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**Implementing new technologies (instruments and  
Bioinformatics), sun setting old ones, the dawn of inter  
institutional core collaboration, and strategies for optimal  
utilization of your core.**

***THE CORES AT THE HEART OF  
BIOMEDICAL RESEARCH EXCELLENCE***

# LEARNING ABOUT NEW TECHNOLOGIES

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- + Vendors marketing
- + Networking amongst investigators/core facility directors
- + Meetings/conferences
- + Staying abreast of the literature
- + Participating in grant review panels

# DEFINING THE TECHNOLOGY NEED

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- ✘ From researchers, “If only I could .....
- + Recognition of need not fulfilled (someone or group champions it)
- + Meeting new evolving research needs within the local research community
- ✘ Upgrading older equipment or technology
- ✘ Staying current to facilitate access to the most current technology for research excellence

# ACQUIRING NEW TECHNOLOGIES

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- ✘ Depends on cost and what the new technology is
  - + Expensive instrumentation
    - ✘ Institutional commitment and support to maintain research competitiveness
    - ✘ Shared Instrumentation Grants/Major Research Instrumentation grants
    - ✘ Program income/User fees
    - ✘ Collaborative acquisitions
  - + Less expensive technology
    - ✘ Same as above, but perhaps easier to acquire and to keep current

# ACQUIRING NEW TECHNOLOGIES

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## ✘ Role of advisory committee

- + Depending on the size of the institution and facility, this can be an important group in planning for new technologies
- + Advisory committee members with research that uses the facility can be aware of new developments and propose updating/adding new technology
- + Can provide guidance in selecting new technology – critical in many cases
- + Can help support and sell the need for the new technology when seeking institutional financial support

# IMPLEMENTING NEW TECHNOLOGIES

- ✘ Supporting infrastructure
  - + Environment – space and physical plant
  - + Staff
  - + LIMS, project management
  - + IT Infrastructure
- ✘ Education and training
  - + One on one training
  - + Workshops and courses
  - + Research seminars
  - + Newsletters

# IMPLEMENTING NEW TECHNOLOGIES

## ✘ Sustainability plan

- + Establishment of appropriate business model
- + Integration into existing sustainability plans

## ✘ Making folks aware of new technologies

- + Newsletters/emailing
- + Website
- + Seminars/Workshops
- + Incentive programs
- + Phone calling

# SUN-SETTING OLD TECHNOLOGIES

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- ✘ Obsolescence happens - plan for it.
- ✘ It doesn't last
  - + 3 – years is typical
  - + Gets superseded
  - + Impractical repair costs
    - ✘ Service contracts for old equipment can become prohibitively costly.
- ✘ Do you have funding structure or a plan to continue to maintain and/or purchase it's successor?



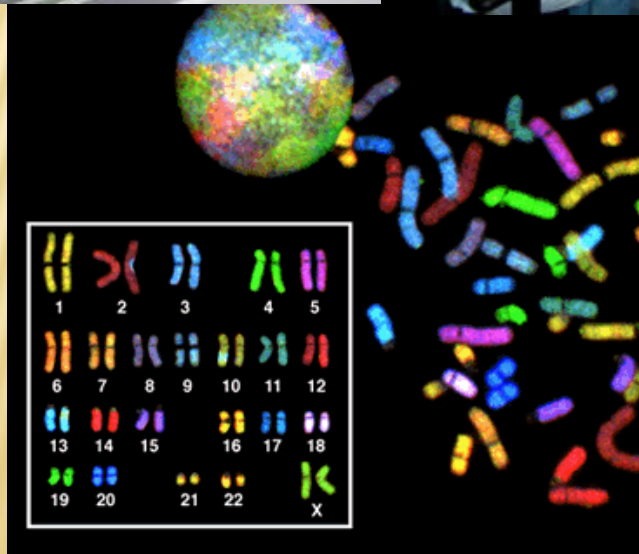
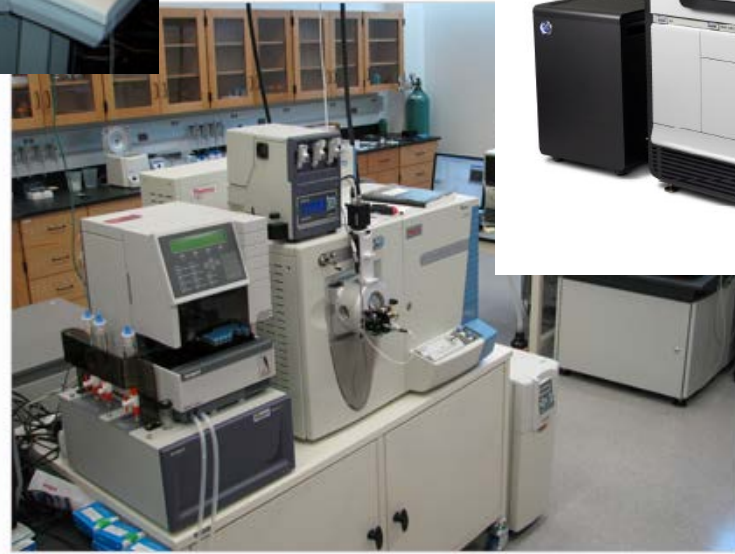
# DAWN OF INTER-INSTITUTIONAL COLLABORATION

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## × Driving forces

- + Expertise – expanding/sharing expertise
- + Enhancement of the research enterprise
- + Cost – shared instrumentation, economy of scale
- + Increasing use of facilities/services
- + Efficiency – avoiding duplication
- + Ease of electronic connectivity and communication
- + Ease of sample transportation/shipping

# DIFFERENT CORES, DIFFERENT COLLABORATIVE ARRANGEMENTS



# COLLABORATIVE ARRANGEMENTS

- × Type of core or facility
  - + Sharing expertise
  - + Sharing equipment; remote instrument use
  - + Sample/data analysis, sample preparation, reagents
- × Location and geographic proximity
- × Carrying capacity – personnel, resources, space
- × Integrating the collaborative arrangement into the facility business model

# INTER-INSTITUTIONAL CORE COLLABORATIONS IN IDEA STATES – CHALLENGES AND ISSUES

- ✘ Long distances between institutions in rural states
- ✘ Smaller institutions –
  - + core facilities may be smaller and less well equipped
  - + Cores may be under utilized – rationale for developing collaboration
- ✘ Options – establish regional or statewide collaborations

# MARKETING AND PROMOTING INTER-INSTITUTIONAL COLLABORATION

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- ✘ Websites
- ✘ Core facility meetings – e.g. ARBF, NMBIST
- ✘ Registering on core facility registries
- ✘ Sponsoring regional/national workshops
- ✘ Networking at meetings
- ✘ Outreach programs
- ✘ Institutional vision and long-range planning at the regional, state and national level

# FORMATION OF INTER-INSTITUTIONAL COLLABORATIONS INVOLVING CORE FACILITIES

- × A number of models exist –
  - + At the level of individual core facilities
    - × EMtrix – Biological Sciences, University of Montana, Missoula
    - × Imaging and Histology Core Facility – Northern Arizona University
  - + At the level of broader institutional collaborations – regional or statewide
    - × Core facilities may be centrally administered at the collaborating institutions
    - × Institutions recognize the importance of the core facilities to the overall institutional strategic plan

# INTER-INSTITUTIONAL RESOURCE CONSORTIA AND NETWORKS

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## ✘ Consortia

- + Chicago Biomedical Consortium: Northwestern University, University of Chicago, University of Illinois at Chicago
- + Virginia Research Resources Consortium: University of Virginia, Virginia Commonwealth University, George Mason University, University of Richmond, Virginia Tech
- + Atlanta Clinical and Translational Science Institute: Emory University, Morehouse School of Medicine, Georgia Institute of Technology
- + Indiana Clinical and Translational Science Institute: Indiana University, University of Notre Dame, Purdue University
- + North East Cyberinfrastructure Consortium – Vermont, New Hampshire, Maine, Rhode Island, Delaware

# INTER-INSTITUTIONAL RESOURCE CONSORTIA AND NETWORKS

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## × Networks/Registries

- + Institute of Translational Health Sciences – has a network of regional research facilities distributed through Washington, Wyoming, Alaska, Montana, and Idaho (WWAMI)
- + Vermont Genetics Network – linked to the ABRF Core MarketPlace and NICL website
- + eagle-i – searchable registry of resources located at participating institutions



# STRATEGIES FOR OPTIMAL CORE UTILIZATION

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- ✘ How do you create awareness of your core?
- ✘ Competitive pilot award mechanism
  - + Researchers respond to an RFP for a monetary award to use instrumentation.
  - + Fosters use and awareness of the core through the competition, winners and non-winners.
  - + Winners of the award enter into a collaborative arrangement co-publishing, etc. with the core.
  - + Track record of collaborations create a growing network of users even after pilot work is over