UNC Board of Governors

Fran O’Sullivan
IBM RTP
Largest site in NA
EVERY BU of IBM is present
Agile Central / IBM Design Studio / The Cloud / Watson
25% < 5 years 33% > 25 years

COMMUNITY LEADERSHIP
35+ Non-Profit Boards
2015: Donated ~$2M through Employee Charitable Contributions
600,000+ hours volunteered since 2009

INNOVATION
11% of IBM’s Patents
12 IBM Fellows (5 active), 45 DEs
60 Master Inventors
STEM Focus – K-12 Outreach

ENVIRONMENT
LEED Gold Certified Data Center
Wildlife Habitat Council: Conservation Certification
IBM RTP recycles 82% solid waste
IBM & UNC System: Long history of partnering

**COLLABORATION**
- IBM University Day
- NCSU Education Collaboration Center
- Cloud Services
- Serious Gaming
- Adjunct professors / Guest lecturers

**RESEARCH & TECHNOLOGY**
- In-Kind Grants
- $30M+ cash grants
- Faculty Awards
- SUR Awards
- PhD Fellowships
- Cognitive
- Analytics

**RECRUITING**
- 2,000+ IBMers
- NCSU consistently in IBM’s Top 3
- UNCCH consistently in IBM’s Top 20
- Diversity recruiting day
IBM Future Student Needs

T – Shaped Skills
End to End

High – Tech
- IBM Academic Initiative (AI)
- IBM Watson Analytics Academic Program (WAP)
- Watson Academic Engagement Program
- Serious Gaming
- Cloud Services
- IOT Education Roundtable
- IBM Cloud Academy
- IBM System z

Diverse STEM Graduates
- Ability to work in new ways
- Highly Collaborative
- “On Demand”
- Agile
- Entrepreneurs

Prepared to Continually Learn
- 1/2 students entering the workforce accept jobs that didn’t exist when they started college
- Using technologies that haven’t been invented
- “Uberization” of the industry
Joint Research

- Need to be creative to overcome IP challenges:
  - IBM **Open Collaboration Research** (OCR)
    - NCSU’s **Secure Open Systems Initiative** (SOSI) = IBM OCR Award for 4 years
  - Apache **Virtual Computing Lab** (VCL)
    - Extreme Red / Extreme Carolina Blue / Extreme Green

- Internet2 NET+ validation testing of IBM Bluemix/SoftLayer cloud services

- John Kelly’s 2009 study **Innovate, Collaborate, Accelerate: The UNC Vision for Innovation and Technology Development**

- **Offices of Technology Transfer** (OTT)
  - Relinquishment of university claims to IP generated by undergrads in some senior design and entrepreneurial classes
  - IP-free zones on campus
NC: a leader in Game Development and Cognitive People-Centric Design

- Wake County is the United States Eastern Hub for Game Development with over 35 game studios and schools that teach game design
- IBM’s Global Lead for Serious Games is UNC Chapel Hill’s Social Entrepreneur in Residence for 2016-17
- International Serious Play Summit @ Kenan Flagler July 25-28
- Free Motivational Design workshop at UNC September 7 (IBM, UNC School of Public Health, and UNC School of Education)
- Wake County Government Cognitive Game Design Workshop September 16 @ IBM EBC

Modelling & Simulation
Manipulating Data for Training, Prediction

People-centric Engagement via Game Based Design and Technology

Cloud enables new Business Models

Alone, each of these has immense potential. Integrated, they change everything.
NC is IBM’s WorldWide HUB for Cognitive People-Centric Design

BUILDING DYNAMIC BEST PRACTICE PLAYBOOKS

CITIZEN ENGAGEMENT

Transforming STEM education
Participatory Budgeting
Raleigh Digital Connectors
The CUBE@ UNC

WORKFORCE TRAINING

Crowd-sourced Problem Solving
Strategic Resiliency
Scenario Based Planning Tools
Ask Me Anything
Backup
IBM Academic Initiative for Cloud

Learn skills and gain experience on IBM Bluemix:

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**ibm.biz/aiforcloud**

**Student**
- 6+ mo. free trial
- Renewable account
- Student projects featured on new Student DevCenter

**Faculty**
- 12+ mo. free trial to teach selected courses
- Renewable account
- Virtual and local Cloud training

**Researchers:**
- 24 mo. free trial to teach selected courses
- Renewable account
- 26 grants & 2 researchers in 13 IICs supporting industry research

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Watson Analytics Academic Program (WAP)

• To ensure that educational institutions have access to these leading-edge technologies and can prepare their students for these opportunities, we now offer the Watson Analytics Academic Program (WAP). This program provides no-cost use of IBM® Watson Analytics software for classroom teaching and research.*

• Put the power of analytics in the hands of students beyond the traditional Analytics degree programs. Requires no deep analytics skills or training and intended for users that want to go far beyond Excel, but don’t have/need extensive data mining or programming training.

• While it's not intended to replace deep traditional analytical tools taught in school like SPSS or SAS, it's a good way to introduce predictive analytics to MBA students and non-analyst type students.
NC State Cloud Computing is powered by its Virtual Computing Laboratory technology

- VCL project development started in 2003
- NCSU production use started in 2004
- Support for both HPC & non-HPC workloads
- Awards incl. Computerworld Honors Prog. Laureate
- Currently NCSU VCL
  - is open to 30,000+ NCSU student and faculty, and 250,000 plus in NC
  - has 2,000 plus Blades in production
  - delivers over 460,000 CPU hours to general reservations (desktops, sub-clouds, classroom, etc.) annually, and over 7,000,000 HPC CPU hours.
- Number of user sites in and outside NC, e.g., NC Community College System, UNC System Universities, Virginia VCL consortium (GMU just won a significant award for its VCL), GSU, UMBC, GSU, TTP, UofSC, Southern, Cal State System, etc.

Dr. Mladen Vouk, “the father of VCL”

Professor and Head of Computer Science Department, and Associate Vice-Provost for Information Technology

North Carolina State University, Raleigh, NC

A partnership with IBM and others, to develop a new generation of IT resources

Students
“Go from days to hours a month of management”

Faculty
“Increase efficiency by reducing redundancy”

University IT

“The applications you need when you need them”