

# IOWA STATE UNIVERSITY

Center for Nondestructive Evaluation

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## Managing Transitions – CNDE at ISU

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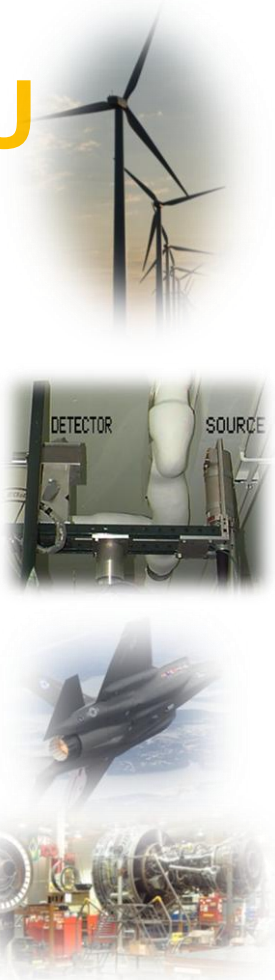
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# Managing Transitions – CNDE at ISU

There are **three key issues** involved with successfully “Managing Center Transitions” at the university.

1. Is the institution fully committed to the continued success of the “center”? If so, ...
2. What is the process to find suitable candidates, and did it clearly involve all the stakeholders?
3. After finding the “right person”, how is the transition handled within the center?

# Iowa State University

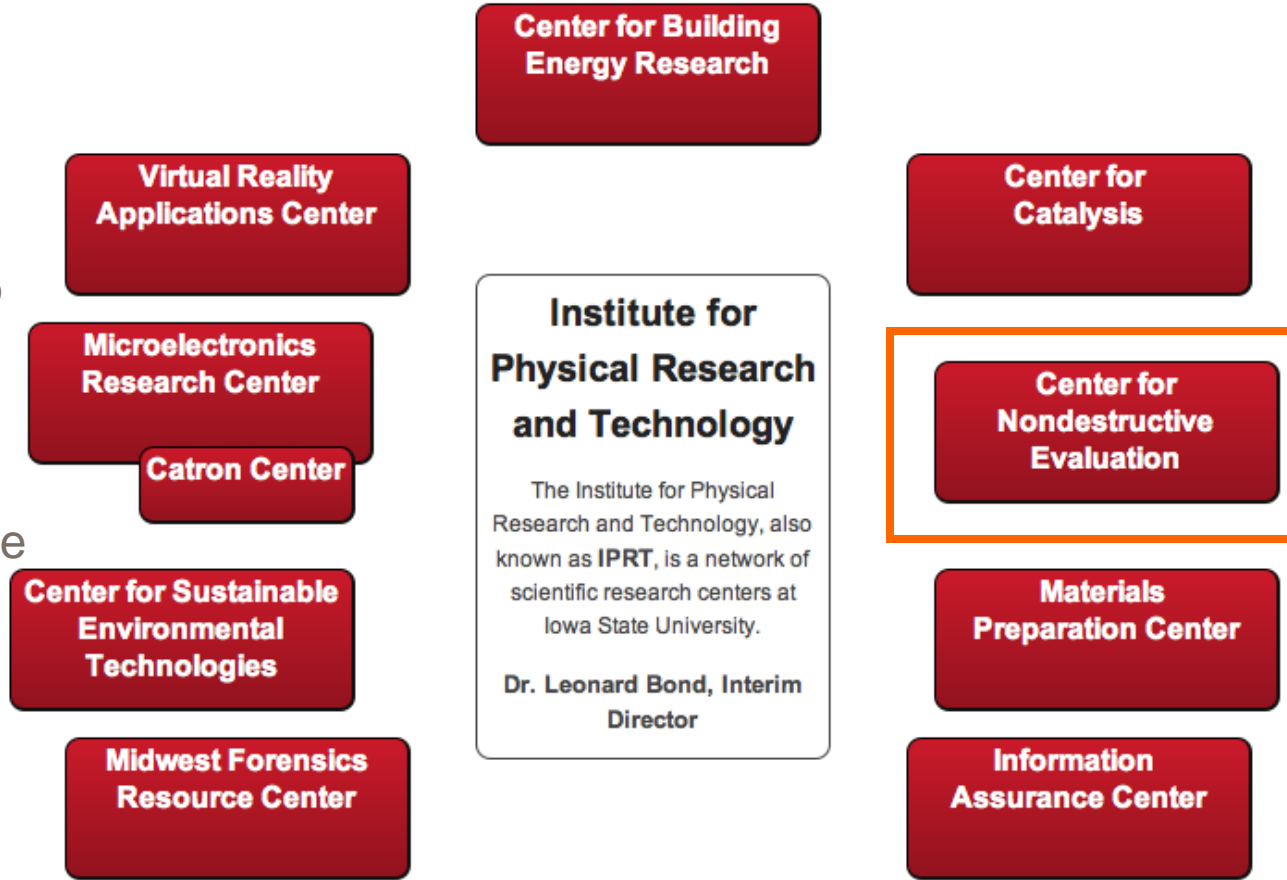
- **Founded 1858: 31,000 students (AAU Institution)**
- **College of Engineering**
  - 7,400 students
  - 2011 Nobel Prize (chemistry) Dan Shechtman [MSE & Ames Lab]
- **IPRT – Institute Physical Research & Technology**
- **CNDE – NSF I/UCRC**
  - Founded 1985
- **Pratt and Whitney – Center of Excellence (2012)**



- Contractor for Ames Laboratory – a US DOE National Laboratory.
- Highly ranked graduate programs: [College of Veterinary Medicine](#) and [College of Engineering](#)

# IPRT: Institute for Physical Research and Technology

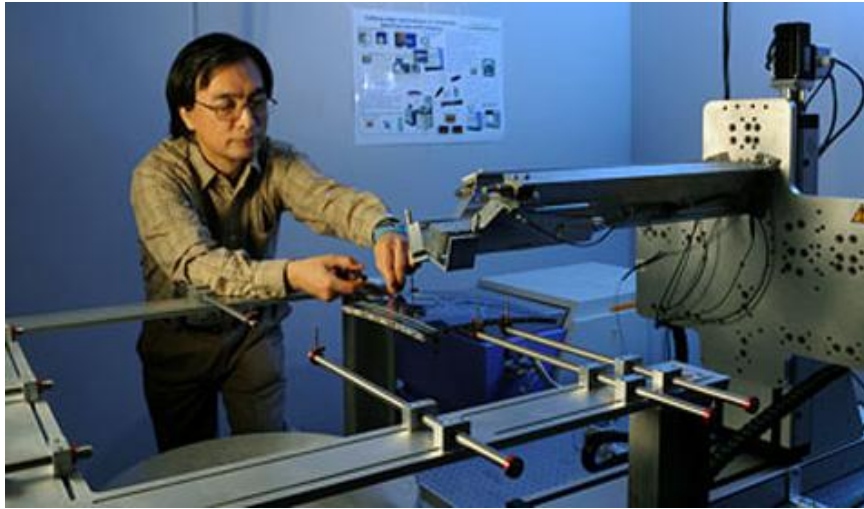
- **Network of research centers at Iowa State U.**
- **Research Cost-Sharing program** for companies to do research at ISU.
- **IPRT Company Assistance** – helping solve Iowa companies technical problems, create new products, and increase quality and productivity.



**IPRT under the ISU Vice-President of Research**  
CNDE's Research/Education mostly in the **College of Engineering**

# CNDE – Center for NDE (a national resource)

- **Develops noninvasive methods and instruments for assessing the integrity of structures and materials**, transfers them to industry, promotes integration of NDE with other methods to improve product lifetimes, enhances NDE engineering base.
- **Formed in 1985 as NSF Industry-University Cooperative Research Ctr** *addressing precompetitive research supported by industry.*

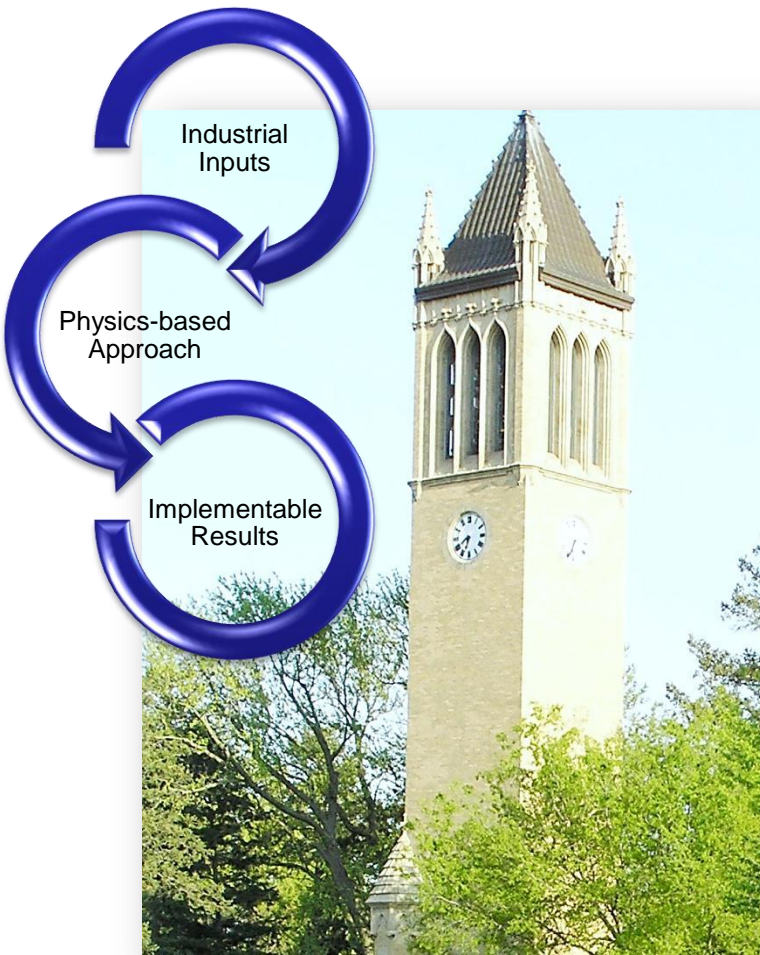


Terahertz Ray ( “T-ray”) Research Facility  
– advanced tool to characterize materials.

## CNDE’s Broad Impact

- **17 industry sponsors**
- **Multiple Federal Agencies** – FAA, NASA, Air Force, Army, US/DOE ...
- **Center of Excellence for NDE education.**
- **Maturation of technology** in context of federal agency-specific needs
- **Industrial support for corporate problems**
- **Iowa Office of Economic Development** (transfer of results to Iowa companies)
- **Home for World Federation NDE Centers**
- **NDE applications to benefit other areas:** agriculture, animal science, biomedical ...

# NDE Education: What is on offer?



1. NDE Undergraduate Minor (campus-based)

2. NDE Graduate Certificate (online)

1. NDT Educational Resource Ctr(web-based) [www.ndt-ed.org](http://www.ndt-ed.org)

*Cooperative between CNDE at ISU and 5 community colleges (IA, KS, UT, NE, MN)*

*\*Graduate NDE education involves the CNDE research portfolio, performed by students.*

# CNDE Director Succession

Bruce Thompson (NAE, 2003)  
CNDE Director (1997-2011)



- World-leader researcher in NDE
- Outstanding and friendly person, with a good sense of humor
- Respected CNDE director
- Successfully maintained funding and strong industrial interactions
- Managed strong technical successes

The CDNE Director formally reported to the Ames Laboratory Director until 2006, when DOE requested not to have an CNDE oversight for a state center.

Anson Marston Distinguished Professor  
Materials Sci. & Eng. and Aerospace Eng.

# CNDE Director Succession Issues

## **Yet, managing this success,**

- He alone developed the funding base and then directed what personnel would perform the work
- He held the “vision” for the center
- He did not develop strong “lieutenants” who could carry out that vision, nor could successfully take over leadership after his tenure
- Due to his illness, how the organization ran, CNDE began to stagnate.

## **As a result, after we lost him, several things were apparent:**

- A vacuum on leadership, lack of familiarity with funding model
- Few who had experience leading quality proposal development
- A few did step up to help lead, along w/ Industrial Advisory Board
- Personnel began worrying about their future and the future of CNDE
- With state earmarks dwindling, ISU worried about viability of CNDE



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# Was ISU committed to CNDE? Definitely!

- **IPRT Side:** Vice-President of Research was committed to the IPRT Assistance Program with CNDE capabilities impact state businesses and grow ISU research funding.
- **CoE Side:** Dean of Engineering was committed to CNDE as a unique national resource for research and education that impacts a number of departments, and other colleges.
- Both wanted CNDE to continue to enhance ISU's industrial interactions and relations – an international search required!
- If CNDE was revitalized through successful search, then (inter)national reputation and impact would continue!

# Search Process and Stakeholders?

## Why me as Chair of the search? (my view)

- I was new to ISU (from U. of Illinois Urbana-Champaign) and I was CRO of Ames Laboratory (to which CNDE formerly reported) and a chaired professor in engineering.
- I was on the Pratt & Whitney development team for a Center of Excellence in the COE – with very strong CNDE components.
- I held no preconceived expectations, and handle strong personalities.
- **I had no baggage regarding CNDE people or the Center.**
- I had an attitude that CNDE was important in the big picture and we needed “the right person” – a really quality person – to fill Bruce’s shoes and be able to successfully handle people issues.
- And, I believe that all stakeholders should be informed and have input in the process (**which turned out to be critical!**).

# Search Process and Stakeholders?

- **The committee:** A VPR representative and several engineering professors and ISU center directors, as well as a CNDE Industrial Advisory Board chair (*important*).
  - The committee had, from the start, shared vision and standards.
- **CNDE Stakeholders – first critical part of the process!!**
  - Without buy-in from CNDE there would be NO success.
  - Before the actual search, a committee member and myself met with all 40 CNDE members (scientists, professional staff, etc.)
    - First as a large group – twice: explaining the process and their role, and, importantly, eliminating many of their misconceptions.
    - Then, in small groups – 8 week process: one-on-one and answering questions.
  - MY BIG QUESTIONS: What prioritized qualities did they envision for their new director? Did they have anyone internationally in mind?
  - They had plenty to say.

# The Qualifications

**Minimum Qualifications:** An earned doctorate in science or engineering discipline; a demonstrated record of strong NDE R&D accomplishments; a strong record of grant/contract successes (acquisition and execution); experience with planning and leading successful multi-investigator research initiatives; and at least 5 years of R&D management and supervisory experience.

**Additional Desired Qualifications:** **National prominence and international reputation in the NDE community; record of visionary leadership in NDE;** demonstrated ability to communicate effectively and to collaborate successfully with government, industry, and academic partners/sponsors, including advisory boards, review panels and/or national working groups, as well as with all levels of university; **a record of positive, successful leadership and effective management; strong interpersonal skills are highly valued; and the ability to work with a diverse staff and clientele.**

# Carefully Planning and Getting Buy-in Leads to Success

- July 2012: Leonard Bond joined ISU as CNDE Director
- October 2012: appointed interim Director of IPRT

PhD (Physics) 1978 City University London – Ultrasonics for NDE



ISU is pleased to have Leonard Bond  
leading the continued success of CNDE

He is deftly working on issue #3.

Leonard J. Bond, Director, CNDE

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