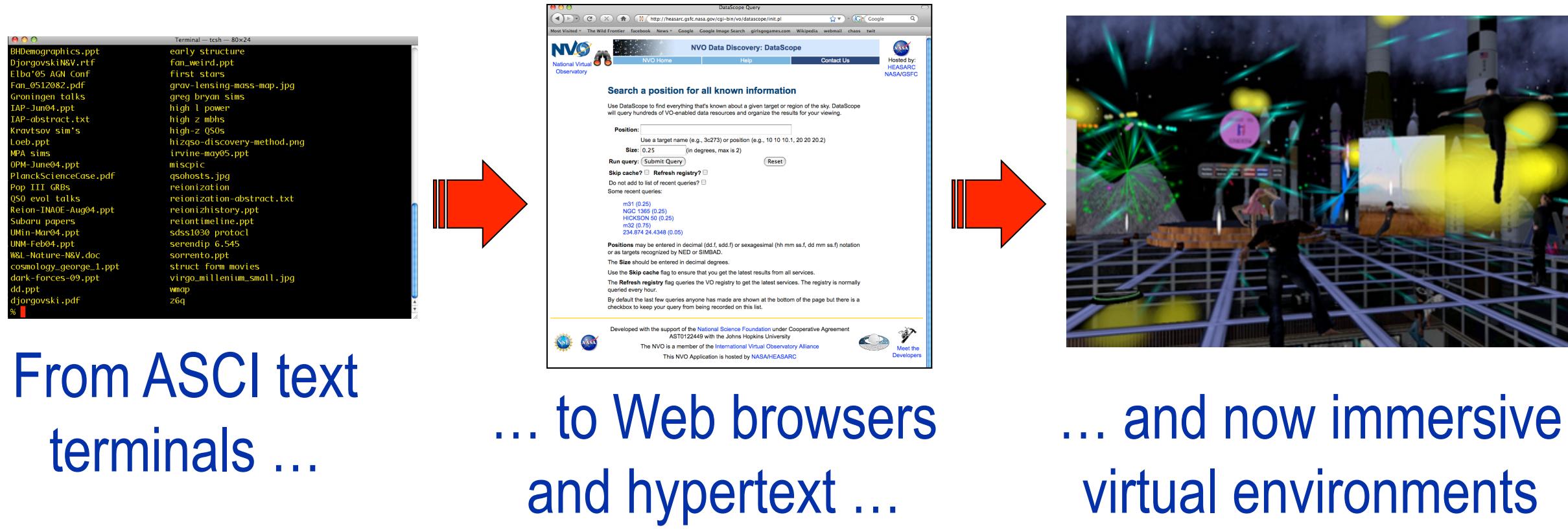
# MICA: The Meta-Institute for Computational Astrophysics

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## A New Technology Is Emerging:

Immersive Virtual Reality (VR), and Virtual Worlds (VWs). They represent a new way in which people can interact with each other, and with informational constructs. These technologies work much better on a subjective level, than the traditional Web flat-browser paradigm. They will likely become a standard interface to the Web, and the human telepresence and connectivity.

The way in which we interact with computers, and with each other, and with the world of information using computers, is evolving,



There are now hundreds of VWs on line, but probably the dominant one is *Second Life*<sup>TM</sup> (SL), currently the principal MICA venue

**StellaNova Sim, MICA's home in SL:**  
A pleasant virtual environment for scientific communication, collaboration, and experiments



**What Can This Technology Do For Science?** That is what MICA is all about.

**MICA is the first professional scientific organization based entirely in VWs**

## The Goals Of MICA:

- Exploration, development and promotion of VWs and VR technologies for professional research in astrophysics and related fields.
- Providing and developing novel social networking venues and mechanisms for scientific collaboration and communications, including professional meetings, effective telepresence, etc.
- Use of these technologies for education and public outreach.
- Exchange of ideas and joint efforts with other scientific disciplines in promoting these goals for science and scholarship in general.

## Who Are We?

*Professional members* of MICA (currently about 40 people) include faculty, postdocs, staff scientists, and graduate students in astronomy, physics, computer science, and related fields; IT professionals and engineers; educators; and others interested in the professional work of MICA.

*MICA affiliates* (currently about 100 people) also include science enthusiasts, students, and members of general public interested in astronomy, science in general, and the uses of VWs as a learning and communication platform.

## What Do We Do?

## Who Else Is In SL?

- About 15 million users world-wide
- Over 300 universities
- Many federal agencies, including NASA, NSF, NOAA, military...
- Many major IT and other companies, including Intel, IBM, Sun, Cisco, ...
- Science and art museums, IYA 2009, ...
- Media, including NPR Science Friday, Nature, etc.

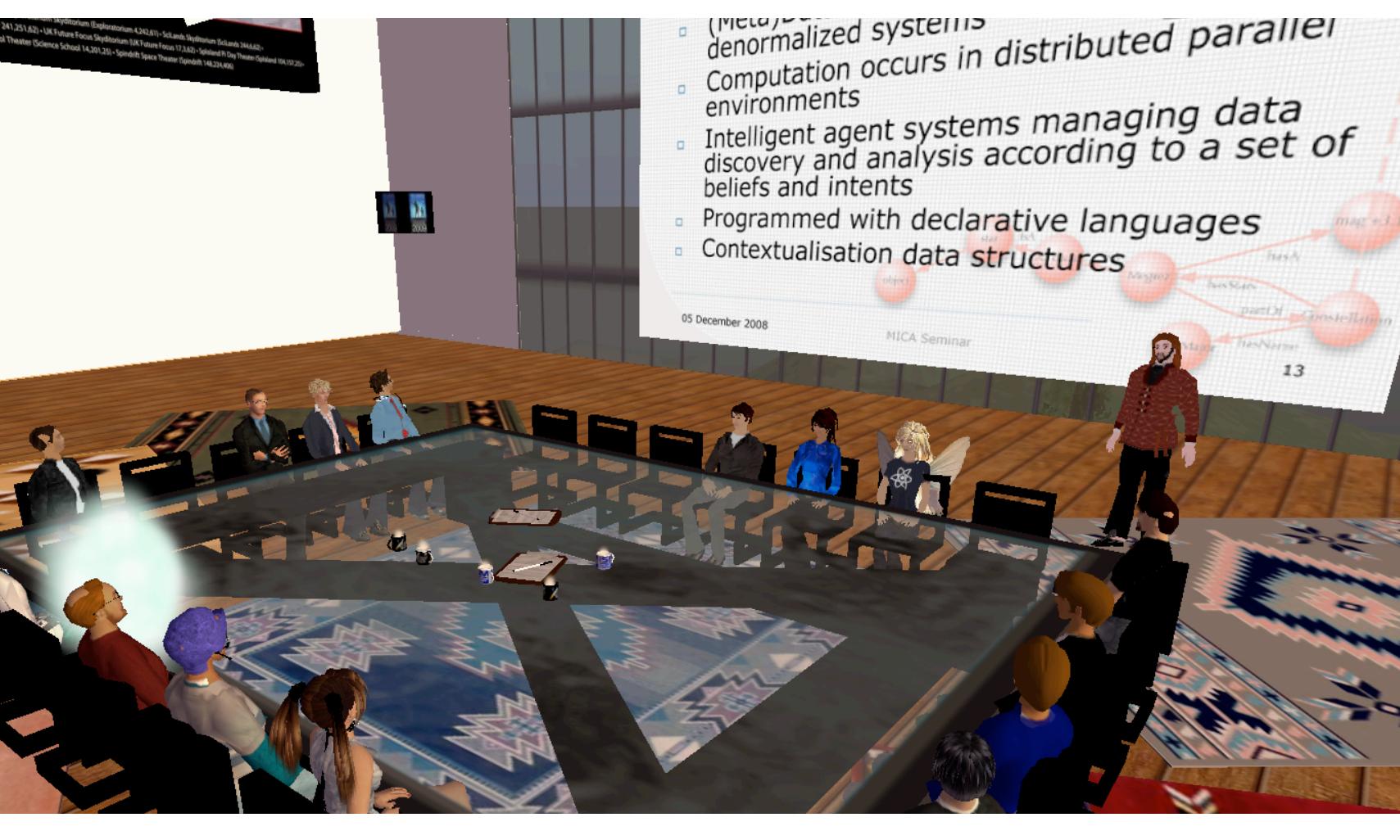
## What Can MICA Do For You?

- Network with colleagues world-wide, establish new collaborations
- Attend seminars, group discussions, and public lectures, which you may not be able to do at your home institution
- Participate in our research activities, exploring the uses of VR technologies for science and scholarship
- Develop new educational and outreach activities, remote learning, etc.
- Be a part of what may be a major change in the way humanity uses information technology

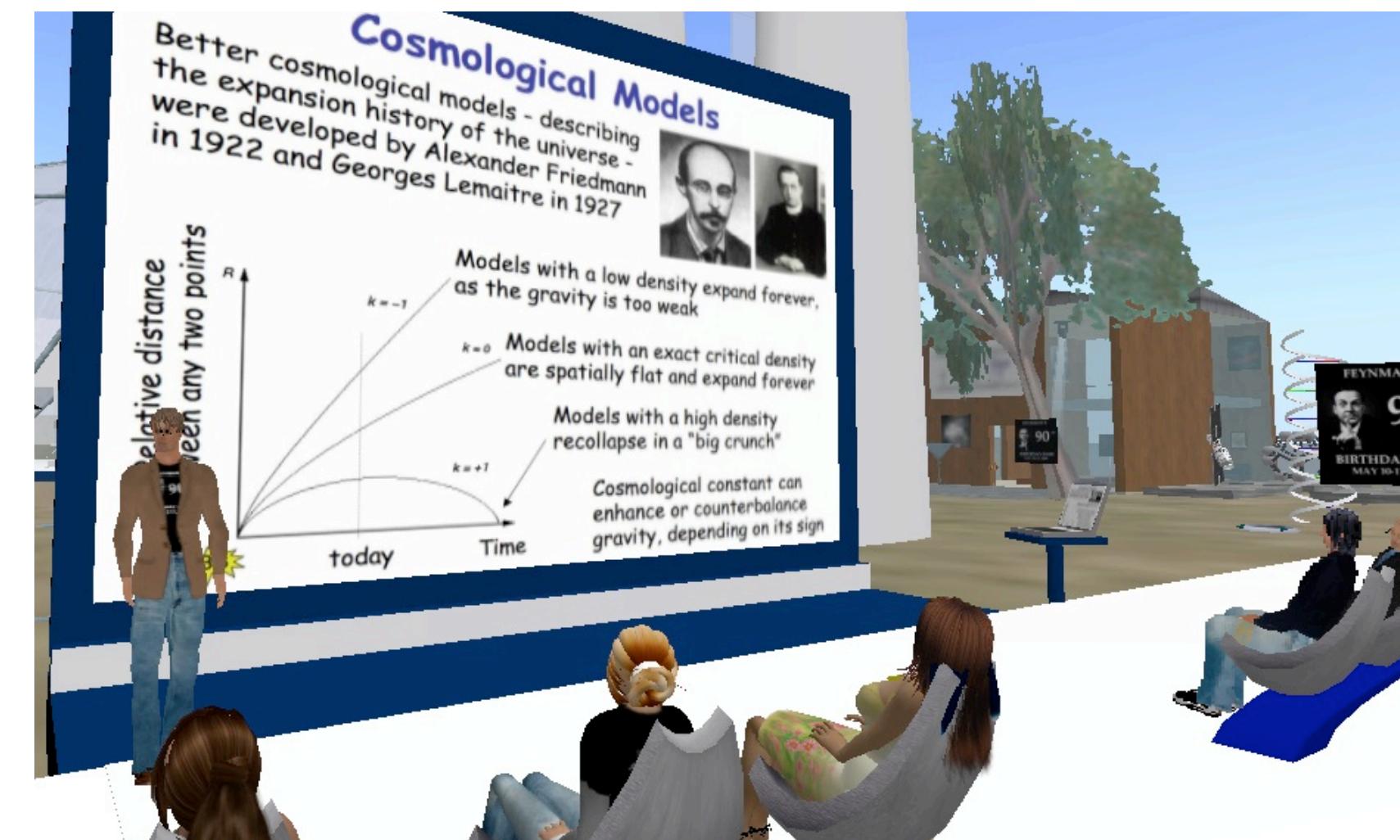
## Technical Seminars



## Virtual Conferences



## Public Lectures



## Collaboration Meetings

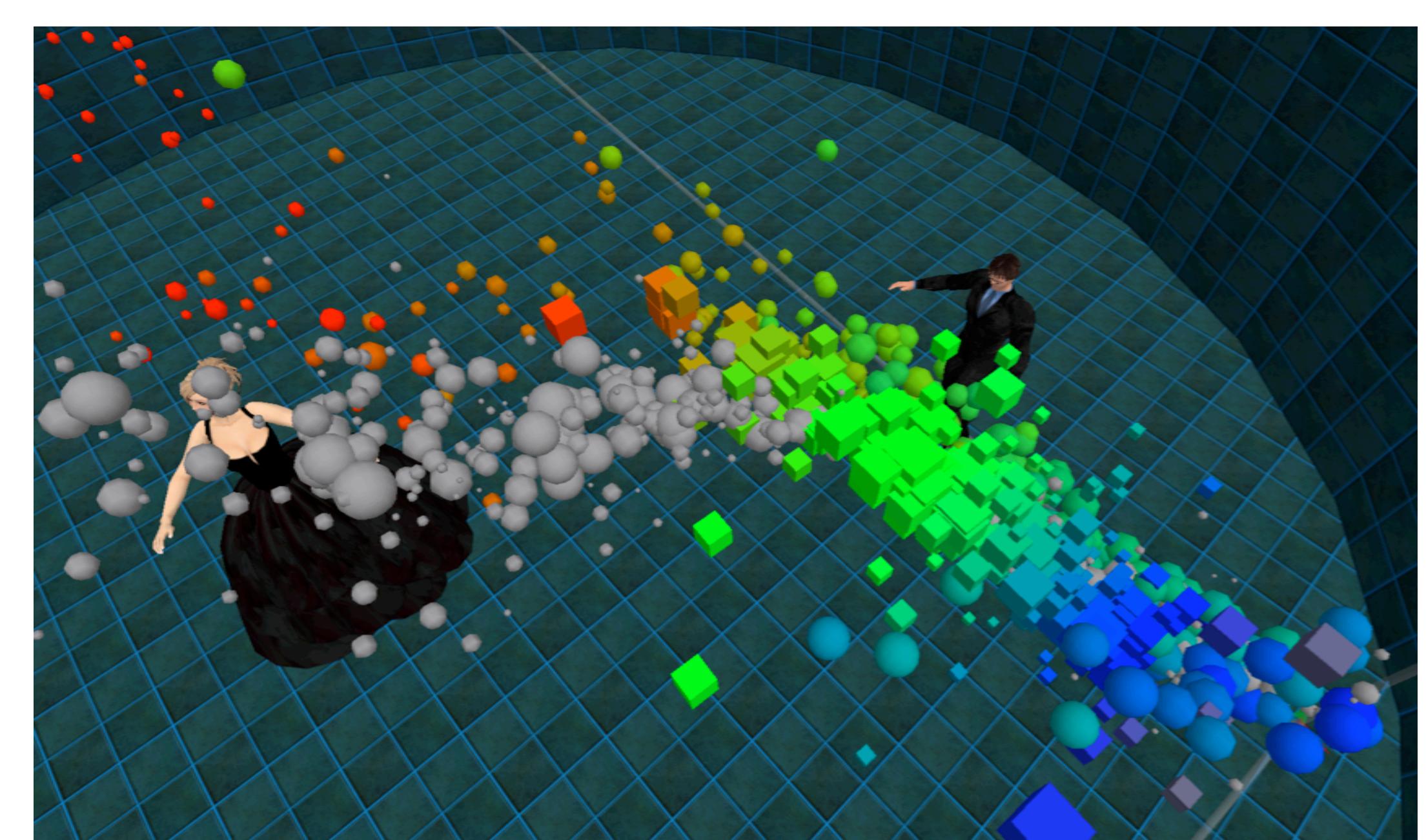


**How To Join:**  
Contact one of us, or any of the professional members listed on our website, <http://mica-vw.org>. We'll help you get started, and soon you'll be able to explore on your own.

Find out for yourself what this technology can do for you and your work!

## Immersive Data Visualization

Immersive, interactive approach to visualization and exploration of highly-dimensional, complex data sets



## A Novel Approach To Numerical Simulations:

**Scientists immersed into their simulations, controlling them and visualizing results**



**Acknowledgments:** We are grateful to many professional members of MICA, who helped make it a (virtual) reality, and in particular K. Prawl, S. Smith, S. McPhee, C. Woodland, T. McConaghy, W. Scotti, W. Farr, D. Enfield, C. White, S. Cianciulli, and many others.

★ For more details, please see <http://mica-vw.org>