

# Research and Economic Development

The Office of the Vice President for Research and Economic Development and its constituent units provide a supportive infrastructure for scholarly and entrepreneurial pursuits, fostering innovative thinking and industry collaboration within the university and community.

## Working with you to impact our world

Advancing UB’s research enterprise, facilitating innovation, The Vice President for Research and Economic Development (VPRED) provides an expansive infrastructure for scholarly and creative activities, research compliance, innovation, industry collaboration, and technology transfer.

## Ensuring Compliance in a Regulatory

- Up-to-date policies from sponsoring agencies
- Federal regulations and university guidelines
- Forms for maintaining research compliance

## Creating Collaborations

- Shared equipment and facilities
- Strategic partnerships with institutions and investigators
- Results, expertise and stories communicated to multiple audiences

## Supporting Scholarly Excellence

- New projects
- Funding opportunities
- Proposal assistance — develop, review, submit
- Research/funding partners
- Research award management

## Contributing to Job Growth & Diversified Economy

- IP protection
- Technology transfer assistance
- Startups / Incubation space
- Innovation for business growth
- Attraction of knowledge / creative workers to UB / Buffalo

## Contacts

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### Did you know?

FY23 research expenditures of \$232M, which represents a 16% increase over FY22 and 23% over FY21. This double-digit growth is the first in recent UB history.

# Research Support

Supporting the university's scholarly and creative activities in its drive to be a top 25 public research institution.

## Internal Funding

University internal funds are meant to support exploratory research projects. These programs include Planning Grants for Multi-Institutional Grant Applications and Grant Resubmission Awards. Additional programs include a Matching Program for Equipment Purchases and a program for Equipment Maintenance.



## Bridge Funding and Cost-Sharing

We partner with academic units to fund projects that temporarily lose external support. It also provides cost sharing for projects when required by sponsors. These programs fill budget gaps and ensure the continuity and quality of faculty research.



## Serving you better

External funders, especially federal agencies, seek solutions to complex problems, and increasingly look for multidisciplinary, collaborative research projects when selecting which proposals to fund. UB's Office of Research and Economic Development provides tools and programs to help faculty meet this demand, facilitating collaborative teams with expertise in multiple disciplines.



## Limited Submissions

Funding agencies sometimes restrict the number of applications that institutions can submit in response to grant opportunities. The OVPRED coordinates the nomination process to ensure UB submits only the number of allowed proposals. Limited Submission competitions are announced on our website and via the Limited Submission e-Newsletter.

## Did you know?

UB's research enterprise exceeds \$450M in total R&D expenditures, leading in part to the university's overall direct and indirect economic impact of nearly \$3B annually.



## Contacts

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# Office of Research Compliance (ORC)

Supporting the regulatory environment required for externally and internally funded research, training and other activities.

## Protecting you and your research

- Institutional Review Board (IRB): 716.888.4888
- Quality Assurance: 716.829.2752; [jmsmith@buffalo.edu](mailto:jmsmith@buffalo.edu)
- Conflict of Interest: [coiofficer@buffalo.edu](mailto:coiofficer@buffalo.edu)
- Export Controls: 716.888.4881; [exportcontrols@research.buffalo.edu](mailto:exportcontrols@research.buffalo.edu)
- Institutional Animal Care & Use Committee (IACUC): 716.888.4888; [IACUC@research.buffalo.edu](mailto:IACUC@research.buffalo.edu)
- Responsible Conduct of Research: 716.829.3011; [sarinad@buffalo.edu](mailto:sarinad@buffalo.edu)

## Did you know?

- ↑ UB has approximately 1500 active human subjects studies. 2021 UB review times are:
  - Full Committee: 49 days
  - • Expedited: 20 days
  - Exempt: 19 days

UB is an IRB leader, using best practices by implementing the new single-review process

- Member SMART IRB reliance system
- Over 300 reliance agreements in 2021
- In 2022, UB has added an additional IRB reviewer for expedited and exempt studies

## Fully Accredited

UB is fully accredited for its research programs:

- The human research program is accredited by the Association of Human Research Protection Programs (AAHRPP).
- The animal research program is accredited by the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC).

## Serving you better

Offering guidance and regulatory oversight to faculty members and staff so they can perform high quality research.

We do this by ensuring that UB meets the highest standards for the protection of the rights and welfare of human research subjects and the humane care of laboratory animals.



# Laboratory Animal Facilities

Supporting faculty and staff performing ethical and humane animal research.

## Special Services

- Surgical assistance
- Necropsy
- Pharmacy
- Diagnostics: Blood Testing (CBC & blood chemistry)
- Technical assistance: injections; blood collection; anesthesia; surgery; genotyping; identification methods (ear tagging/ear punching); breeding
- Dental Radiography (Film)



## Species

We can house and accommodate most species, including small animals - mice, rats, rabbits, ferrets, chinchillas, hamsters; as well as large animals - pigs, sheep, dogs, as well as amphibians (Xenopus), reptiles, fish and birds.

## Contacts

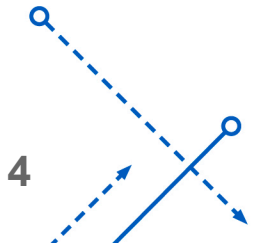
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# Laboratory Animal Facilities

Continued...

## Locations and Animal Facilities

### North Campus:

#### Hochstetter Hall

- Conventional rodent housing

#### Park Hall

- Conventional rodent housing

### South Campus:

#### Biomedical Education Building (BEB)/Biomedical Research Building (BRB)

- High Level Barrier Suite & Barrier Rooms (rodents)
- Animal Biosafety Level 2 Suite (rodents)
- Conventional rodent housing
- Large animal housing/surgery suite
- Rodent microPET
- Optical imaging/irradiation available in BRB

#### Pharmacy Building

- Conventional rodent housing
- Barrier Rooms

### Downtown Campus:

#### Clinical and Translational Research Center

- High Level Barrier Suite & Barrier Rooms (rodents)
- Conventional rodent housing
- Large animal housing/surgery suite
- 3T MRI, PET/CT for large animals
- 9T MRI for rodents

#### Jacobs School of Medicine and Biomedical Sciences

- High Level Barrier Suite & Barrier Rooms (rodents)
- Animal Biosafety Level 2 & 3 Suites (rodents)
- Pig and rabbit housing
- Aquatic housing

#### Clinical Research Institute on Addictions

- Conventional rodent housing



# Office of Research Advancement (ORA)

Helping researchers develop and submit competitive grant proposals.

## Proposal Management

- Proposal organization: checklists, templates, sample plans
- Proposal coordination across internal units and external partners
- Assist with supplemental documents: draft standard university text; format proposal documents
- Ensure proposal compliance with solicitation

## Proposal Quality Improvement

- Edit proposals and provide technical reviews
- Improve overall proposal presentation
- Ensure conformity with solicitation requirements

## Proposal Development

- Develop non-technical components of the proposal
- Create graphics to illustrate project details
- Draft project management plans, work plans
- Assist with project evaluation, risk management
- Plans to ensure safe and inclusive environments for project implementation

## Contacts

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### Did you know?

#### What faculty say about ORA:

- *“Excellent, responsive, knowledgeable and a pleasure to work with...”*
- *“Exceptional job in putting together a most professional package”*
- *“The help I received was invaluable...”*

## Other Services

- Find funding opportunities (SPIN database)
- Programs and workshops to improve grant writing skills; learn about funding agencies; and meet/interact with agency program managers
- Help multi-investigator and multi-institution team building

## Serving you better

ORA supports the university’s research and scholarly community in the pursuit of external research funding. ORA works closely with new investigators to help secure initial research funding, and with established investigators to pursue large, multi-disciplinary research grants.

# Sponsored Projects Services (SPS)

Facilitates research, providing guidance to faculty and staff in securing and administering sponsored funding/awards.

## Internal Funding

SPS guides and assists university faculty and research staff in their efforts to secure sponsored funding/awards through proposal development and the submission process.

## Managing Awards

SPS provides guidance to faculty and research staff to administer and manage sponsored funding/awards prudently, ensuring research meets sponsor commitments, compliance requirements, and university expectations.

## Contacts

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## Sponsored Awards

SPS serves the UB research community with professional staff who specialize in facilitating and administering the life cycle of sponsored funding/awards.

SPS staff members help develop budgets, submit proposals, negotiate agreements, and accept awards. SPS provides stewardship and acts as a liaison for department and sponsor, establishes accounts, ensures compliance for expenditures, submits invoices to sponsors and assists with closing awards.

## Serving you better

SPS works in teams to support the research community. To contact the team that supports your unit please visit the SPS website, scroll to the bottom of the page under Staff Directory and select Find Your SPS Representative.

### Did you know?

- Approx. 1,800 proposals are submitted annually.
- Approx. 1,800 awards are active at any time.
- Last year, UB had \$201M in externally funded project expenditures.

520 Lee Entrance, Suite 211 | UB Commons | Buffalo, NY 14228-2567

<http://www.buffalo.edu/research/about-us/units/sps.html>

# Center For Computational Research (CCR)

Offering access to high performance computing resources and expertise in scientific computing, simulation, data analytics and visualization.

## Capabilities and Services

- Supercomputing clusters and cloud infrastructure with more than 30,000 CPU cores, high-end GPUs, large memory support, high performance networks, and 3 PB high-performance file systems for more than 2 PFlop/s of peak performance compute capacity.
- Support staff with expertise in scientific computing, computational science, parallel processing, data analytics, modeling and simulation, scientific visualization and software development.
- Dedicated cluster for industry sponsored research and economic development.

## Training and Accounts

- CCR offers courses, training and workshops in high performance computing as well as how to access and run on CCR resources.
- Primary group accounts reside with faculty members.
- Faculty-based clusters supported.

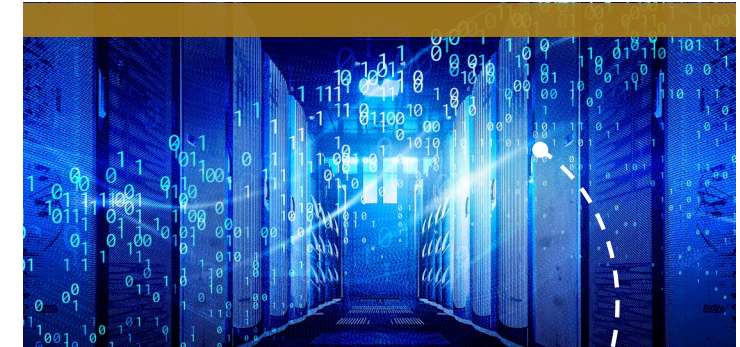
## Serving you better

CCR—a leading academic supercomputing facility—offers assistance in advanced computing, scientific and medical visualization, software engineering, parallel computing and data analytics. There are no direct charges for computer time, however, queue priority is based on direct funds budgeted to CCR from faculty grants. Faculty should: include direct funds in grant proposals for projects requiring significant time and expertise; include a percent credit to CCR on the Sponsored Projects Services approval form; and acknowledge CCR support in publications.

## Contacts

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**Support**  
[ccr-help@buffalo.edu](mailto:ccr-help@buffalo.edu)



## Did you know?

CCR operates 24/7

- More than 650 users
- Faculty users run over 8.7 million jobs annually (more than 20,000 jobs / day)
- CCR delivers more than 5 million CPU days of computing





**Did you know?**  
The BEP team has supported over 1,200\* partnerships with industry partners and can introduce you to key business contacts.  
*\*FY 2020-2023*

# Business & Entrepreneur Partnerships (BEP)

Turn your innovations into impacts. Business and Entrepreneur Partnerships (BEP) can help you fund translational research, protect your intellectual property, make industry connections, and bring your breakthroughs to the world.

There are two paths you can take to move your discoveries and research forward. We'll help you identify which is right for you.

Researchers engaging with industry on cutting-edge R&D

## 1. Work with Industry

We'll help you engage with companies to collaborate on R&D and/or license your technology.

- Learn how to engage with companies and best practices for industry-sponsored research
- Get contract support for industry collaboration
- Access research funding
  - Matching grants
  - Proof-of-concept grants
  - Funded student internships
- Explore licensing options



**Mark Ehrensberger, PhD**

Department of Biomedical Engineering, School of Engineering and Applied Sciences/Jacobs School of Medicine & Biomedical Sciences

**Company Partner:** Garwood Medical Devices (Buffalo, NY)

**Project:** Various projects, licensed technology



**Baishakhi Mazumder, PhD**

Department of Materials Design and Innovation, School of Engineering and Applied Sciences

**Company Partner:** Ivoclar Vivodent (Buffalo, NY)

**Project:** Harnessing Materials Informatics to Accelerate the Development of Restorative Dental Materials



**John E. Tomaszewski, MD**

Department of Pathology and Anatomical Sciences; Department of Urology, Jacobs School of Medicine & Biomedical Sciences

**Company Partner:** Formapath (Ithaca, NY)

**Project:** Lymph node database to advance computational pathology



# Business & Entrepreneur Partnerships (BEP)

Continued...

## 2. Launch a business

We'll explore if a startup is right for you and help you get it off the ground.

- Access funding and programs to de-risk and commercialize innovations
- Consult with experienced, successful entrepreneurs on startup exploration
- Tap into business formation services

Business and Entrepreneur Partnerships  
[buffalo.edu/partnerships](http://buffalo.edu/partnerships) | contact: [ubpartners@buffalo.edu](mailto:ubpartners@buffalo.edu)



**Arin Bhattacharjee, PhD**

Department of Pharmacology and Toxicology, Jacobs School of Medicine & Biomedical Sciences



**Elsa Daurignac, PhD**

Department of Psychiatry, Jacobs School of Medicine & Biomedical Sciences

**Company Partner:** Channavix

**Innovation:** Long-lasting, non-opioid, non-addictive pain therapeutics



**John Hall, PhD**

Department of Mechanical and Aerospace Engineering, School of Engineering and Applied Sciences

**Company Partner:** Atrevida Science

**Innovation:** Active morphing blades for wind turbines



**Joseph Balthasar, PhD**

Department of Pharmaceutical Sciences, School of Pharmacy and Pharmaceutical Sciences

**Company Partner:** Abceutics

**Innovation:** A class of drugs that may improve the safety and efficacy of antibody drug conjugate therapy for cancer

Faculty entrepreneurs utilizing BEP's wraparound business services



**Praveen Arany, PhD**

Department of Oral Biology, School of Dental Medicine

**Company Partner:** OptiMed

**Innovation:** Novel biomaterials with prolonged release of anti-fungal agent to enhance oral health

### Did you know?

BEP supported over 50\* faculty-led teams and companies

\*FY 2020-2023



## 2. Launch a business *continued...*

We know building a startup business is hard and takes a great team. You bring the technical expertise; the Business & Entrepreneur Partnerships (BEP) team will help you with the rest.

### START HERE, with a one-on-one consultation.

We'll help you explore if launching a startup is right for you. *If it is, we can help with:*



# Center of Excellence in Bioinformatics & Life Sciences (CBLs)

## Accelerate Life Sciences Discoveries

*Working with businesses, accelerating research*

We connect researchers to industry to help drive scientific discovery in life sciences. Through the [Center of Excellence in Bioinformatics and Life Sciences \(CBLs\)](#) and life sciences programs, we provide funding, wet labs, office space, shared equipment and connections—all to facilitate collaboration among academia, industry and the public sector to directly impact our regional businesses, state economy and the communities we call home.

## High-Tech Facilities

The CBLs, located downtown on the Buffalo Niagara Medical Campus, is home to one of UB's incubators — a collaborative office space for startups and small businesses — as well as state-of-the-art facilities to support scientific research:

- Genomics & Bioinformatics Core
- Proteomics & Bioanalysis Core
- Wet labs
- Leading supercomputing facility at the [Center for Computational Research \(CCR\)](#)

## Access Funding

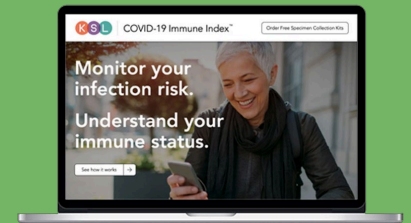
Life sciences research can benefit from outside capital to bring life-changing ideas to the next level. We provide several joint R&D co-funding programs that link academic research with companies who have an interest in cost-sharing projects to fuel R&D, including:

- [Center for Advanced Technology in Big Data and Health Sciences \(UB CAT\)](#) is a project cost-sharing grant program that necessitates faculty to partner with NYS companies and provides a generous subsidy for co-sponsored preclinical research.
- [Empire Discovery Institute \(EDI\)](#) is a nonprofit drug discovery and development accelerator that provides funding, expertise, business development support and more for selected pharmaceutical technologies.

## Contacts

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**Amy Jacobs, PhD**  
*Jacobs School of Medicine & Biomedical Sciences*



**Company Partner:** KSL Diagnostics (Buffalo, NY)  
**Project:** Risk Stratification of COVID-19 Vaccinated Individuals based on Antibody Levels  
**Result:** KSL launches first-of-its-kind antibody test that measures degree of immunity from COVID-19.

[Read Full Story](#)

# Center of Excellence in Materials Informatics (CMI)

## Accelerate Advanced Materials Innovation

**Collaborating with industry, driving R&D.** Through the [Center of Excellence in Materials Informatics \(CMI\)](#), we connect researchers to manufacturing companies to accelerate R&D, invent new materials and develop innovative new products. We provide access to advanced scientific and engineering equipment - including precision laboratories, tools and equipment - as well as joint funding and grants to support your R&D.

## Access Funding

The CMI annually supports Faculty-Industry Applied Research (FIAR) opportunities. The FIAR Program focuses on opportunities to foster applied research efforts that drive economic growth and impact with commercial value to manufacturing businesses in New York State.

## Focused Growth Areas

Partner with of over 60 UB materials scientist and advanced manufacturing experts

- Biological & Biomedical Materials & Devices
- Continuum & Multiscale Modeling
- Data Analytics & Machine Learning
- Design, Digital & Additive Manufacturing
- Inorganic Materials Synthesis & Processing
- Materials Characterization & Spectroscopy
- Photonic & Electronic Devices
- Polymeric & Macromolecular Materials Synthesis & Processing
- Quantum, Atomistic & Molecular Modeling

## Contacts

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**Gang Wu, PhD**  
*School of Engineering  
and Applied Sciences*

**Company Partner:** Bettergy Corporation (Peekskill, NY)

**Project:** Low-Cost Hydrogen Production through Economically Feasible Ammonia Cracking Technologies

**Result:** Groundbreaking ammonia cracking catalyst developed that's used to produce hydrogen on demand and at low cost without carbon emissions.

[Read Full Story](#)



## Contacts

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# Research Information Systems (RIS)

We build relationships with university faculty, departments and schools at all levels to create, enhance, and maintain a rich research IT infrastructure. We provide services of the highest quality with a customer service focus.

## Services

- Research Administration Analysis
- Application Development
- Application Support
- Training and Development



## Click portal support

Click automates the submission, review and approval processes while managing all major administrative aspects of the research and compliance lifecycle – from proposal development and submission through compliance checks, negotiations, award setup and award management to eventual project closeout.

## Serving you better

We are dedicated to supporting UB's research efforts, both on the administrative and project side, providing integrated information services, resources and technologies to the UB community.

RIS has two branches of service: Electronic Research Administration (ERA) and Project Support. ERA develops and maintains administrative systems such as CLICK, OnCore and Central Study Registration. Project Support develops systems for investigator research projects at a reasonable rate.

## Did you know?

RIS has introduced Project Support, an initiative aimed at giving investigators quality systems development at reasonable rates. RIS supports a variety of administrative and research systems.





## Contacts

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# Technology Transfer (TT)

Developing innovative technologies through the creative pursuits of our faculty and targeted research with industry partners. TT facilitates new technology commercialization and industry sponsored research projects that help companies build and problem solve.

## Technology Transfer

Transferring faculty innovations into commercial opportunities is how UB benefits the public good. Contact the Technology Transfer office to begin the process with a New Technology Disclosure (NTD). TT will work with you to protect intellectual property and develop a commercialization plan that best fits your innovation.

## Industry Sponsored Research

UB research expertise helps companies solve problems and grow. Faculty work with companies to develop a scope-of-work and with Sponsored Project Services on the budget. TT negotiates the contract and when appropriate and approved by the PI, may offer UB SWIFT.

- UB SWIFT reduces transaction time with preferred exclusive license terms in a ready-to-sign industry sponsored research agreement.

## Other Services

- Confidential Disclosure Agreements (CDA) preserve intellectual property protections allowing the exchange of proprietary information in negotiating agreements and collaborations.
- Material Transfer Agreements (MTA) facilitate the transfer of materials into or out of your research lab.

### Did you know?

You can jeopardize your potential rights if you make a public disclosure prior to filing a potential patent application. Please contact TT before you publish or present.

## Serving you better

- Protecting intellectual property and licensing UB discoveries
- Facilitating faculty contract requests online through CLICK
- Streamlining industry / university contracting
- Generating revenues to recruit, retain, reward and re-invest
- Positioning university research for regional economic growth

## Tech Transfer (FY 2011-2020):

- 852 New technology disclosures
- 94 US issued patents
- 152 Licenses and licensing options
- 53 Proof-of-concept awards
- Two 43North winners
- 3 Equity exits

### Jonathan Lovell, PhD:

UB professor, inventor and founder of POP Biotechnologies, Inc. POP BIO has secured over \$4M in grants and investment to advance its vaccine delivery platform in COVID, HIV, RSV and other major world health concerns.