New Career Path for PhDs: Director/Manager of a Core Facility

Phil Hockberger, PhD
Director of Core Facilities
Office for Research
Professional Careers for PhDs In the Sciences

- Research Administrator
- Research Safety Officer
- Tech Transfer Officer
- Dir/Mgr of a Core Facility
What is a Shared or Core Facility?

- Specialized laboratory at a university or industrial lab with unique (usually expensive) instruments and/or services.
- Approximately 50 core facilities at NU split between Chicago and Evanston campuses (2 at Argonne National Lab).
- Operated as Recharge Centers (fee for service); researchers pay with grants and contracts.
- Regulated by the federal government; cannot serve as profit centers for universities.
- Most facilities do not cover their expenses; subsidized by departments, schools, centers and the Office for Research.
- Approximately 10% of overall income is paid by external customers (non-NU) from academia (9%) and industry (1%).
NIH Investment in Cores

The overall NIH investment in core facilities is approximately $900M each year.

This total includes:
• P30 awards ($637M in FY10) *
• Cores supported under other activity codes (P01, U54, …) *
• Charges to the R01 (or other) awards of users of core facilities *
• Shared instrument awards that end up in core facilities *

* NU receives funds for these
NCRR and the Recovery Act

• NIH received $10.4B in Recovery Act funds
• NCRR received three distinct pools of funds under the Recovery Act
  – $300 M shared instrumentation
  – $310 M scientific research
  – $1B extramural construction
• Funds from each NCRR pool were used to support core facilities
Categories of Core Facilities at NU

- Small Molecular Chemistry Cores (4)
- Genetics Cores (3)
- Peptide/Protein Chemistry Cores (5)
- Tissue & Animal Phenotyping Cores (9)
- Imaging & Flow Cytometry Cores (9)
- Physical Sciences & Engineering Cores (15)
- Consulting Cores (5)
- General Services (5)
# Shared & Core Facilities

## Top 20 Core Facilities

- Pathology
- NUANCE ***
- Genomics
- IMSERC **
- LS-CAT (Argonne)
- Center for Translational Imaging
- DND-CAT (Argonne) *
- Biological Imaging Facility *
- Cellular Imaging Facility ***
- Recombinant Protein Production
- RHLCC Flow Cytometry
- Transgenic Facility
- Biostatistics
- Proteomics
- Skin Disease Research
- OR Instrument Shop
- Center for Adv. Molecular Imaging
- High Throughput Analysis Lab
- Mouse Histology
- Cryogenics

### FY11 Operating Costs ($)

<table>
<thead>
<tr>
<th>Facility</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathology</td>
<td>3,484,145</td>
</tr>
<tr>
<td>NUANCE ***</td>
<td>2,166,455</td>
</tr>
<tr>
<td>Genomics</td>
<td>1,928,614</td>
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<tr>
<td>IMSERC **</td>
<td>1,664,861</td>
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<tr>
<td>LS-CAT (Argonne)</td>
<td>1,650,000</td>
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<tr>
<td>Center for Translational Imaging</td>
<td>1,609,629</td>
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<tr>
<td>DND-CAT (Argonne) *</td>
<td>1,350,000</td>
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<tr>
<td>Biological Imaging Facility *</td>
<td>1,130,675</td>
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<tr>
<td>Cellular Imaging Facility ***</td>
<td>994,664</td>
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<tr>
<td>Recombinant Protein Production</td>
<td>803,817</td>
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<tr>
<td>RHLCC Flow Cytometry</td>
<td>774,146</td>
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<tr>
<td>Transgenic Facility</td>
<td>735,508</td>
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<td>Biostatistics</td>
<td>661,907</td>
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<tr>
<td>Proteomics</td>
<td>649,427</td>
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<tr>
<td>Skin Disease Research</td>
<td>541,958</td>
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<tr>
<td>OR Instrument Shop</td>
<td>486,595</td>
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<tr>
<td>Center for Adv. Molecular Imaging</td>
<td>386,076</td>
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<tr>
<td>High Throughput Analysis Lab</td>
<td>368,822</td>
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<tr>
<td>Mouse Histology</td>
<td>365,942</td>
</tr>
<tr>
<td>Cryogenics</td>
<td>364,734</td>
</tr>
</tbody>
</table>

* Outstanding Core Facility Awards
Shared & Core Facilities

NU Avg. = 64%
National Avg. = 52%
(75 institutions, August ‘12)
Shared & Core Facilities

Recharge Income in FY11= $9.8M

NU

External Income = $0.9M

- Non-Profit $0.8M
- For-Profit $0.1M

U. Chicago = $152,423
UIC = $10,827
Shared & Core Facilities

Specialized Skills of Directors/Managers:
- Excellent Technical Expertise
- Excellent Communication Skills
- Excellent Business Acumen
Shared & Core Facilities

Recharge center management requires specific accounting and administrative activities

- Document/calculate cost-based rate(s) and publish price(s)
- Adhere to the federal cost accounting requirements in determining rate(s) and price(s) and seek review/approval by Cost Studies
- Establish and maintain a separate chartstring (Fund 160) to capture expense and revenue activity
- Establish and maintain a separate Capital Reserve Account, if equipment depreciation is reflected in the prices charged to users
- Have an acceptable method/system for tracking actual usage
- Bill customers on a timely basis (e.g., monthly)
- At least annually, analyze surplus/deficit position (actual expenses versus actual revenues)
- Retain records to support charges
Shared & Core Facilities

Five steps to the recharge process:

- UNDERSTAND WHAT CONSTITUTES A RECHARGE ACTIVITY/CENTER (and what’s involved in operating one)
- DEVELOP THE PLAN FOR A NEW CENTER (or document an existing center)
- CALCULATE RATES AND SET PRICES (and obtain Cost Studies’ approval)
- ESTABLISH THE (FUND 160) CHARTSTRING
- MANAGE THE CHARTSTRING & OTHER ADMINISTRATIVE REQUIREMENTS
Shared & Core Facilities

Types of Expenses included in Rate Calculations

• Salary and Fringe
• Materials and Supplies (consumables)
• Capital Equipment (items costing $5k or more): depreciation expense
• Non-Capital Equipment: purchase cost
• Equipment Service Contracts
• Other Service Costs
• Converged Communications Fee, Mailing, Other Support Costs
• After initial establishment, surplus or deficit amount from prior year
<table>
<thead>
<tr>
<th>Time</th>
<th>Monday (April 16)</th>
<th>Tuesday (April 17)</th>
<th>Wednesday (April 18)</th>
<th>Thursday (April 19)</th>
<th>Friday (April 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30-10:00</td>
<td>Accounting for Decision making (Finn)</td>
<td>Accounting for Decision making (Finn)</td>
<td>Finance (Petersen)</td>
<td>Finance (Petersen)</td>
<td>IP Management (Conley)</td>
</tr>
<tr>
<td>10:15-11:45</td>
<td>Accounting for Decision making (Finn)</td>
<td>Accounting for Decision making (Finn)</td>
<td>Finance (Petersen)</td>
<td>Finance (Petersen)</td>
<td>IP Management (Conley)</td>
</tr>
<tr>
<td>11:45-1</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
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<tr>
<td>1:00-2:30</td>
<td>Decision-Making (Galinsky)</td>
<td>Accounting for Decision making (Finn)</td>
<td>Business Strategy (Dafny)</td>
<td>Finance (Petersen)</td>
<td>IP Management (Conley)</td>
</tr>
<tr>
<td>2:45-4:15</td>
<td>Strategies for Managing and Leading organizations (Galinsky)</td>
<td>Negotiations (Murnighan)</td>
<td>Business Strategy (Dafny)</td>
<td>Marketing Management (Calkins)</td>
<td>Wrap Up (15 min)</td>
</tr>
<tr>
<td>4:30-6:00</td>
<td>Strategies for Managing and Leading organizations (Galinsky)</td>
<td>Negotiations (Murnighan)</td>
<td>Competitive Strategy (Dafny)</td>
<td>Marketing Management (Calkins)</td>
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<td></td>
<td></td>
<td></td>
<td>Cocktails 6-7</td>
</tr>
</tbody>
</table>

Academic Director: Sangeeta Vohra
Shared & Core Facilities

Websites for core facilities:

✓ http://www.abrf.org/
✓ https://sites.google.com/a/my.abrf.org/mwacd/
✓ http://www.research.northwestern.edu/facilities
✓ http://www.northwestern.edu/coststudies/recharge.html