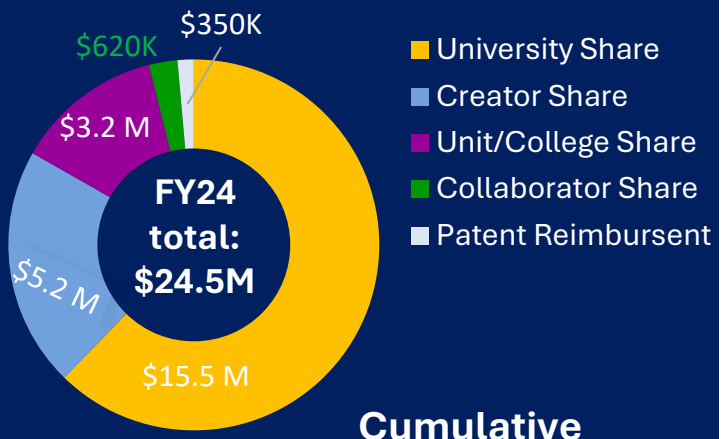
Office of Technology Management (OTM)

Igniting Innovation and Commercialization

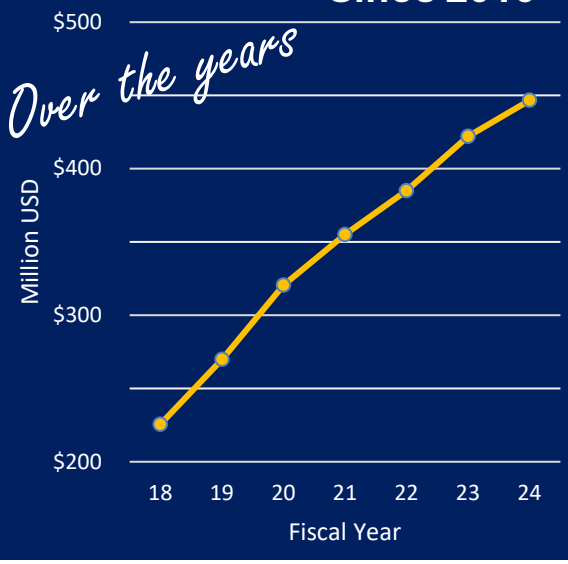
Impact Report FY24

July 2023 - June 2024

OTM license income



Cumulative OTM License Income Since 2010



OFFICE OF TECHNOLOGY MANAGEMENT

Letter from the OTM Director

I am pleased to share the Office of Technology Management's (OTM) accomplishments for the most recent fiscal year, FY24. UIC has had significant successes over the years in commercializing its outstanding research outcomes by the faculty, students and staff. UIC has received over $425 Million in royalty revenues of which 40% is distributed to the creators of the technology. Another 40% is returned to the University to reinvest in research infrastructure. FY24 is no different. The results shared in this report would not be possible without the solid partnership we have built with faculty and the administration. I also want to take this opportunity to acknowledge the outstanding team at the OTM who tirelessly work to create and execute each licensing opportunity.

FY24 was another strong year with $24.5 Million in licensing revenue and growth in key metrics. In the past couple of years, we have seen a slowdown in disclosures resulting from the aftermath of research interruptions due to COVID. The numbers of disclosures and licenses have increased in FY24. We also continued to support our faculty entrepreneurs' start up companies through external funding. UIC OTM is proud to partner with Deerfield Management, an established venture capital firm in New York, to advance some of our early-stage technologies. In FY24, we initiated our first project with the group, and if the project meets the milestones, the product may move towards commercialization.

	Technologies Disclosed	U.S. Patents Filed	U.S. Patents Issued	Licenses & Options
Medicine	47	32	12	28
Engineering	38	37	5	5
Liberal Arts & Sciences	13	13	1	
Pharmacy	11	16	3	8
Dentistry	9	2		

Technologies may be associated with multiple Colleges. Not all Colleges are shown. Many of the licenses not shown are from Social Impact Programs (see Page 4).

758
Total Active Issued Patents (283 US, 475 Rest of World)

343
Total Active Licenses

VivaDent® hits the market!

Ivoclar has recently released VivaDent® Aerosol Reduction Gel based on work in the lab of Dr. Alexander Yarin, UIC Distinguished Professor of Mechanical and Industrial Engineering, in collaboration with Dr. Lyndon Cooper, previously Associate Dean for Research and former head of the Oral Biology Department. VivaDent® Aeorsol Reduction Gel is a clear, water-soluble gel that reduces up to 99% of aerosol spray produced by ultrasonic scalers, the tools that dentists use to remove plaque and tartar from teeth. This reduces the spread of airborne diseases and allows for better visibility of the treatment area. VivaDent® is available directly from Ivoclar, as well as through worldwide resellers.

Therapeutic Highlight: Pearl Bio partnership with Merck

Pearl Bio, a startup based on IP developed by Yale, Northwestern, UIUC, and UIC (Dr. Alexander Shura Mankin, Dr. Cedric Orele, and Dr. Teresa Szal), announced a partnership with Merck to invest up to $1 billion for joint efforts to develop engineered biologics. Pearl Bio is founded on the groundbreaking research of genomically recoded organisms (GROs). This innovative approach aims to generate proteins using amino acids beyond the natural set of twenty, offering possibilities for improved drug molecules. Initially, the focus will be on leveraging this technology for the discovery and development of anti-cancer biologic therapies. Pearl Bio's Co-founder and President, Amy Cayne Schwartz, stated that the objective is to produce multi-functional therapeutic candidates with customizable properties to address prevalent limitations in biologics.

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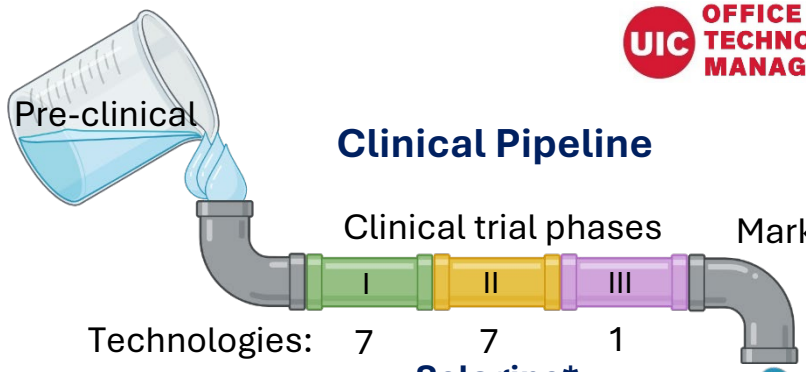
Clinical Pipeline



Selagine*
dry eye therapy
(Phase II)

Shingrix*
Shingles vaccine
Tice BCG*
Bladder cancer
AcceleDent
Orthodontal device
CellTrans
Islet isolation for Type I diabetes
Phexxi
Female birth control
Prezista
HIV therapy

* top 3 innovations by FY24 license income

Advances in AI technology: Lumen therapy app

Due to a shortage of clinical resources compared to rising mental illness rates, technological solutions may alleviate therapy waitlists and access disparities. Researchers from the University of Illinois Chicago, in collaboration with Washington University and Pennsylvania State University, developed an AI voice assistant app named Lumen to provide psychotherapy for patients with mild depression and anxiety. A study conducted last year and published in Translational Psychiatry reveals changes in brain activity and improved symptoms after eight sessions of problem-solving therapy with Lumen. This pilot study, the first to test an AI voice-based virtual coach for behavioral therapy, suggests promising evidence that virtual therapy could help address gaps in mental health care, according to Dr. Olusola A. Ajilore. Dr. Jun Ma says, “it’s a pragmatic and patient-driven behavior therapy that’s well established, which makes it a good fit for delivery using voice-based technology.” OTM is working closely with the UIC creators to commercialize the app.

Proof of Concept (POC) Program Revenues

Cumulative projected POC revenue

73 projects have received UIC Proof Of Concept funding to move a product into the market, totaling $5.8M. Intellectual Property generated from those projects has resulted in 26 licenses and brought in $6M in revenue to date, with a projected $18M in revenue by FY29.

UIC Start Ups to Watch

VILOM INNOVATIONS

An impactful medical device company, Vilom Innovations, licensed the rights to a UIC technology based on the work of Dr. Girish Deshpande, a Professor of Clinical Pediatrics. Vilom Innovations addresses the urgent need to improve mechanical ventilation devices in instances of respiratory failure, especially among pediatric patients. Endotracheal intubation is a frequently used life-saving procedure with 15.5 million intubations performed annually In the United States. This novel endotracheal tube features two ports, one for the patient to breathe from a ventilator and the other which serves as a connection to a supporting device, such as a bronchoscope, stylet, or suction catheter. The two-port design helps secure the tube to the patient and distributes weight evenly to prevent extubation.

YASOTHERAPEUTICS

One of the notable companies emerging from UIC's ecosystem is Yaso Therapeutics Inc., a pioneering drug startup in women's health based on the work of Dr. Donald Waller and Dr. Aleksej Krunic from the College of Pharmacy. Yaso has developed a revolutionary gel that offers a trifecta of benefits, serving as a nonhormonal contraceptive, sexually transmitted infections (STIs) preventative, and herpes treatment—all in one simple application. Its affordability makes it accessible to women from diverse socio-economic backgrounds, ensuring access to essential healthcare. In October, 2023, Yaso announced that the FDA has authorized its IND application for first-in-human clinical trials.

Inventor of the year: Dr. Deepak Shukla

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This honor is presented to a faculty member or team whose pioneering work has significantly impacted their field and society at large through the development of groundbreaking intellectual property. This year, the spotlight shone brightly upon Dr. Deepak Shukla, whose innovative contributions have led him to academic excellence in the field of ophthalmology and infectious diseases. Dr. Shukla's significant contributions in antiviral research are pivotal, especially in addressing the viral resistance to current herpesvirus treatments.

Social Impact Programs: Expanding the Reach

44 new licenses in FY24

Diabetes Empowerment Education Program™ (DEEP™) aims to educate on topics such as nutrition, medication options, fitness, and monitoring symptoms for participants to take control of their diabetes and reduce the risks of complications, especially in communities of lower socio-economic status. DEEP™ has expanded extensively in the past year, with 29 new licensees, adding to the over 200 organizations that currently license DEEP™.

Fit & Strong!® is a UIC evidence-based physical activity program for older adults, specifically aimed to reduce arthritis symptoms. The program consists of 24 sessions of 90 minutes each, focusing on flexibility, low-impact aerobics, and strength training, as well as health education. This year, Fit & Strong!® expanded with 15 new licenses to mostly community health organizations.

OTM is proud to support programs that improve public health in our communities. OTM continues to support the growth of these fantastic programs to positively impact society.

Consultants Accelerate UIC Technologies

In FY24, OTM launched an entrepreneurial consulting initiative. Consultants were engaged to support the commercialization efforts of two of UIC's most promising therapeutic assets by fleshing-out pitch decks, mapping out the competitive landscape, and providing insights on the clinical development path. The next steps in the asset development to de-risk the technologies were identified, resulting in interest from several venture capital groups.

Chancellor's Translational Research Initiative (CTRI)

2024 Awardees

Victoriya Zvoda
Dual SEM-PEEM system for semiconductor testing

Zongmin Zhao
Antigen capturing nanoparticle engineered dendritic cells for cancer immunotherapy

Pete Setabutr
BLINK eyelid closure for facial nerve paralysis

Pavel Petukhov
Novel thioredoxin reductase inhibitors for the treatment of triple negative breast cancer

Didem Ozevin
Scaling up the manufacturing of MEMS acoustic emission sensors for field evaluation

Paul Carlier
Identification of small molecules to improve efficacy of cancer immunotherapy

Russell Pesavento
Dual functioning nano-formulation prevents chronic inflammation from periodontitis

Xue-Jun Li
Novel LXR agonists for mitigating nerve degeneration in hereditary spastic paraplegia

Ian Papautsky
Vascularized microfluidic chip for drug screening on patient-derived organoids

Alexandra Naba
Targeting the interaction of SNED1 with its integrin receptor to prevent breast cancer metastasis