



RENCI (*Renaissance Computing Institute*)

The Renaissance Computing Institute is a collaborative research venture between UNC-Chapel Hill, Duke University, NC State University, and the state of North Carolina.



Outpatient Hospital Monitoring System

OUTPATIENT HOME MONITORING SYSTEM

OHMS, a collaboration between UNC pulmonologist David Henke and RENCi senior researcher Daniel Bedard, is a small device that monitors home air quality round-the-clock. Its high-tech sensors wirelessly relay the information to physicians, who can then provide medical response when air conditions in a patient's home are unhealthy.



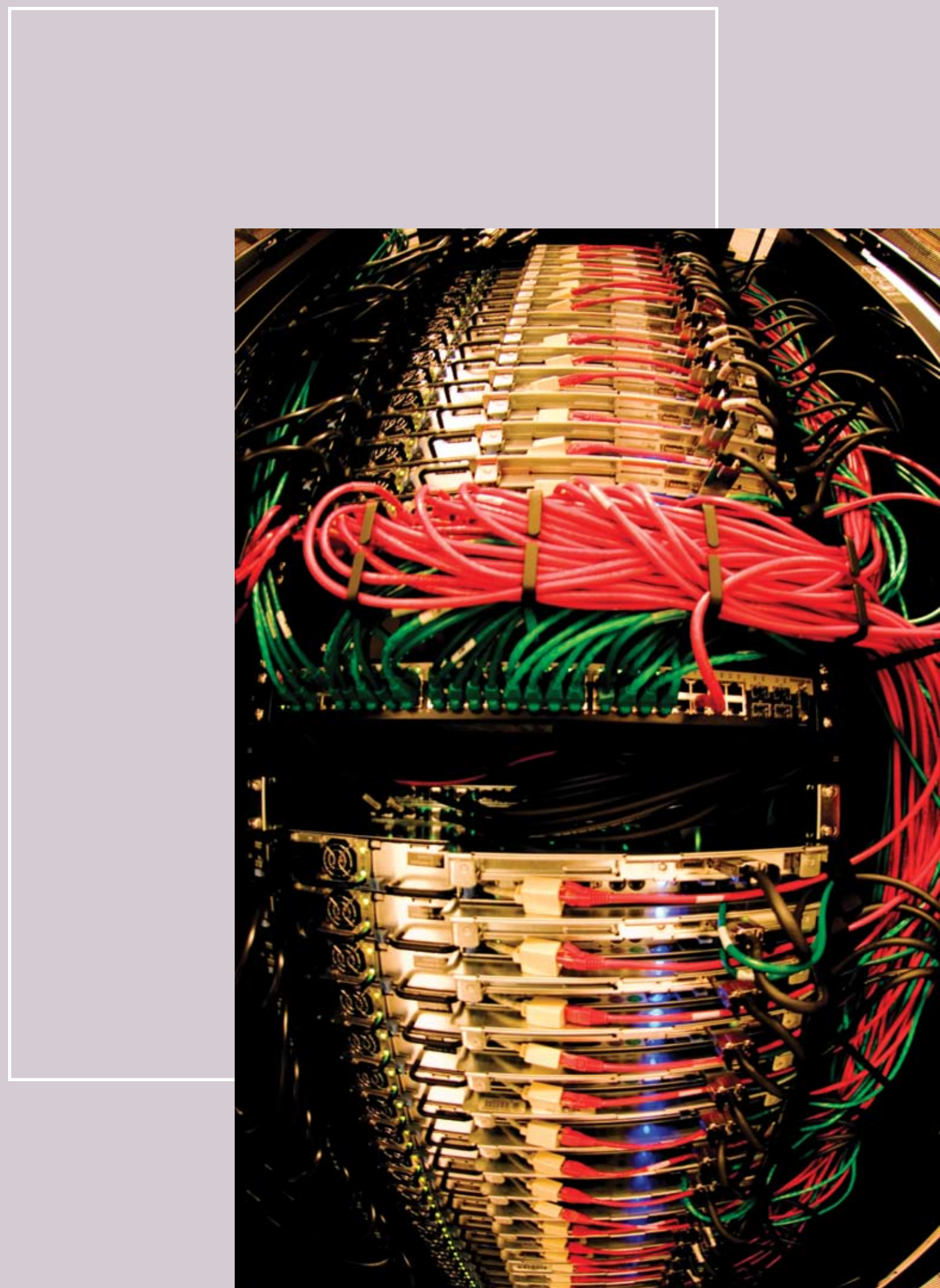
Experimental Disaster Research Vehicle

HYDROMET

Scientists at RENCi are developing a new storm modeling and forecasting system called Hydromet. Hydromet combines three storm forecasting models to predict atmospheric conditions, water levels, and the height of storm surges on the coast. The system's images contain nine times the resolution of National Weather Service forecasts—crucial accuracy in a state with so many hurricanes.

EXPERIMENTAL DISASTER RESEARCH VEHICLE

Severe storms and other natural disasters can flood roads and damage power lines and cell phone towers. To help first responders communicate and carry out evacuation and rescue plans more efficiently, RENCi has created the Emergency Disaster Research Vehicle. This custom-built truck is equipped with a mobile wireless network, a satellite dish, and a remote-controlled unmanned helicopter. With this system, responders can communicate when electrical and phone lines are down, and more easily locate people stranded in a storm.



RENCi has the capability to provide essential IT infrastructure for large-scale research collaborations.

For Carolina to compete for major research projects, it must have the IT infrastructure to support large collaborations. The RENCi building at Carolina North will allow RENCi to grow and provide this essential infrastructure, serve as a catalyst for interdisciplinary research, and become a magnet for the business and local communities.

discovery,
innovation,
and learning

