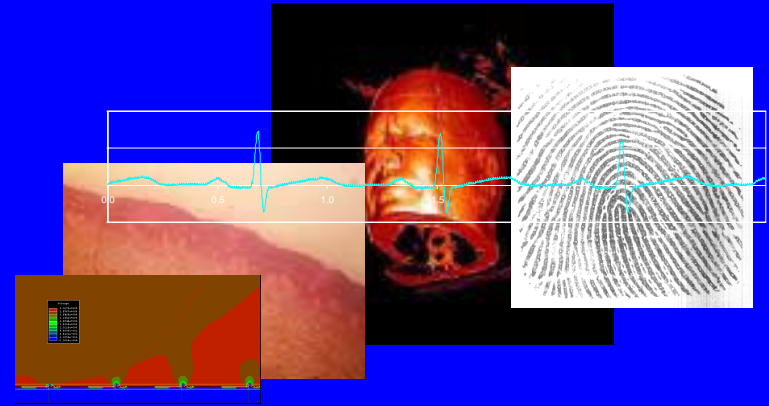


CITeR: Overview and Directions



L. A. Hornak

Lane Dept of Computer Science and Electrical Engineering

West Virginia University

Biometric Consortium Conference

September 23-25, 2002

CITeR

<http://www.csee.wvu.edu/citer>

West Virginia University

Center for Identification Technology Research

Marshall University

An NSF Industry/University Cooperative Research Center (IUCRC)

in the area of Biometrics

Michigan State University

San Jose State University

St. Lawrence University

Outline

- CITEr and the NSF IUCRC Model
- Evolution of the Research Portfolio
- Initiatives in Education and Research

CITEr

<http://www.csee.wvu.edu/citer>

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CITeR Mission Statement

- CITeR is dedicated to serving the needs of its members by advancing the performance of biometric systems through cross-cutting research of enabling technologies, interdisciplinary training of scientists and engineers through its research, and the facilitation of the transfer of new biometrics technology through its membership.

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Addressing Diverse Biometrics

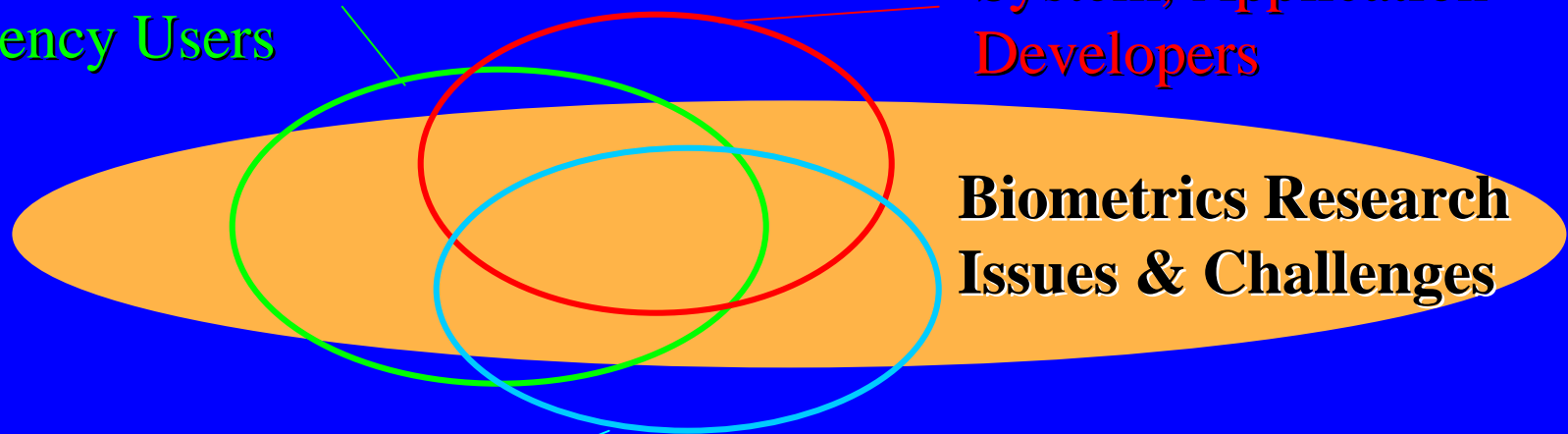
Research Perspectives

- Advancement of technology & standards
- Performance Metrics

- Current product enhancement
- Future product foundation
- Competitive advantage

Industry, Government,
Agency Users

System, Application
Developers



**Biometrics Research
Issues & Challenges**

Academic Researchers

Engineering, Computing, Math &
Statistics, Bio & Physical Sciences,
Sociology, Law, ...

- Multidisciplinary research & education opportunities
- Mapping to new and existing academic programs and fields of study

Cooperative Research Project Domain

- Define research cooperatively
- Pre-competitive topics
- Shared IP
- Research oversight and access to advance results.

Industry, Government,
Agency Users

System, Application
Developers

**Biometrics Research
Issues & Challenges**

Academic Researchers

- Tightly coupled research
- Grad & undergrad education
- Student – employer linkages
- Publications, theses & Dissertations

CITeR as an NSF I/UCRC

■ Industry/University *Cooperative* Research Center

- Organized to maintain and grow a *Cooperative* research and education environment
- Research center in which academia and industry/government members cooperatively share the responsibility and the benefits (e.g. research, students, and IP).
- Processes tightly couples the Center's research to the collective membership's needs.

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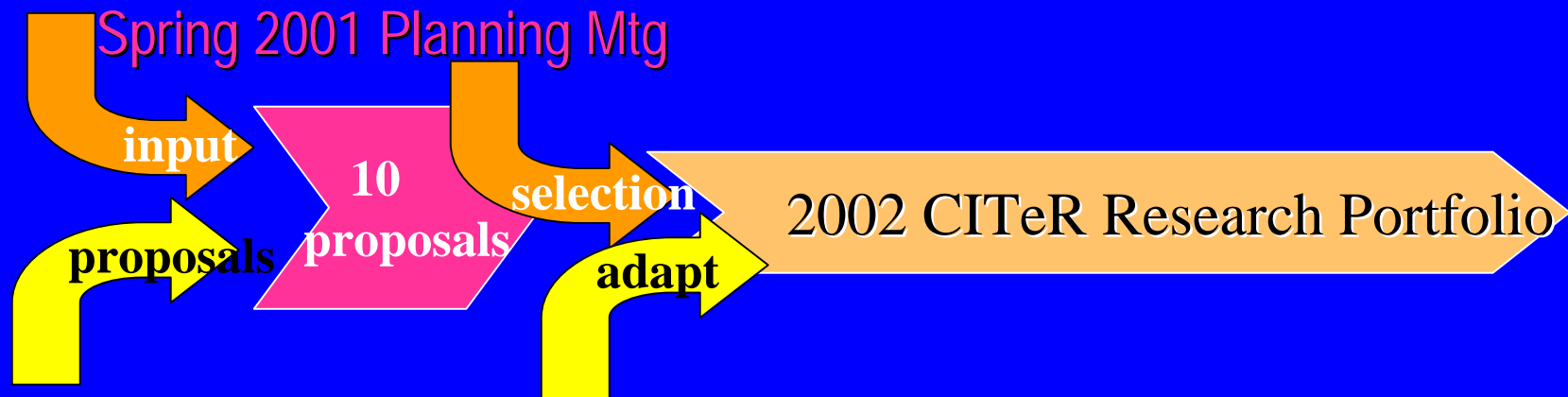
Initiating CITEr's Research Portfolio

Industry, Government, & Agency User and



Developer Community

CITEr Membership



CITEr Multidisciplinary Faculty



Participant Group



University and Academic Program Foundation

WVU, MSU, SJSU, MU,...

CITeR's 2002 Research Portfolio

Initial Research Portfolio approved by attendees at planning conference:

- Study of Liveness Detection for Biometric Devices, *S. Schuckers, Hornak, Norman, Derakshani* (WVU)
- Multimodal Biometric System, *Jain* (MSU)
- Estimation Study, *M. Schuckers & Wayman* (StLaw, SJSU)
- Template Aging Study, *M. Schuckers & Wayman* (StLaw, SJSU)
- Issues in Large Scale Biometric Authentication Infrastructure, *Cukic* (WVU)

Building CITEr Membership

- 9 Founding & 1st year Membership Commitments to date:

DoD Biometrics Management Office/BFC

Federal Bureau of Investigation

Viisage Technology

IMC, Inc.

Verizon

ManTech

NSA (2 orgs)

The Biometric Foundation

- Recent new membership commitments:

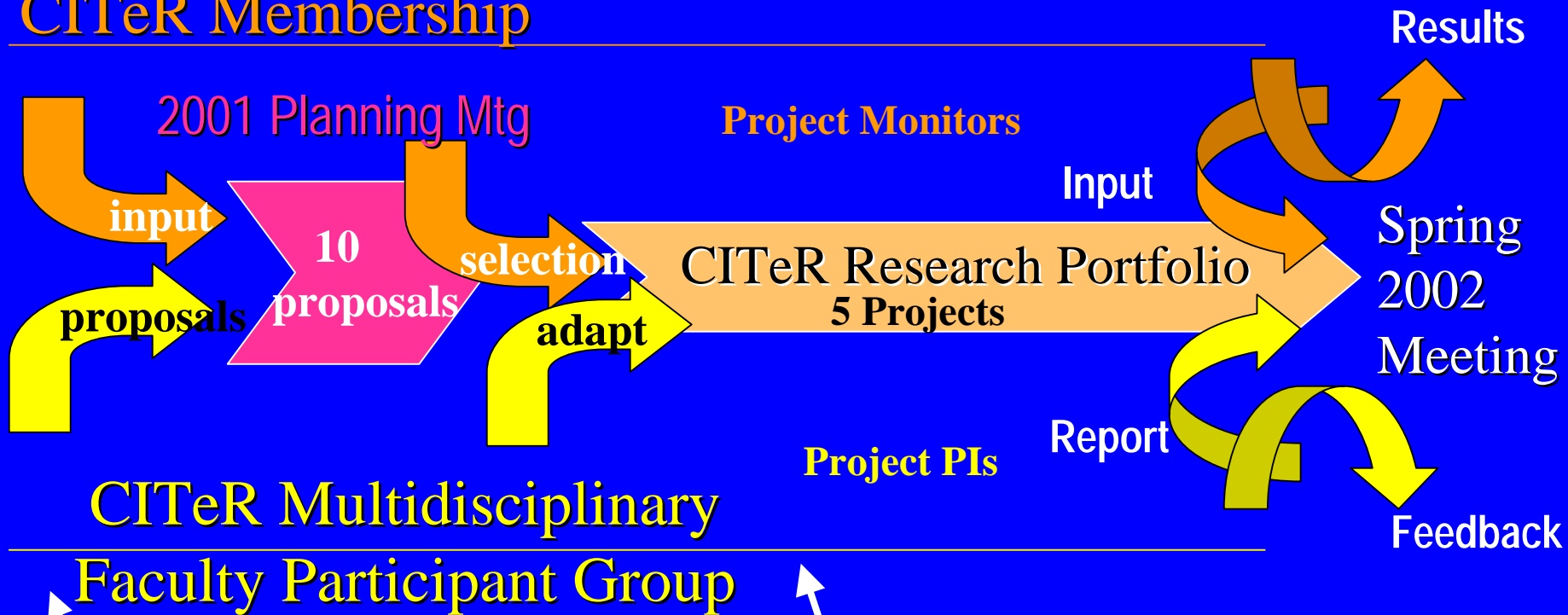
Transportation Security Agency

- 3 Additional organization anticipate membership.
- 6 others expressing interest and will be attending Fall 2002 Meeting.

Evolving CITEr's Research Portfolio

Industry, Government, & Agency User and
Developer Community

CITEr Membership



CITEr Multidisciplinary
Faculty Participant Group

University and Academic Program Foundation
WVU, MSU, SJSU, StLU,...

CITeR Semi-Annual Meetings

- Fall and Spring meetings are vital to building and maintaining a solid IUCRC.
 - Progress Reports and Input on Current Portfolio Projects
 - New Project Development and Selection
 - Advisory Board Business Meeting
 - *Opportunity for organizations considering membership to see the Center in operation.*
- CITeR Fall 2002 Meeting
 - November 21-22, 2002*
 - WVU Evansdale Campus*

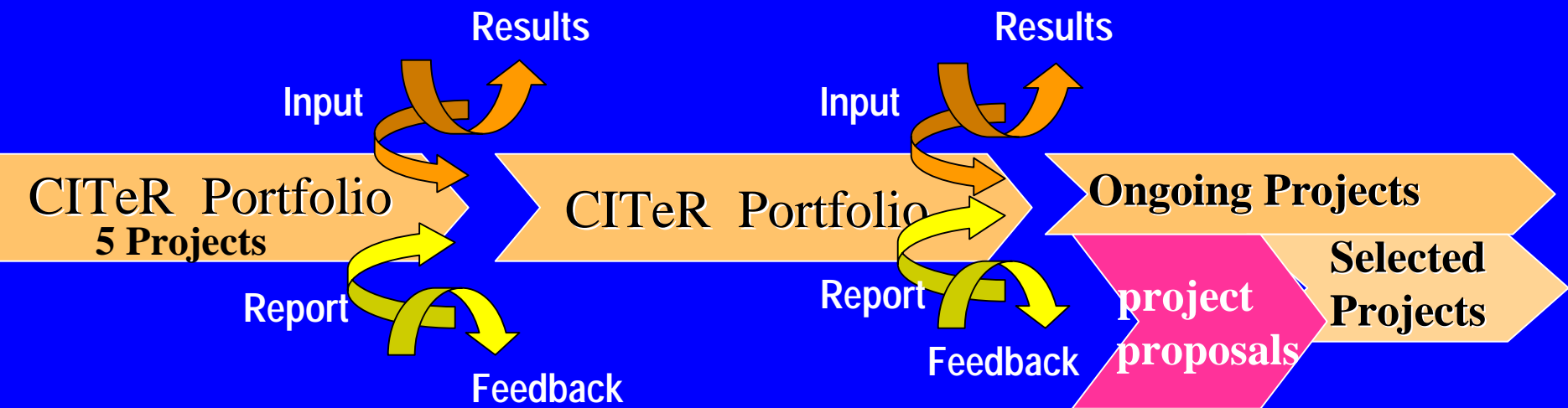
Evolving CTeR's Research Portfolio

CTeR Membership

- *Ongoing project* progress will be reviewed again at the Fall Meeting

Spring Meeting

Fall 2002 Meeting



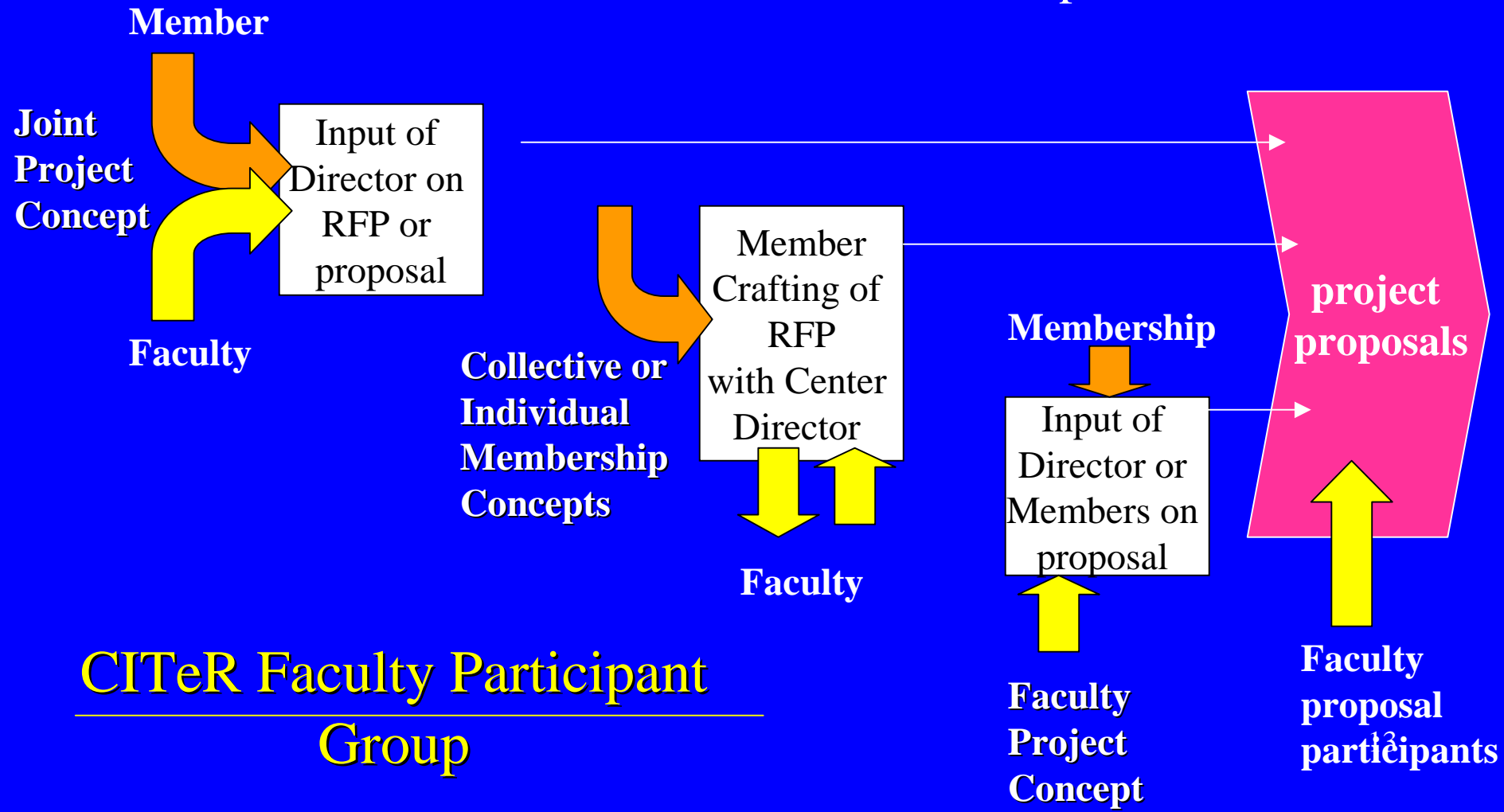
CTeR Faculty Participant Group

- Based on portfolio fund size and project timelines, *new projects* can be targeted for the Fall Meeting.

RFP Process for Fall Meeting

CITeR Membership

- Some paths to generation of RFPs and Proposals



Anticipated Project Proposal Topics for Fall 2002 Conference

- Follow-on proposals to a subset of current concluding projects. (e.g. Liveness, multimodal)
- New project suggestions put forth via discussions at and since the last Center meeting:
 - Socio-legal/acceptance study (Univ. of Pittsburgh)
 - Comparison of Statistical methods (StLaw)
 - Biometrics business case study (WVU)

.....

Fall Meeting: Project Selection

CITeR Membership

Pre-meeting

Meeting

Membership
input and
selection

- RFP's Dist. via the center listserve
- Early *Project Proposal Forms* distributed via listserve.

project
proposals

- Final Project Proposal Forms Distributed at meeting
- Presentation of projects to Members
- Discussion of Projects by Members
- Member voting

CITeR Faculty Participant
Group

Proposing
Faculty
members

Fall Meeting: Project Selection

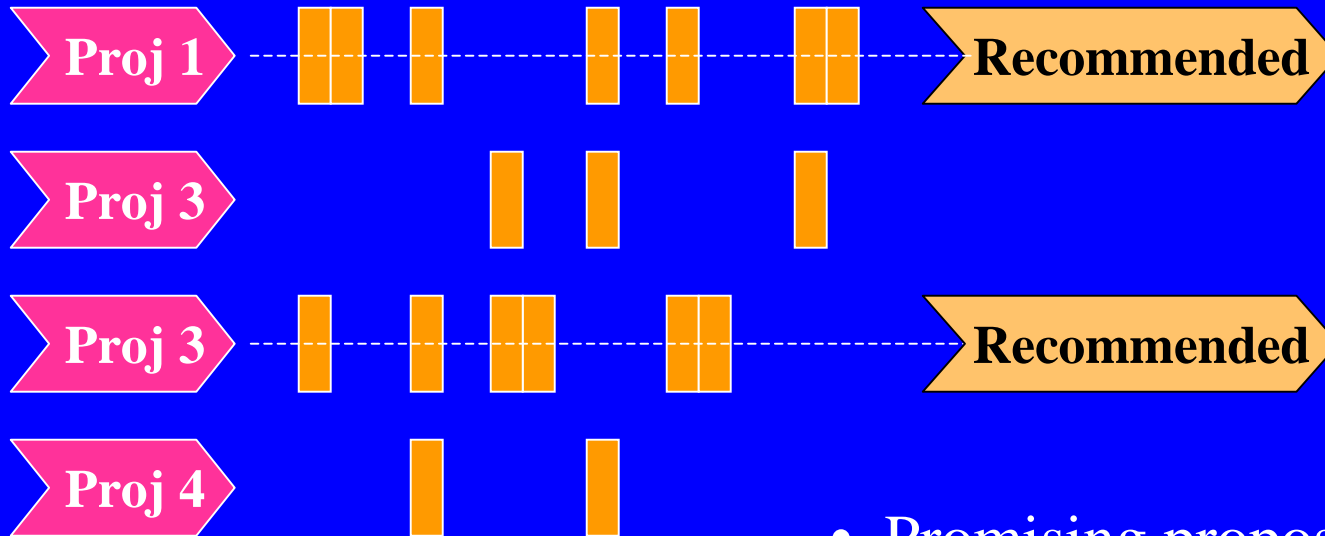
CITeR Membership



Membership voting (e.g. 3 per member) on proposal set

Member : 1 2 3 4 5 ... N

project proposals



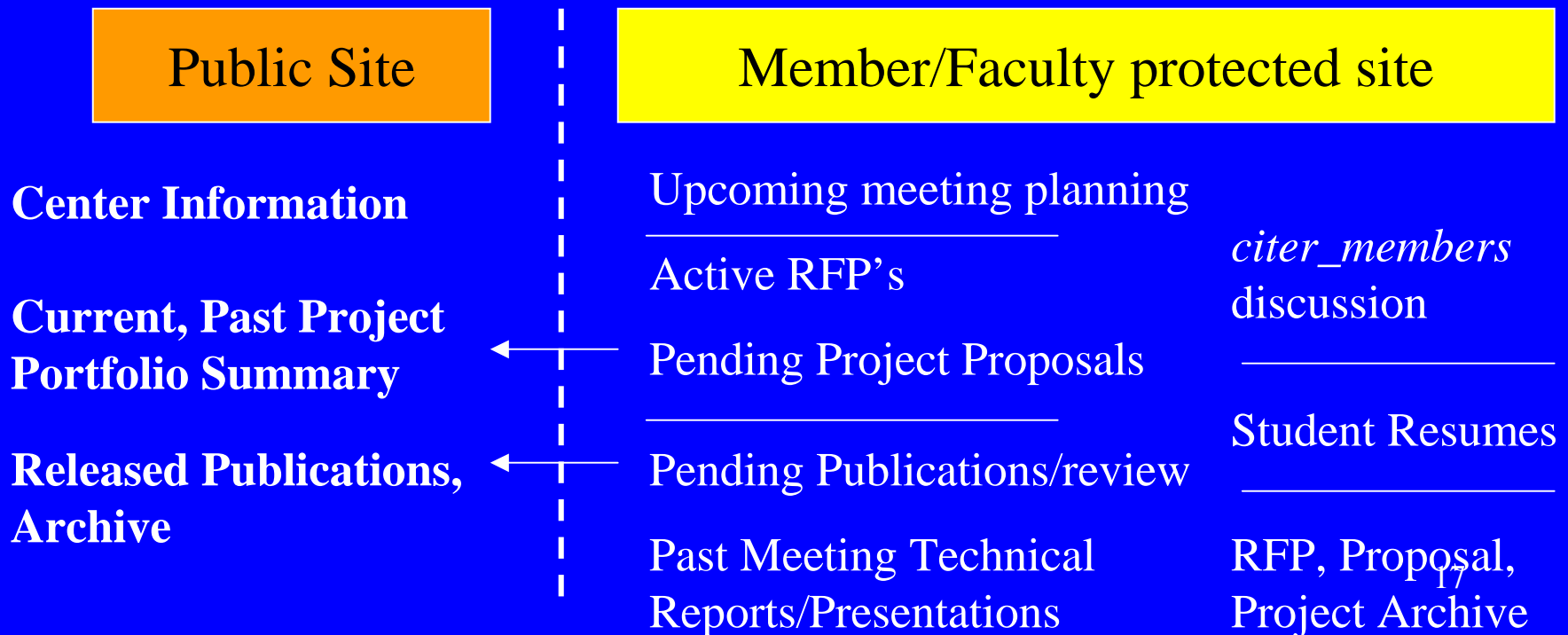
Adapt,
Budget,
Add to
Portfolio

- Promising proposals reworked based on membership and faculty, interest.

CITeR Faculty Participant Group

CITeR Listserve and Website

- Implementing new website with format reflecting the Center's activities and operation.



Education and Research

- BS-level programs in place and evolving.
- DoD Scholarship for Service (Ctr. of Excellence in IA).
- Graduate-level programs being developed with support from DoD BMO.

Undergraduate

Con't Educ.

Graduate

UG Courses

5-day Course

Grad Courses

Emphasis area in EE

Grad Certificate in
Biometrics and IA

Biometric Systems
Major, F-ID Program
Bachelor of Science

Development of MS tracks
in Biometrics and IA
within CS and EE

Workshop for a Biometrics Research Agenda

December 4 – 6, 2002
Morgantown, WV

Supported in part through a Grant from the
National Science Foundation

Co-Chairpersons:

Dr. Edwin P. Rood,
West Virginia University
(edwin.rood@mail.wvu.edu)

Prof. Anil K. Jain,
Michigan State University

Organizing Committee:

Prof. Jim Wayman,
San Jose State University

Dr. Ruud Bolle,
IBM Research Center

Dr. Jonathon Phillips,
DARPA

John Woodward, Esq.,

Objective and Approach

To develop a consensus for a biometric research agenda by convening a special workshop of the national experts in the various disciplines converging to the field of biometrics.

Participation

40 peer-recognized national experts
12 Government/Industry observers

Due Date for Report: February 3, 2003

Biometric Research Process

