Instructional Laboratory Research Center

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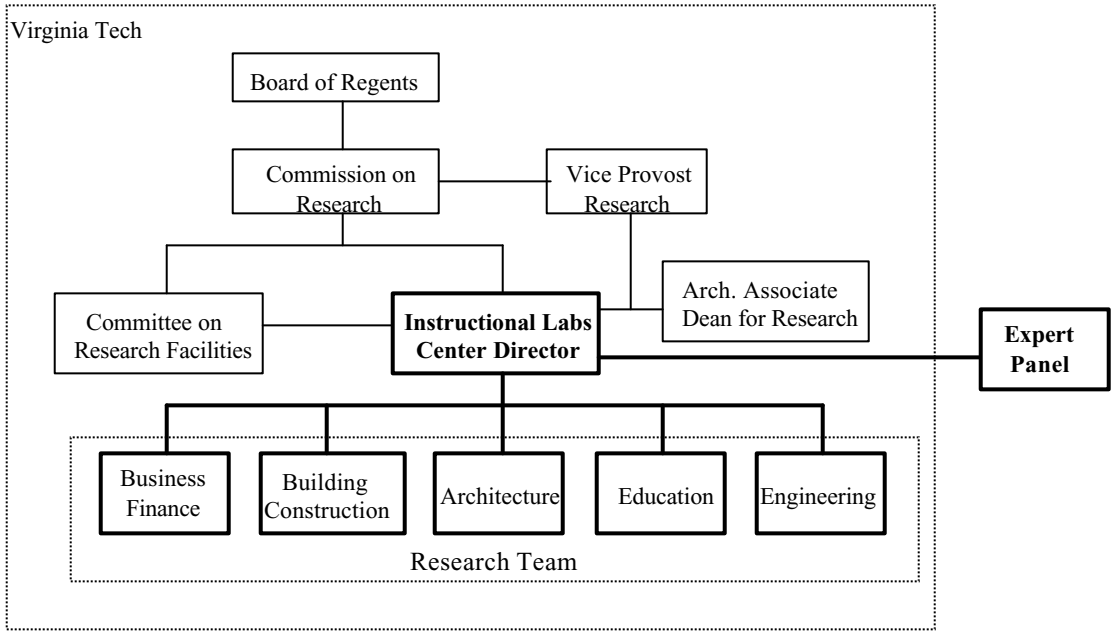


A Collaborative Research Model

Instructional Laboratory Research Center

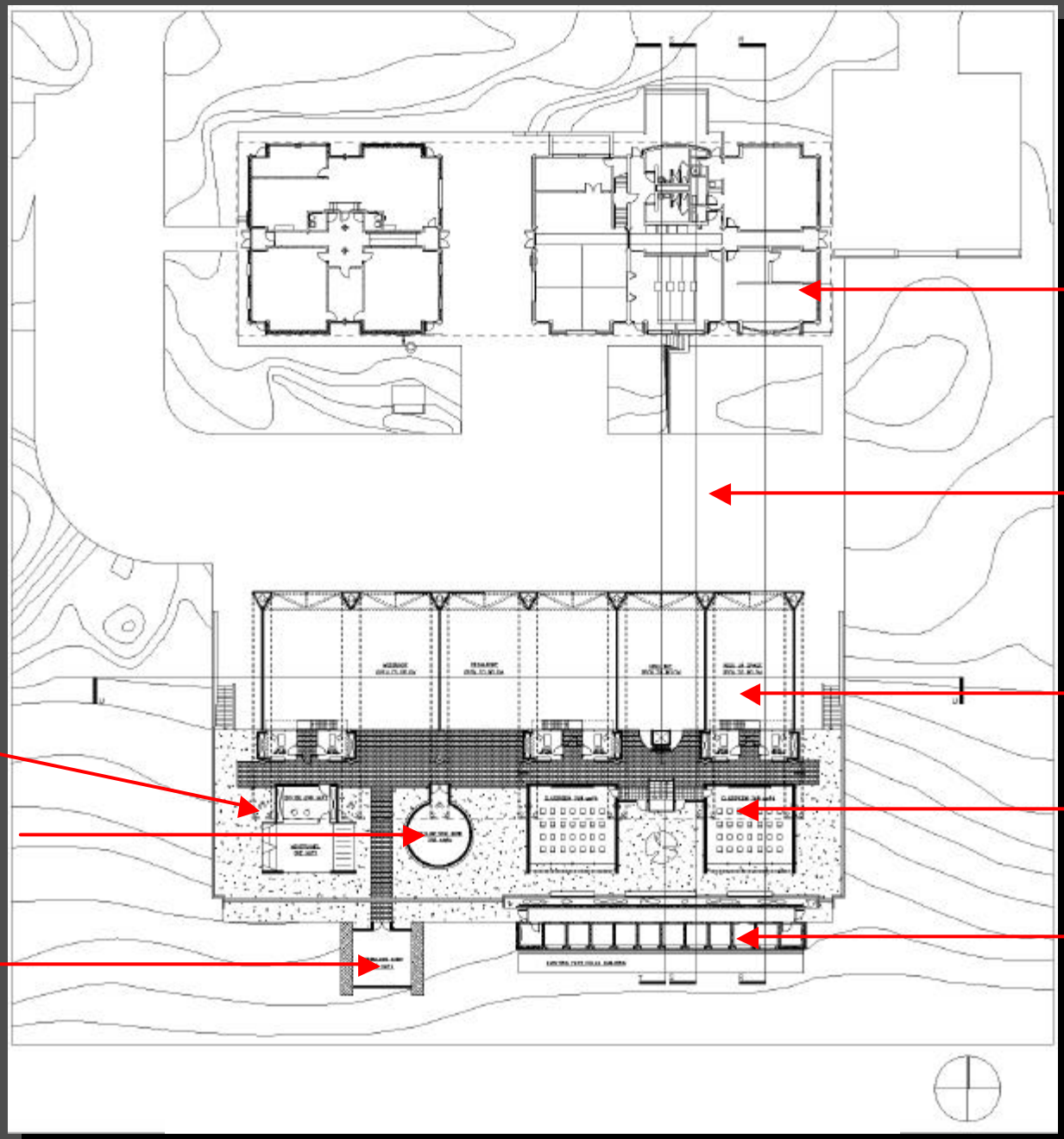
Goals and Objectives

1) Establish research agendas
2) Seek funding and conduct investigations
3) Organize and disseminate information, best practices and results from research
4) Work with host university and A/E firms to improve instructional labs, perform post-occupancy evaluations and develop prototypes

Existing Research + Demonstration Facility Phases I & II

Site Plan

Plan


RDF I & II
Construction Yard
Mock-up spaces And shops
Classrooms
Existing Test Cells
Wind tunnel
Daylighting dome
Advanced Materials shop

- **Indoor Environmental Quality**

  Indoor Air Quality including VOC's, temperature, humidity and ventilation

  Mechanical Systems

  Materials and Finishes

  Software Modeling for predictive results

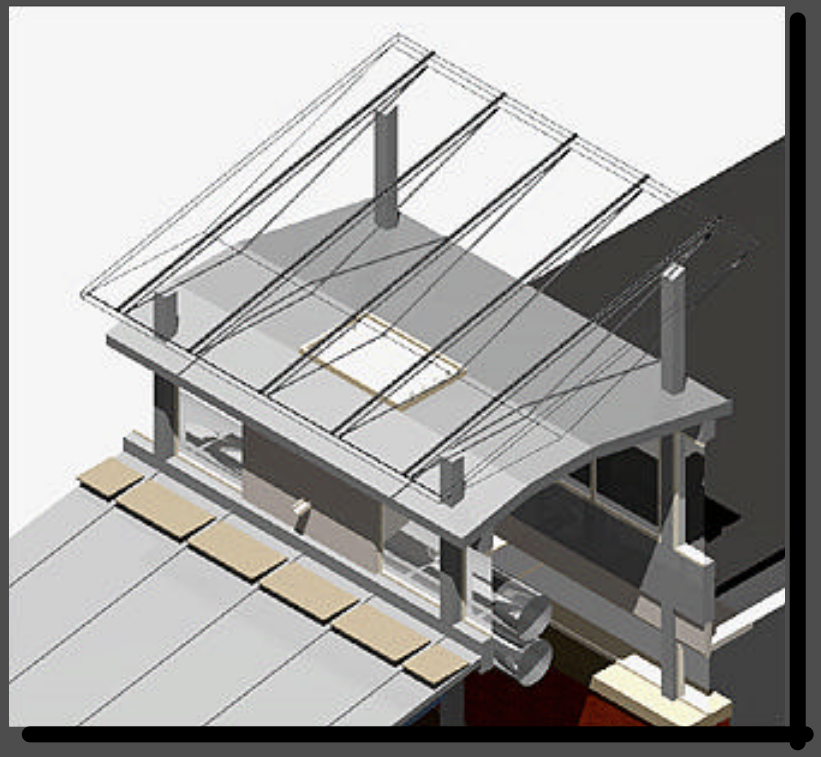
  Electrical and Technology systems including power, lighting, security and other 'smart' systems

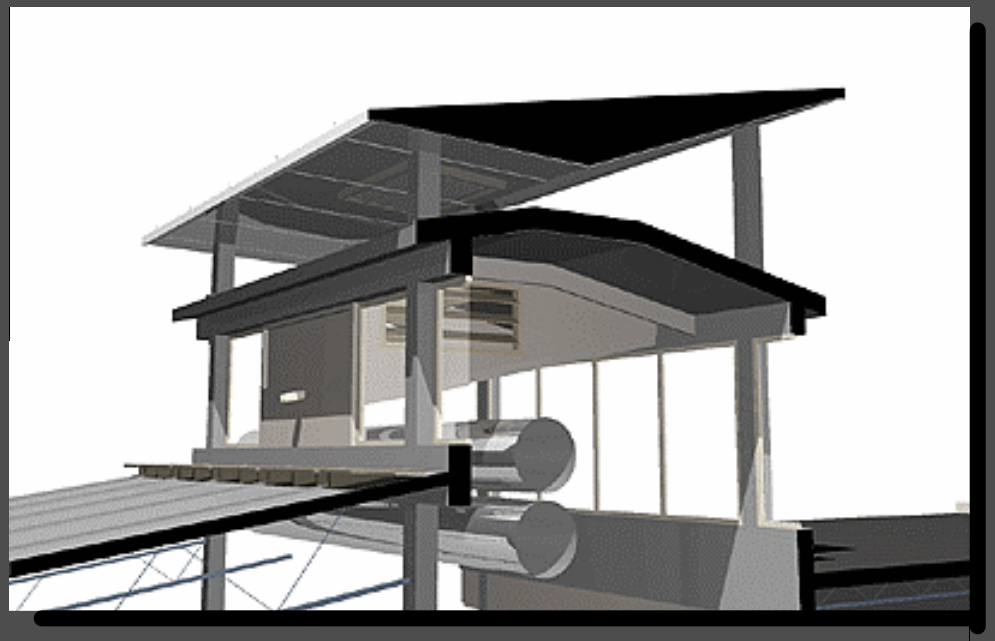
- **Support of Learning**

  Improved Communication
  Internet Access Options
  Informative Environment
  Acoustics

- **Minimize Costs**

  Energy Management
  Systems Integration
  Building Delivery Systems
  Lifecycle and First Costs
  Facilities management





Component Design for Daylight and Ventilation

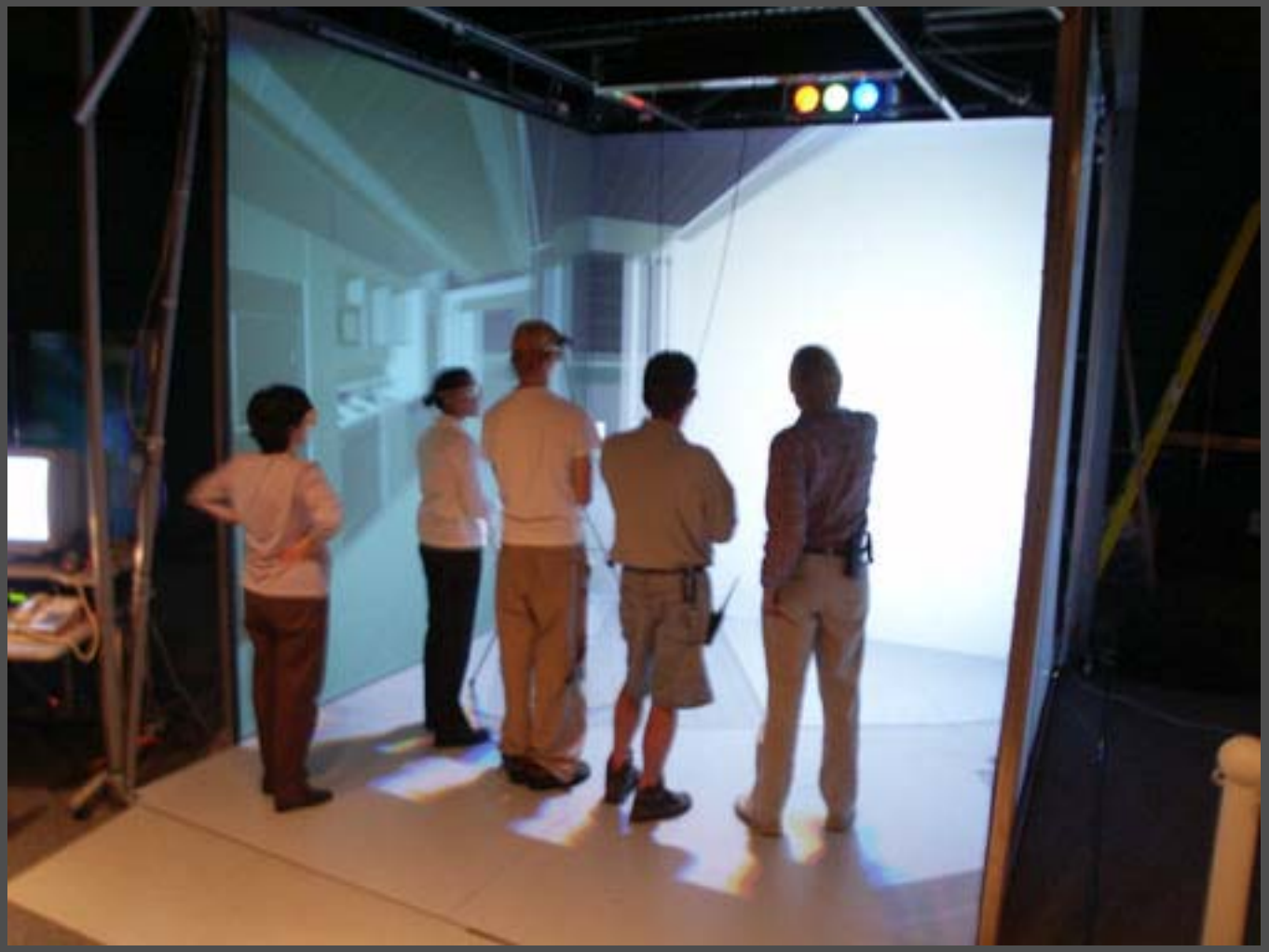
James Henderson – Thesis, 1999

Future School Construction

James Henderson – Thesis, 1999

Future School Construction

James Henderson – Thesis, 1999

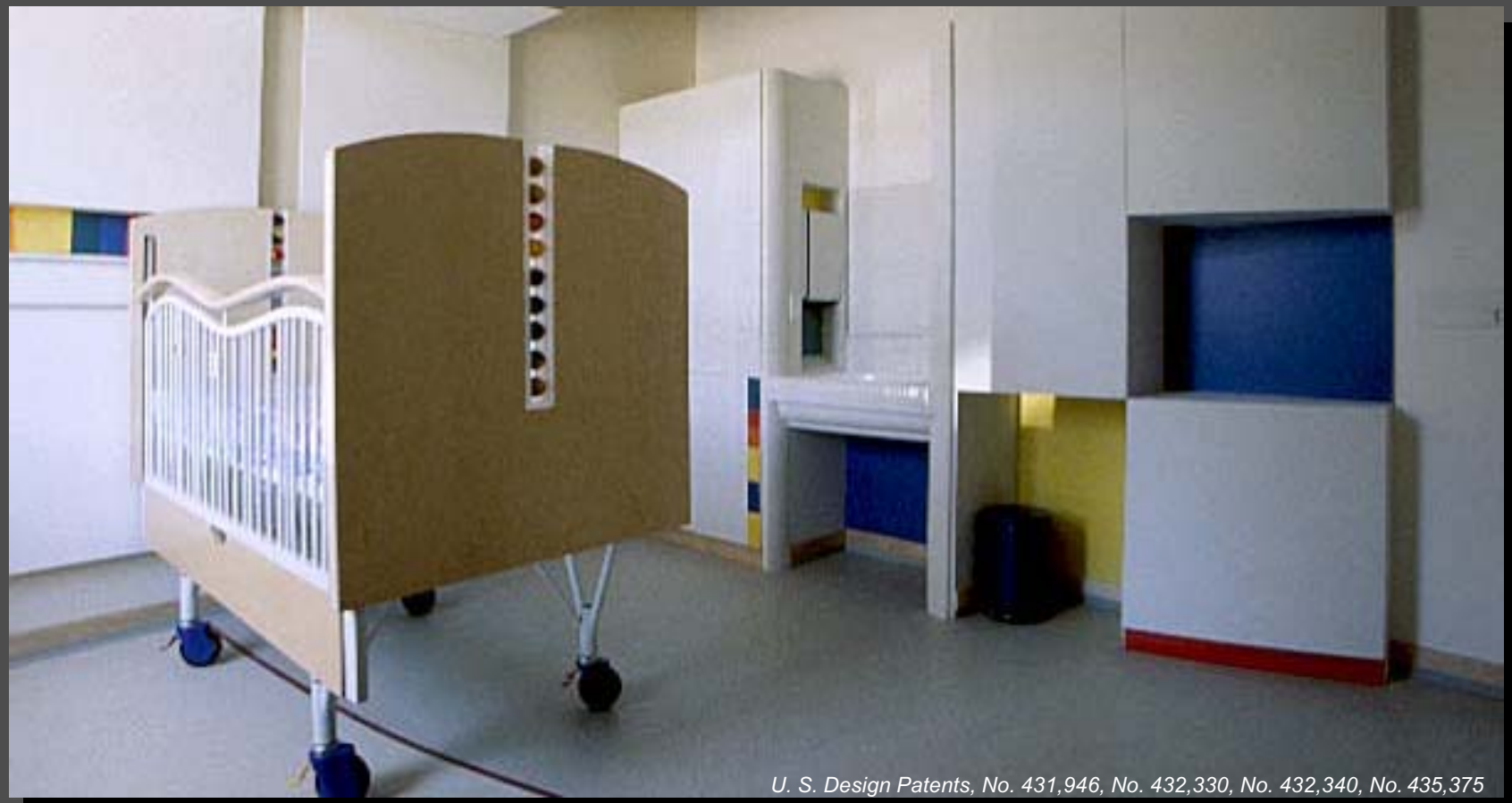


Va Tech Cave

Space immersion through 3 D imaging

Full scale Mockup in Existing RDF

Research by Professor A. E. Cromer and Researcher Bonnie Johnson



U. S. Design Patents, No. 431,946, No. 432,330, No. 432,340, No. 435,375

Carilion Pediatric Patient Room Mock-up – Day

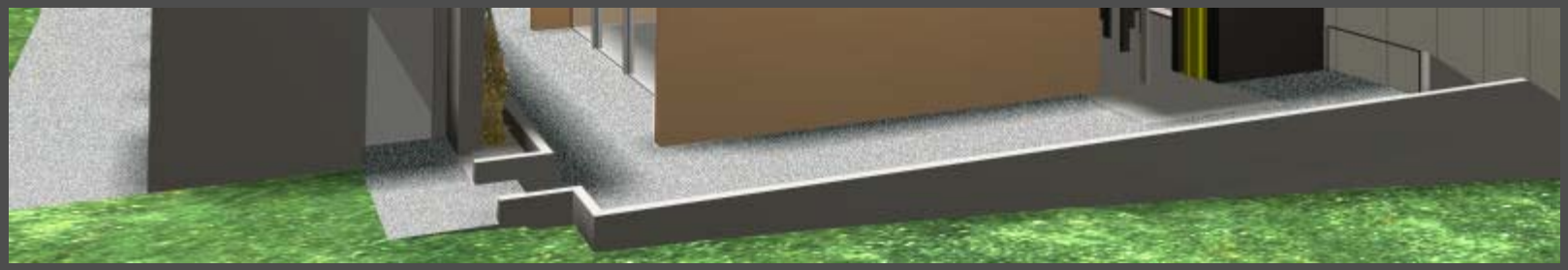
Research by Professor A. E. Cromer and Researcher Bonnie Johnson

View from the South East

Existing Test Cells

Roof monitors w/ photo electric cells

Classrooms w/ courtyard



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