

Provost's Town Hall Meeting

**Topic:
Research Themes of the
new Strategic Plan**

Greatness Through Difference: RIT's 2015-2025 Strategic Plan

During the strategic conversations of the past year, five intersecting spheres of effort have surfaced repeatedly. We have elected to concentrate on these five **Dimensions**:

1. Career Education and Student Success
2. The Student-Centered Research University
3. Leveraging Difference
4. Affordability, Value, and Return on Investment
5. Organizational Agility

Each of the five Dimensions has a set of what we call **Difference Makers** or strategic goals whose achievement will make a significant difference to our stakeholders and to the direction of higher education.

Each Difference Maker is in turn supported by a set of concrete **Objectives** that chart RIT's strategic trajectory of the next decade.

Dimension Two: The Student-Centered Research University

- Combines the mission-critical activities of research, scholarship, artistic creation, creative inquiry, teaching, and learning across all degree levels and disciplines.
- Conducts government-funded interdisciplinary, high-impact research to advance the boundaries of knowledge.
- Partners with Industry in the application of new technologies.
- Facilitates the participation of undergraduate and master's degree students on funded research teams.
- Enriches the graduate student experience through a holistic approach to their success.
- Develops opportunities for all students to collaborate across international and intercultural borders.

Difference Maker II.1

RIT will be internationally distinguished as a research university through its focus on and investment in specific inter- and trans-disciplinary research areas identified through a systematic and inclusive selection process.

Objectives

II.1.1 **Continue adding interdisciplinary Ph.D. programs** that are in line with the university's research strategy.

II.1.2 Develop a systematic, transparent, and data-driven process for **identifying a limited set of signature interdisciplinary research areas** in which RIT can become a global leader.

II.1.3 Develop and **communicate a strong, data-based research vision** that focuses on a set of **transformative, interdisciplinary, and inclusive research areas**.

II.1.4 **Create an external research advisory board** comprised of impartial, recognized experts to guide the selection and evaluation of strategic research areas.

II.1.5 Using the methods described above, **investigate the potential of the following research areas**: *Digital Media and Imaging Science; Global Resilience; Accessibility and Inclusion; Advanced Design and Manufacturing.*

Difference Maker II.2

RIT will maximize the impact and financial support gained through its research programs by **collaborating more extensively with business** and industry to yield **\$100M in total research funding annually**.

Objectives

II.2.1 Develop multiple compensation models for research conducted under the Corporate R & D Program, **including RIT's acceptance of company equity in lieu of cash in return for intellectual property rights**.

II.2.2 Create a special program to **encourage collaboration in research activities with alumni-led businesses**.

Goal 1: To make a step change as a research institute, RIT will make focused investment to grow areas of research excellence.

- 1) Areas that **build on current faculty strengths, RIT reputation, and existing resources.**
- 2) Areas that reflect growing significance in society, as reflected by **relevance to funding agencies and industries.**
- 3) Areas where RIT can make **unique and high impact contributions**, particularly given our relatively “young” research endeavor and the presence of well-established competitors.
- 4) Areas that **focus on challenges** to address **rather than disciplines.**

Strategic Research Areas

II.1.2 Strategic Research Areas will:

1. **Promote collaboration** across colleges, departments, and centers.
2. **Make strategic investments** in interdisciplinary focus areas to catalyze further growth.
3. **Eliminate barriers to participation** in interdisciplinary research for faculty and students across RIT.
4. **Ensure stable financing for research infrastructure** in research focus areas.

Four Potential Research Areas

The Research and Graduate Education **Task Force identified four potentially high-impact areas** that span RIT impact from global to local (i.e., Digital Media and Imaging Science; Global Resilience; Accessibility and Inclusion; Advanced Design and Manufacturing).

In all cases, these concepts were designed to be **broadly inclusive of existing work**, while also flexible enough to enable researchers to envision one or more areas to which their research would contribute.

It will be up to individual **researchers to self-identify**, organize collaboration, and formulate the full scope of each area.

Some areas could immediately hit the ground running, while others need time to mature, suggesting a need to **stagger implementation**.

RIT Assets

There are a number of programs, labs, and centers that have unique capabilities, infrastructure, and heritage that can be brought to bear on some of the wicked challenges facing society and the related research and development funding opportunities. For example:

Ph.D. Programs

Astrophysical Sciences
 Color Science
 Computing and Information Sciences
 Engineering
 Imaging Science
 Microsystems Engineering
 Sustainability

Enterprise Centers

CEMA – Center for Electronics Manufacturing and Assembly
 CQAS – Center for Quality and Applied Statistics
 PAL – Printing Applications Lab
 BPC – Battery Prototyping Center
 IPI – Image Permanence Institute
 CBET – Center for Bioscience Education and Training
 SMFL – Semiconductor and Microsystems Fabrication Lab

F&A Return Designated Research Centers/Labs

NRPL – NanoPower Research Labs
 DIRS – Digital Imaging and Remote Sensing Lab
 CfD – Center for Detectors
 LAMA – Laboratory for Multiwavelength Astronomy
 CCRG – Center for Computational Relativity and Gravitation
 MAGIC – Media, Arts, Games, Interaction, and Creativity
 CASTLE – Center for Advancing Science/Mathematics
 Teaching, Learning & Evaluation

Other Research Institutes/Centers

CIMS – Center for Integrated Manufacturing Studies
 NTID – National Technical Institute for the Deaf
 IHS&T – Institute for Health Science and Technology
 GIS – Golisano Institute for Sustainability
 P2I – Pollution Prevention Institute
 CIS – Center for Imaging Science

1. Global Resilience

Detecting, analyzing, and responding to emerging threats to health, social, cyber, economic, infrastructure, and ecological systems. Minimizing vulnerability to disruptions and adapting to change without significant losses to human health, economic well-being, information security, and sustainability. RIT currently has strengths in imaging/remote sensing, modeling, computing, health, business, economics, sustainability, and disaster response which are integral to integrated resilience. Known expertise that currently exists at RIT resides in CAST, GIS, COLA, COS, GCCIS, KGCOE, CIAS, CHST, and NTID.

Assets: DIRS/IPLER, **Math Modelling Ph.D.**, IHS&T, GIS, **Sustainability Ph.D.**, Civil Engineering Technology/environmental management and safety, **Cyber Defense Team**, ...

2. Accessibility and Inclusion

Creating solutions for the health, well-being, and inclusion of people with diverse abilities as they engage in education, employment, and a full range of activities expected by all members of society. RIT currently has strengths related to education, particularly of deaf and hard-of-hearing students. Through this theme, goals for access technologies will expand, with possible emphasis, for example, on cognitive issues such as autism. A full range of sensory, physical, and cognitive inclusion issues would be expected to be addressed as the research in this area expands over the 5 years. Known expertise that currently exists at RIT resides in NTID, GCCIS, KGCOE, COLA, ...

Assets: Effective Access Technology Lab, MAGIC/e-Nable, IHS&T, NTID, Ph.D. in Computing and Information Sciences, Ph.D. in Engineering, ...

3. Advanced Design and Manufacturing

Re-inventing and revitalizing the US manufacturing sector through innovative technologies, supply chains, and production processes that ultimately lead to job creation in the knowledge economy. RIT has existing and emerging strengths in design, manufacturing systems, rapid prototyping, sustainable technologies, and innovation and entrepreneurship, all of which can be coupled with industrial partnerships and student engagement. Known expertise that currently exists at RIT resides CAST, SCOB, GIS, KGCOE, ...

Assets: **Ph.D. in Sustainability**, Brinkman Lab, **Multi-Functional Printing Lab**, **Battery Prototyping Center**, **Center for Electronic Manufacturing and Assembly**, **Printing Applications Lab**, **Ph.D. in Engineering**, **Ph.D. in Microsystems Engineering**, ...

4. Digital Media and Imaging Science

Working at the intersection of the arts and the sciences, between technology and expression, between the study of the creation of media and its impact and effect on society and the human condition. Using technology associated with imaging, display, gaming, and the arts to educate, train, address health needs, and entertain. Bringing together faculty, staff, students, researchers, artists, and practitioners from a wide variety of disciplines to create, contextualize, and apply new knowledge in a multitude of fields. Known expertise that currently exists at RIT resides CIAS, GCCIS, COS, CHS&T, ...

Assets: Dept. of Film and Animation, **MAGIC**, **Ph.D. in Color Science**, **Ph.D. in Computing and Information Sciences**, **Ph.D. in Imaging Science**, **Center for Imaging Science**, **Center for Computational Relativity and Gravitation**, Multidisciplinary Vision Research Lab, ...

Institutional Investments

- Competitive Process
- Opportunities for base funding
- Opportunities for one time Investments

Defining and Validating Potential Strategic Research Areas

Defining Research Areas

- Faculty led
- Tiger Teams and Chairperson for Each Area (open nominations, vote by affiliates)

Mechanisms for Feedback

- Town Halls
- Questionnaire and website for feedback
- RFI

Evaluation

- Peer Academics
- Hannover Research
- Industrial Partners
- Deans

Implementation



Step 1. **Hold a town hall meeting to talk about the Research Themes** referenced in the strategic plan.

Step 2. **Hold workshops on each of the four potential strategic research areas** referenced in the strategic plan.

Step 3. **Issue RFI** on strategic research areas, evaluate feedback, and **issue a RFP** for institutional investment.

Step 4. **Review proposals and make awards.**

Step 5. **Incorporate strategic research areas into our blended campaign.**

Questions



