Michigan Tech

Research Symposium

Jan. 15, 2007
My Research:
- Wildlife Ecology
- Behavioral Ecology
- Landscape Genetics

Examples:
- Gecko feet
- Seeds & Velcro®
- Aphids & wax
- Brittlestars & microlenses

Collaborative Possibilities
Bio-inspired Engineering/Biomimicry/Natural Products Chemistry
Improve both the design and manufacturing of any product, by providing alternative concepts that are found in nature.
Yu Cai  (School of Technology)

- **Network Security**
  - QoS based network defense system
  - Internet routing security

- **Network Protocols**
  - Multiple path connections
  - TCP/IP protocol

- **Engineering Education**
  - Search engine
  - Web conferencing
Hetal Jasani – School of Technology (CNSA Program)

- Dissertation on Directional Antenna based Protocols
- General Interest: Mobile Ad Hoc Networks (MANET), Wireless Sensor Networks (WSNs), Wireless LANs, Network Security
- Little More Specific: MAC & Routing Protocols, Routing Security & Key management in WSNs
- Simulation and Testbed based research
Nasser Alaraje – School of Technology

- System-on-Chip / Network-on-Chip design methodology with FPGA as target
- Hardware description language modeling
- Computer-Aided design
- Processor Architecture
- Engineering Technology Education
  - Curriculum Development
  - Nano Enterprise
Barbara K. Lograsso (MET)

Forming of materials
  Powder materials processing
Thermal management materials
  Processing and evaluation
Fracture Evaluation
  Spectral Analysis
  Orientation Imaging Analysis
Engineering Technology
  Education
  Applied Thermodynamics
  Dynamics
MARI W. BUCHE
(Information Systems - SBE)

1. IS Workforce Issues
   - E-Mentoring
   - Changing professional identity
   - Computer anxiety & computerphobia

2. Social capital in technology incubators
   - Gender differences

3. Technology-related Usability studies
   - Open Source

[Diagram showing Venn diagram with People, Technology, and Org.]
Joanne Scillitoe - SBE

- Research Streams –
  
  FOCUS creation & development of NTBVs
  - Incubation of NTBVs
    - Factors associated creation & development, early stages
  - University Technology Transfer/Academic Entrepreneurship
    - Social networks that influence alliance formation (licensing)
    - Creation of spin-off firms
  - Biotech firm capital acquisition through alliances
    - Role of technology resources and network embeddedness

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**Areas of expertise for interdisciplinary work:**

*Networks, relationships, resources, innovation processes, etc. for creation and development of new ventures, particularly NTBVs*

*Dynamics of alliance formation, esp. biotech area*
Gregory A. Graman (S.B.E.)

- Inventory Positions in Supply Chains
  - Mathematical modeling with stochastic demand
  - Stochastic Linear Programming; Applied Statistics

- Closed-Loop/Reverse Supply Chain Management
  - Applying forward chain concepts to the reverse chain
  - Products at end of useful life
  - Impact of design stage; Design for re-use
  - Sustainable building design

- Methodologies:
  - Mathematical model building
  - Non-replicatable, typically empirical