Panel – Training Experiences on Campus
Purdue University

Preston Smith
Director of Research Services and Support
ITaP Research Computing
TRAINING/WORKSHOP SERVICES

• Classroom training (workshops, tutorials)
• Targeted training to individual labs
• One to one training (office/coffee hours)
• Online self-directed training
SCHOLAR CLUSTER

• HPC System dedicated to instruction
• Integrated with student Banner systems
• 16 courses in spring 2016
IN THE PAST

- C, C++
- Fortran
- MPI programming
- Condor
- "How to build a cluster"

http://www-03.ibm.com/ibm/history/ibm100/images/icip/N492520Q91038C24/us__en_us__ibm100__computer_science__class__900x720.jpg
WORKSHOP DETAILS

• Campus-wide workshops
  ▪ Regularly stream XSEDE training on MPI, OpenMP, and Big Data
  ▪ Summer VCSE
  ▪ Visualization
  ▪ Software Carpentry
  ▪ Manycore /parallel programming workshops
  ▪ Supercomputing in Plain English

• On demand/customized workshops
  ▪ Departmental
  ▪ Labs

• Online tutorials

• Collaboration with other research groups
  ▪ Bioinformatics workshops
  ▪ Big Data Training for Translational Omics Research
• Indiana’s Land Grant University
  ▪ 40,451 students
  ▪ 11,778 Engineering ($151M)
  ▪ 3,329 Agriculture ($60M)
• No Medical School
  ▪ Our life scientists study plants and animals
• “Purdue Moves” Highlights
  ▪ Engineering Expansion
  ▪ Plant Science
### Growth Areas

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<td>Liberal Arts</td>
<td>7</td>
<td>6</td>
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<td>26</td>
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<tr>
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<td>40%</td>
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<td>Pharmacy</td>
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<td>27</td>
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<tr>
<td>Science (non-bio)</td>
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<tr>
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<td>0</td>
<td>20</td>
<td>0%</td>
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<tr>
<td>Vet School</td>
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<td><strong>Total</strong></td>
<td>555</td>
<td>93</td>
<td>462</td>
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Out of 74 Ag researchers, 48 are “data only”

**What does the gap between data and compute researchers tell us?**
AGRICULTURE HPC USAGE

2008

298,802

2015

1,411,280
TRAINING/WORKSHOPS REGISTRANTS BY COLLEGE

Clusters 101 - Fall 2015

- College of Engineering: 40%
- College of Agriculture: 34%
- College of Science: 16%
- College of Pharmacy: 6%
- College of Health and Human Sciences: 2%
- ITaP: 2%

Clusters 101 - Spring 2016

- College of Engineering: 61%
- College Agriculture: 29%
- College of Science: 7%
- Interdisciplinary Life Science: 3%
I want to be a COMPUTER OPERATOR

By Eugene Baker
FUTURE DIRECTIONS IN TRAINING

• More UNIX 101
• Create for-credit courses in computational and data literacy
  ▪ Target topics relevant to Ag students
• Courses in data management
  ▪ Transferring, sharing
  ▪ Management, lifecycle with Libraries
• Software carpentry
• Online courses in Hubzero
• Engage students into community’s student programs