

# TRANSFORMING AGRICULTURAL EDUCATION FOR DEVELOPING TECHNICALLY COMPETENT GLOBAL WORKFORCE

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Dr. Carl Wieman was recipient of the Nobel Prize in Physics in 2001 and the Carnegie Foundation's U.S. University Professor of the Year Award in 2004

Our society faces both a demand for improved science education and exciting opportunities for meeting those demands. Taking a more scholarly approach to education—that is, utilizing research on how the brain learns, carrying out careful research on what students are learning, and adjusting our instructional practices accordingly—has great promise. Research clearly shows the failures of traditional methods and the superiority of some new approaches for most students. However, it remains a challenge to insert into every college and university classroom these pedagogical approaches and a mindset that teaching should be pursued with the same rigorous standards of scholarship as scientific research.

“Modern economy that is largely based on science and technology; and for that economy to thrive and for individuals within it to be successful, we need technically competent citizens with complex problem-solving skills”

# Role of Educational Institutions

- Agricultural Institutions will have to transform higher education roles for the evolving global food and agricultural enterprise
- Effort by higher education
  - Shape academic focus around real issues
  - Refashion the way knowledge of complex systems is fostered in students



# Top Ten Attributes of a Technically Competent Agricultural Discipline Graduate

1. Competency in Core Discipline
2. Competency in Technology
3. Competency in Business
4. **Communication**
5. **Teamwork**
6. **Leadership**
7. **Flexibility**
8. **Curiosity and Desire to Learn - For Life**
9. **Commitment to Quality, Timeliness, and Continuous Improvement**
10. **Ethical Standards and Professionalism**

Make a Priority with Institutional Strategic Plan in  
***Providing Transformative Learning Experience***

“Experiencing a deep, structural shift in the basic premises of thought, feelings, and actions. It is a shift of consciousness that dramatically and irreversibly alters our way of being in the world”

Outcome:

- Enhanced core competencies
- Self confidence
- Enhanced problem solving skills in the global context
- Communication skills, values, ethical and behavioral changes, citizenship
- Enhanced leadership skills
- Enhancing entrepreneurial skills

# ACES @ Illinois

- **New Major (s): Crop Science + Computer Science -Fall 2018 (CPSC+ANSC Coming)**
- **New Program: MetroFEST** major will focus on innovative, sustainable food production and environmental safety within urban settings. Students will engage in immersion-based, hands-on learning opportunities with industry partners to apply the content they are learning in the classroom to address real world challenges.
- **The Center for Smart Agriculture**  
The Center for Smart Agriculture will strengthen research, teaching, industrial outreach, and community education in agricultural sciences that interface with engineering. It will provide experiential learning opportunities for students enrolled in the new Computer Science + Crop Sciences undergraduate degree program. The Center will engage in large-scale, interdisciplinary research initiatives that will expand our relationships with agricultural industries in Illinois.



*New at Illinois for 3 Universities*

**DISCOVERY PARTNERS INSTITUTE  
(DPI)**

PHYSICAL PRESENCE WILL ATTRACT TOP-TIER  
TALENT AND BUILD UNPARALLELED HUMAN CAPITAL



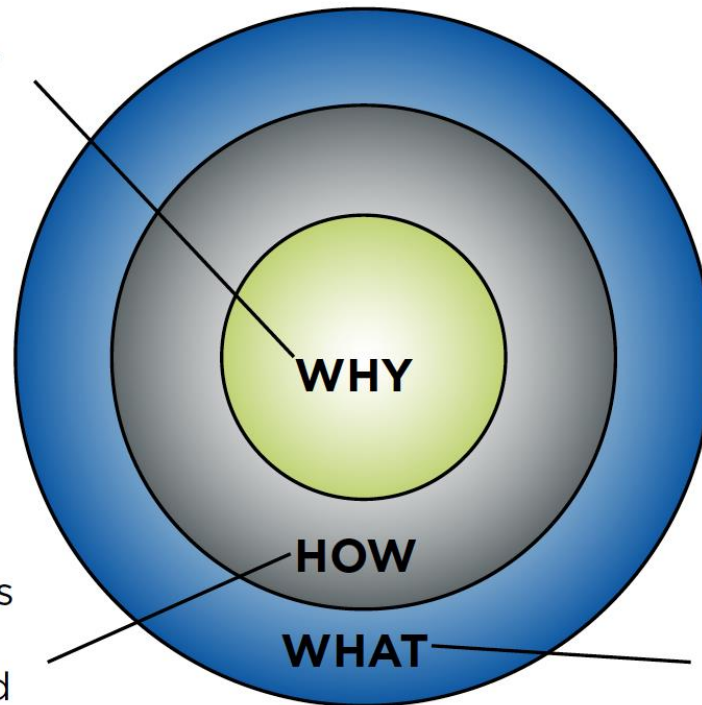
**DPI MOVING FORWARD**

- DPI currently operating at 200 S. Wacker
- Working with Related Midwest on future DPI site.  
Plan to build by 2021 & be fully scaled by 2023.



# DPI INNOVATION THROUGH COLLABORATION

To grow Illinois' economy and improve quality of life for its residents.



Bring together faculty, students and companies to answer grand challenges of the 21st century

New discoveries and innovations that will be brought to market quickly in order to benefit society

# DPI FOCUS AREAS & CROSS-CUTTING THEMES

## DPI THEMES

## DPI CROSS-CUTTING AREAS

