

Webinar

Optimizing Your Competitive Edge with High-Tech Manufacturing Research

An Inside Look at the NYS Centers for Advanced Technology

AUGUST 15, 2017 • 1:30-2:30PM



A Webinar presented by NY MEP
Hosted by FuzeHub in partnership with



WEBINAR PRESENTERS



Julianne Clouthier

Manager, Industry Engagement, **FuzeHub**
julianne@fuzehub.com



Kim B. Grant

Business Development
Executive
UB CAT
kimgrant@buffalo.edu



Denis Cormier

AMPrint Center Director
Rochester Institute
of Technology
drceie@rit.edu



Daniel Walczyk

Center for Automation
Technologies and Systems
Rensselaer Polytechnic Institute
walczd@rpi.edu



Lawrence Weber, PhD

Business Development Manager and
Entrepreneur in Residence, **Center for
Advanced Technology in Diagnostic
Tools and Sensor Systems**
Stony Brook University
lawrence.weber@stonybrook.edu

OPTIMIZING YOUR COMPETITIVE EDGE



Agenda

- Welcome/FuzeHub Introductions
- UB CAT, University at Buffalo
 - Cytocybernetics & Efferent Labs
- AMPRINT, Rochester Institute of Technology
 - NextFlex, Sensor Films, Xerox, and GE Research
- RPI CAT, Rensselaer Polytechnic Institute
 - Mueller Phipps International (MPI)
- SENSOR CAT, Stony Brook University
 - Entrepreneur in Residence collaboration
- Q & A
- Upcoming FuzeHub programs

OPTIMIZING YOUR COMPETITIVE EDGE



Welcome



NEW YORK
Manufacturing
Extension Partnership

The New York State Manufacturing Extension Partnership (NY MEP) assists small & mid-sized manufacturers in becoming more competitive. NY MEP is part of the National Institute of Standards and Technology's Hollings Manufacturing Extension Partnership.

ADMINISTERED BY

10 Regional Centers • NYSTAR



FuzeHub
Statewide MEP Center

fuzehub.com/ny-mep/

OPTIMIZING YOUR COMPETITIVE EDGE



WEBINAR PRESENTERS



Kim B. Grant

Business Development Executive
UB CAT

kimgrant@buffalo.edu

OPTIMIZING YOUR COMPETITIVE EDGE



University of Buffalo CAT in Big Data and Health Sciences

(Previously the UB CAT for Biomedical and Bioengineering Technology)



Profile

Location

Buffalo, New York

Description

UB CAT's technology focus of big data and medicine, emphasizing pharmaceuticals, medical devices, and diagnostics.

With cost-effective and faster technologies to generate and store massive amounts of data, the big data field has exploded into a rapidly evolving phenomenon with huge opportunities for health sciences innovation and discovery.

The UB CAT marries New York State Center of Excellence in Bioinformatics & Life Sciences (CBLS) technical know-how and capabilities with interdisciplinary faculty expertise across the University in areas spanning data science, computing, modelling, and informatics to empower industry partners.

Recent Activity

Key Partners Leveraged



UB CAT

University of Buffalo



Profile

Key services

- Bioscience incubators including wet labs & office space
- Faculty expertise, workforce
- Funding (CTSI, Swift, SBIA, Holms Fund, Buffalo Innovation Fund etc.)
- Programming (I-Corp, Critical Path, Bright Buffalo, BioNet etc.)

Key Capabilities

- Center for Computational Research
- Clean Room
- Genomics and Bioinformatics
- Proteomics & Bioanalysis

Primary Industries Served

Pharmaceutical, Medical Device, Bio Informatics, Healthcare IT

Recent Activity

Companies Served Over the Past Year

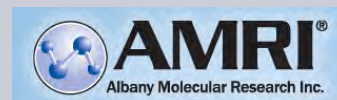
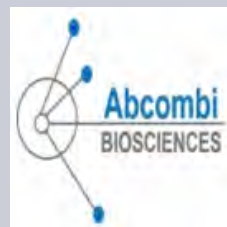


Center Highlights

NEW YORK STATE CENTER OF EXCELLENCE
BIOINFORMATICS & LIFE SCIENCES



Converting Research into Jobs and Economic Prosperity



Garwood Medical Devices



Case Study

NEW YORK STATE CENTER OF EXCELLENCE
BIOINFORMATICS & LIFE SCIENCES



WEBINAR PRESENTERS



Denis Cormier

AMPrint Center Director

AMPrint

Rochester Institute of Technology

drceie@rit.edu

OPTIMIZING YOUR COMPETITIVE EDGE



AMPrint Center

Additive Manufacturing and
Multifunctional Printing



R·I·T
AMPrint Center

Profile

Location

Rochester Institute of Technology, Rochester, NY

Description

- NY state's CAT dedicated specifically to 3D printing (3DP) and additive manufacturing (AM).
 - Faculty + staff expertise in AM/3DP dating back to mid-90's
- World-class state of the art facilities.
- Applied collaborative R&D involving:
 - Development of new AM/3DP processes
 - Synthesis and AM/3DP of novel materials
 - Design of novel products/devices that take advantage of unique AM/3DP capabilities

Recent Activity

Key Partners Leveraged



AMPrint Center

Additive Manufacturing and
Multifunctional Printing



R·I·T
AMPrint Center

Profile

Key services

- 3DP/AM training and consulting
- Design for 3DP/AM assistance (light weighting, etc)
- Development of new 3DP/AM processes
- Synthesis of new 3DP/AM materials

Key Capabilities

- Metal AM/3DP
- Composite AM/3DP
- Flexible and hybrid printed electronics

Primary Industries Served

Aerospace, optics/photonics, printing, biomedical, electronics, consumer goods, prototyping, etc.

Recent Activity

Companies Served Over the Past Year



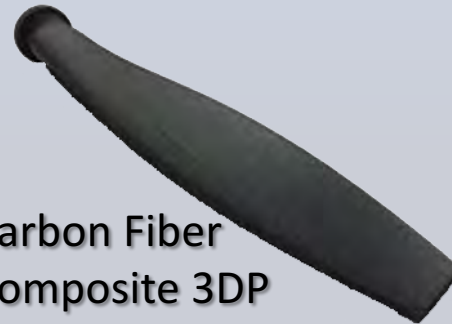
Center Highlights



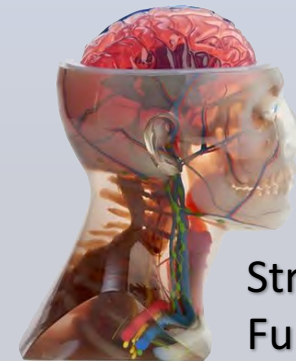
R·I·T
AMPrint Center



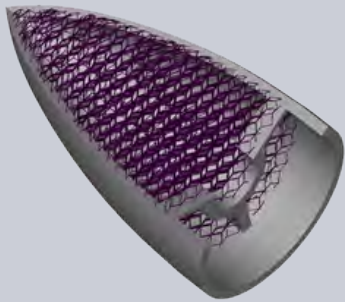
Vader Systems MK1



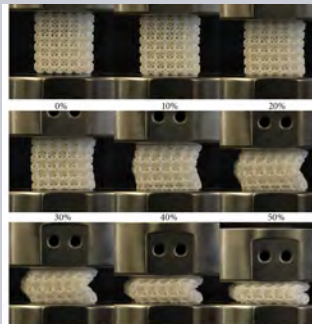
Carbon Fiber
Composite 3DP



Stratasys J750
Full color 3DP



Engineered Lattice Structures



Hardinge + HMT Hybrid Mfg System

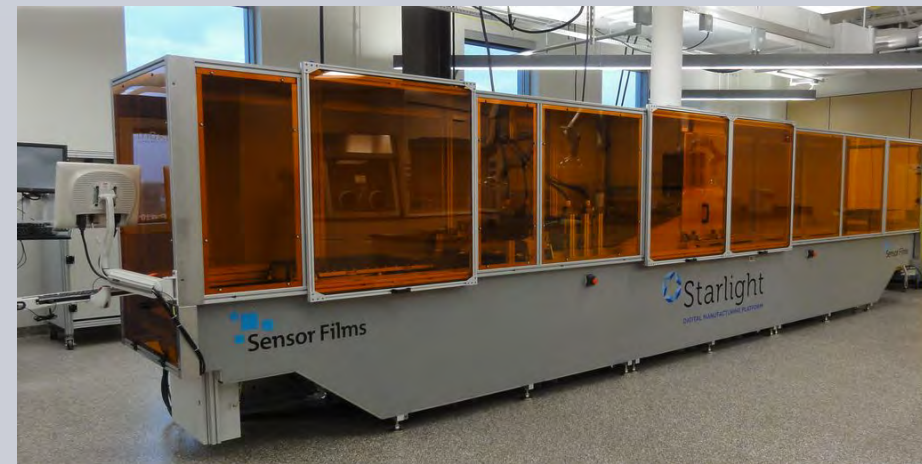
Case Study



R·I·T
AMPrint Center

NextFlex, Sensor Films, Xerox, and GE Research

- Two federally funded collaborative efforts
 - SFI and Xerox
 - Design, construct, and demonstrate a large-scale multifunctional printing platform to product flexible and hybrid electronic devices
 - GE Global Research
 - Design, fabricate, and test a printed disposable wireless ECG heart monitor
- Invited to submit three additional NextFlex full proposals



WEBINAR PRESENTERS



Daniel Walczyk

Center for Automation Technologies and Systems
Rensselaer Polytechnic Institute

walczd@rpi.edu

OPTIMIZING YOUR COMPETITIVE EDGE



Center for Automation Technologies and Systems (CATS)



Rensselaer Polytechnic Institute  Rensselaer

Profile

Location

Troy, New York in the Capital Region

Description

The CATS assists client companies with applied research and development (R&D) in advanced manufacturing, robotics and automation to help them meet specific business objectives such as increasing productivity, profitability, domestic and international competitiveness, and the number and quality of products offered so that they can grow and create jobs.

Recent Activity

Key Partners Leveraged



Center for Automation Technologies and Systems (CATS)



Profile

Key services

- Technical Consultation
- Collaborative Research
- Proof of Concept Modeling/Prototyping
- Needs/Resource Matching
- Surrogate R&D Center for Industry

Key Capabilities

De-risking of mfg. automation and robotics, manual production optimization, new process modeling & development, prototyping, vision systems, sensing, autonomous algorithms, smart manufacturing, roll-to-roll production, linkages to system integrators.

Primary Industries Served

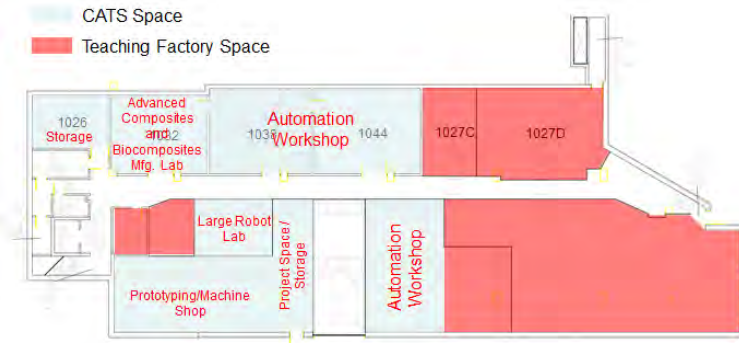
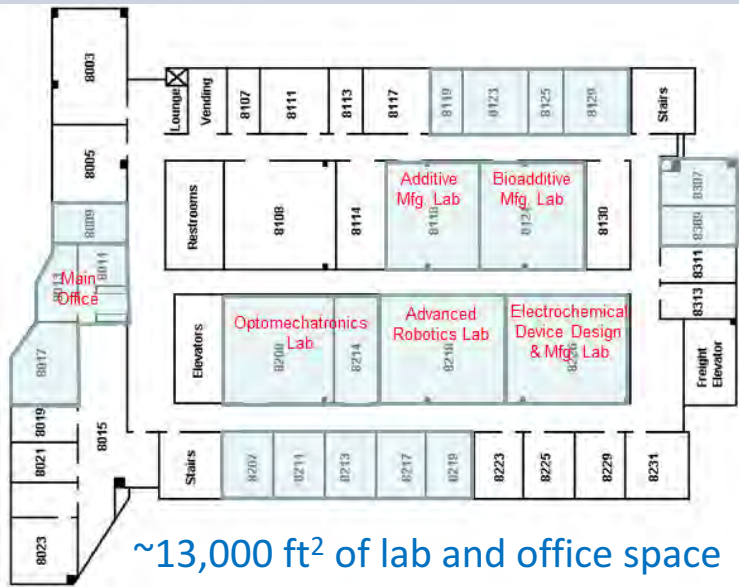
Discrete and continuous product manufacturers including large corporations and small-to-medium size firms

Recent Activity

Companies Served Over the Past Year



Center Highlights



Case Study



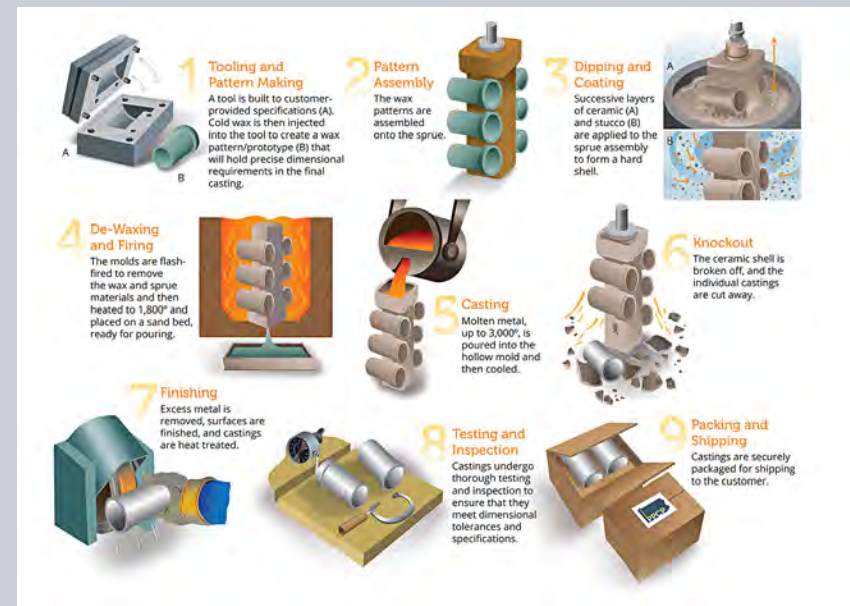
- Mueller Phipps International (MPI) is a small established company with in-house engineering, but no R&D or robotics expertise (at the time), that designs and manufactures production equipment for the investment casting industry

- CATS assisted MPI win R&D contracts with CATS as a sub-contractor

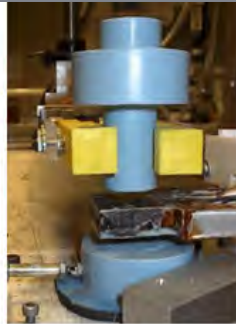
- CATS activities



- Process development
- Risk assessment and risk mitigation
- POPM
- Production machine concept design
- CATS as member of MPI-led system design
- Robotics expertise
- Process optimization



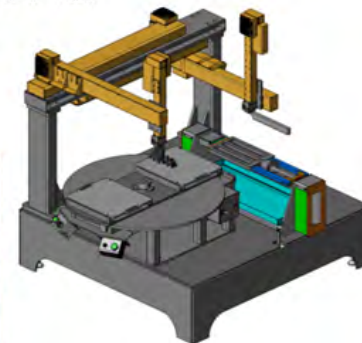
Case Study



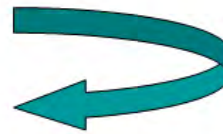
POPM



Production APAS



System design



WEBINAR PRESENTERS



Lawrence Weber, PhD

Business Development Manager and Entrepreneur in Residence

**Center for Advanced Technology
in Diagnostic Tools and Sensor Systems**

Stony Brook University

lawrence.weber@stonybrook.edu

OPTIMIZING YOUR COMPETITIVE EDGE



In Diagnostic Tools And Sensor Systems



Profile

Location

Stony Brook University, Stony Brook, New York

Description

- ✓ Operating since 1998 under NY State grants to help companies generate Economic Impact.
- ✓ Provides co-funding for company collaborations; serves as portal to campus resources; mentors startup ventures.
- ✓ Scope: All projects relating to applications of the S.T.E.M. fields, all across campus.
- ✓ NYSTAR Environment is Non-Exclusive: Sensor CAT resources provided are additive to those of other SBU Centers.
- ✓ Economic Impact of \$300,000,000 credited.

Recent Activity

Key Partners Leveraged



In Diagnostic Tools And Sensor Systems



Profile

Key services (Aspects of collaboration)

1. Offsetting the cost of faculty collaborations.
2. Identifying access to unique research infrastructure/equipment across SBU.
3. Access to Sensor CAT's rapid prototyping research facilities via collaboration.
4. Sensor CAT/CEWIT Entrepreneur in Residence Program, itself a direct business collaboration.

Key Capabilities

Stony Brook University faculty product R&D collaborations, and access to equipment.

Ability to tie in real world technology business experience in addressing business strategy and partner recruitment issues.

Primary Industries Served

Sensors, Sensor dependent products, Electronics, Aerospace, Biomedical Devices, Nanomaterials, Lasers, Telemetry, Wireless, IT, Computer Mfg.

Recent Activity

Companies Served Over the Past Year

Generally Under Confidentiality Agreement



Estée Lauder

And a Host of Small and Early Phase Companies.



Case Study



- **How Programmatic Performance of the Sensor CAT Metricized?**
- Economic Impact achieved by company with Sensor CAT assistance.
 - As substantiated by brief company letters to NYSTAR—letters not published.
- Selected Examples of Economic Impact.
 - Company creates one or more jobs.
 - Company gains patent protection.
 - Company launches new product line.
- *Sensor CAT and Company Goals Align.*



Case Study



Entrepreneur in Residence (EIR) and campus engineering collaboration co-funded by the Sensor CAT has assisted in bringing the inventor of a physical therapy device to the current point of negotiating a manufacturing and sales Agreement.

EIR and campus engineering collaboration co-funded by the Sensor CAT has assisted in bringing an inventor of an industrial mechanical device to taking initial order of units and ramping up manufacturing.

CENTER FOR ADVANCED TECHNOLOGY



Q & A

Respectfully presented by:

Lawrence Weber

lawrence.weber@stonybrook.edu

Ph. 631-632-1368

Questions?

OPTIMIZING YOUR COMPETITIVE EDGE



Upcoming FuzeHub Programs

- Jeff Lawrence Manufacturing Innovation Fund
 - Opens September 1, 2017 and closes September 29th at 4:00PM
 - Eligibility, Guidelines and FAQ's:
<https://fuzehub.com/manufacturing-innovation-fund/>
- Long Island Solutions Forum for NYS Manufacturers
Stony Brook University
Center of Excellence in Wireless and Information Technology
CEWIT Room #200
1500 Stony Brook Rd, Stony Brook, NY 11794
 - September 21, 2017
 - Registration: <https://fuzehub.com/longisland-solutionsforum/>

OPTIMIZING YOUR COMPETITIVE EDGE



For assistance with process or production development or any advanced manufacturing needs, please visit **www.fuzehub.com** and make a request; one of our specialists will respond to your request in 24 to 48 hours.

Keep the conversation going.

FuzeHub is on
LinkedIn, Twitter, Google+ , Facebook
info@fuzehub.com

Get the latest FuzeHub news
delivered directly to your inbox

www.fuzehub.com



[Linkedin.com/company/fuzehub](https://www.linkedin.com/company/fuzehub)



[Twitter.com/fuzehub](https://twitter.com/fuzehub)



[Facebook.com/fuzehub](https://www.facebook.com/fuzehub)

