



# OFFICE OF TECHNOLOGY LICENSING

## INTELLECTUAL PROPERTY NEWSLETTER

2022 Issue

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### FY2021 Licensing Activities

Since 1995, the Office of Technology Licensing (OTL) has promoted the development of research discoveries made at St. Jude into products that benefit our patients and the public. This is accomplished primarily through patenting and licensing. Success stories of products developed through these activities can be found at <http://bit.ly/1rNlewW>. In fiscal year 2021, the OTL negotiated or processed more than 1,000 agreements and received 48 invention disclosures. The OTL received \$13 million in license income, with nearly \$4 million allocated to individuals whose inventions and materials generated this income.

Patent rights for one of our most successful inventions, known as the plasmid rescue (or reverse genetics) system, expired in April 2021. The system provides a faster, cheaper and safer way to make vaccines for influenza and other RNA-based viruses relative to the traditional reassortment method. These patent rights netted over \$6 million in cumulative license income for a method that we hope will be used for years to create hundreds of millions of vaccine doses for humans and animals.

Two exclusive licenses were completed in FY2021. Pending patent rights for inhibitors of the intrinsically disordered protein p27 were exclusively licensed to be developed for breast cancer treatments and hearing regeneration. In addition, patent rights for anti-cancer compounds co-owned by St. Jude, the University of Kentucky and Memorial Sloan Kettering Cancer Center were exclusively licensed to startup company CinSano Pharma, Inc., a subsidiary of CinRx Pharma, LLC.

Also in the news recently, the University of Arkansas for Medical Sciences (UAMS) reported successful treatment of a myeloma patient with a chimeric antigen receptor T cell therapy, and the included chimeric antigen receptor is covered by St. Jude patent rights:

<https://news.uams.edu/2022/01/13/first-myeloma-center-patient-receives-revolutionary-new-therapy-responds-well/>

### New Patents Issued

The table below lists the patents granted to St. Jude in FY2021. Inventors receiving their first patent receive a special commemorative mug by the OTL.

Disclosure No.	Patent No.	Inventor
SJ-16-0003	10,894,061	Peter J. Murray, et al.

#### Therapeutic methods involving modulating inflammasome activation of myeloid-derived suppressor cells

SJ-16-0009	11,020,430	Benjamin Youngblood, et al.
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#### Immune cells with DNMT3A gene modifications and methods related thereto

SJ-16-0017	10,899,734	Suzanne Jackowski, Richard Lee, Jiuyu Liu, Charles O. Rock, Lalit Kumar Sharma, Chitra Subramanian, Mi-Kyung
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#### Small molecule modulators of pantothenate kinases

SJ-16-0032	11,028,051	Nagakumar Bharatham, Vincent A. Boyd, Kip Guy, Jeanine E Price, William R Shadrick, Anang A Shelat, Peter J. Slavish, Brandon M. Young
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#### Tetrahydroquinoline-based bromodomain inhibitors

SJ-18-0041	10,920,272	Cicera Lazzarotto, Shengdar Tsai
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#### High-throughput method for characterizing the genome-wide activity of editing nucleases in vitro

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## Students and Fellows Who Left SJCRH Labs Via Technology Transfer

We recently celebrated the 41st anniversary of the Bayh/Dole Act, the law that codified the technology transfer profession. To commemorate this important legislation and to highlight the intersection of scientific discovery and patent law, we decided to acknowledge those who have moved from St. Jude labs to careers in technology transfer and/or adjacent fields. This list includes, but is not limited to the following individuals:

- *Delira Robbins: Proj. Coord. for the Neurobiology & Brain Tumor Prog./St. Jude CCC; Licensing @UTHSC prior*
- *Esther Allay: Senior Licensing Associate, St. Jude OTL*
- *Kevin Boggs: Director, Office of Tech. Dev., Med. College of Wisc.*
- *Ling Chwang: Partner, Jackson Walker LLP*
- *Dawn Dawson: Partner, Kirkland & Ellis*
- *Michael Dilling: Tech Licensing Director, Baylor College of Medicine*
- *Derek Eberhart: Assoc. VP and Executive Director, UGA Innov. Gateway*
- *Eric Gosink: Entrepreneur in Residence, Univ. of CA; Senior Vice President of Corporate Strategy, Karamedica*
- *Shawn Hawkins: Associate Director of St. Jude OTL*
- *Terri Hunter: Senior Licensing Manager, Univ. of South Florida; now US Dept of Veterans Affairs*
- *Amanda (Joyner) Schnepf: Associate, Parker Highlander law firm*
- *Divyen Patel: Founder and CEO, Genome Explorations*
- *Celine Qian: Patent Examiner, USPTO*
- *Karen Rufus: Senior Licensing Officer, Vanderbilt Center for Tech Transfer*
- *Rachel Schweers: Co-Founder, Chief Strategy & Innovation Officer, Vidence*
- *Jerry Walker-Vaughn: Legal/Strategic Relations, VP, @Immunatrix; Researcher; Tech. adviser @Conley Rose, P.C.*
- *Erin Daly: Technology Specialist @Proskauer Rose LLP, University of Connecticut TTO, Patent Attorney @Arvinas*
- *Hemant Gupta: Patent attorney, Butler Snow, Memphis*

### We spoke with three of them

Delira, Kevin and Amanda, to see what advice they might have to share about their career path. Also, feel free to reach out to any of our current staff if you have additional questions. Both Esther Allay and Shawn Hawkins came to the OTL from the St. Jude research labs.



Delira Robins, PhD, was a Postdoctoral Fellow in the St. Jude Department of Chemical Biology and Therapeutics from 2012-16. She initially explored tech transfer here and then took a position at UTHSC from 2016-19, where she worked in life sciences (biotechnology, molecular biology, immunology, CAR-T therapy, molecular diagnostics, pharmacology and dentistry), and recently returned to St. Jude.

Kevin Boggs, MBA, PhD, is the Director for the Office of Technology Development at the Medical College of Wisconsin in Milwaukee. He did a postdoctoral fellowship at St. Jude in the 1990s and has expertise in evaluating and commercializing early-stage technologies, allowing organizations to recognize and profit from opportunities in their research labs.



Amanda Schnepf, Ph.D., J.D., joined Parker Highlander after completing a Ph.D. program in Molecular Biology and post-doctoral fellowships at Vanderbilt (Molecular Virology) and St. Jude (Drug Development). At Vanderbilt, she developed an award-winning assay to quantitatively analyze the binding of antibodies to HIV-1 virions. At St. Jude she focused on cancer therapy and anti-influenza drugs. At Parker Highlander, Amanda has focused on end-to-end biotechnology (national and international) patent prosecution, freedom-to-operate analyses and patentability analyses. She focuses on molecular biology, next generation sequencing, cancer therapeutics, biologics, stem cell biology, diagnostics and second medical use pharmaceuticals.

### What sparked your interest in Technology Transfer?

When Delira Robbins was a postdoc, Chad Riggs came to a career development seminar and announced that there was an internship opportunity available in the OTL. Another speaker, Peter Fiske, encouraged her to become an intern here to learn more about commercialization.

Kevin Boggs was a postdoc when Barba Conta was the first OTL director. She gave a talk to postdocs and grad students to encourage disclosures – and mentioned, “it was also an interesting career.” He was in the office the next day. He liked that he could be more of a general science advocate instead of a specific subject matter expert. He also liked working with people skills and that tech transfer professionals leaned past research into development.

At Vanderbilt, Amanda Schnepf attended a potential careers seminar where one of the panelists was a patent attorney. Although she hadn’t considered a legal career, the day-to-day job sounded appealing, so, she kept that in mind. She periodically spoke to patent attorneys to re-affirm her interest. Since then, she has managed IP portfolios and worked with pharmaceutical companies, startup companies and university tech transfer offices, helping them prepare and prosecute patent applications.

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**Any regrets/surprises?** Delira liked a career path away from but adjacent to the bench. She enjoyed managing a portfolio of diverse technologies in human health and was surprised by the number of licensed products from academic research and the impact they have on our everyday lives.

Kevin's first surprise was the 60% pay increase from his post doc to his first technology transfer role at Florida. He also discovered a downside, with hundreds of cases, it is hard to remain an expert. He does like that the work is impactful (if slow) and has a serious ability to help people and patients.

Amanda loves being able to stay close to the science and being one of the first to see invention disclosures (skipping the failed experiments along the way). She enjoyed shifting from being hyper focused on a single topic to broader understanding of multiple disciplines.

**What advice would you give others?** Delira thinks tech transfer is a viable option for those interested in the business side of science. She suggests internships to learn more about the patent process, market assessment, licensing deals and startups. Also, joining the Association of University Technology Managers, or AUTM, provides great opportunities to network with experts in the field, along with various professional development courses and certifications for entry- and senior-level professionals.

Kevin echoed the AUTM comments. He recommended reaching out to your own tech transfer office, join and attend regional AUTM meetings, explore the AUTM website, training manuals and guides. While AUTM membership is not cheap for an individual or student, it should end with many productive connections to others.

Amanda advised 'cold emailing' patent attorneys, especially in cities where you would like to live. Most patent attorneys practicing in the biomedical technology space had to transition from bench science, so they are usually receptive. That is how she got her first job away from the bench as a scientific advisor and then patent agent. Keep in mind that patent attorneys are most often professional writers and readers who spend their days on a computer- consider if that is for you.

#### **What traits or skills are good for this field?**

- Communicate effectively
- Assess new technologies quickly
- Time management
- Build and maintain partnerships/collaborations
- Independent and team-work abilities
- Humility to the disclosing researcher's expertise
- Emotional control during negotiations
- Enjoy writing

**What are other areas you considered and where might you go from here?** While working in technology transfer at UTHSC, Delira discovered a love for managing academic-industry collaborations. There are jobs in Pharmaceutical Strategic Alliances that involve managing partnership agreements, product development and commercialization. There are also positions in Program Management that involve coordinating the overall execution of project milestones within partnership agreements. After 4 years in Licensing, she made her way back to St. Jude as a project coordinator for the Neurobiology & Brain Tumor Program in the St. Jude Comprehensive Cancer Center.

Kevin noted that joining a startup is a common temptation, with potential pay increases, stock options, etc. Of course, startups are often demanding. There are also people who do in- and out-licensing for industry as well.

Amanda knew she enjoyed writing, so she considered the scientific/medical writing fields as well. But she found her home and continues to develop her career as a patent attorney at Parker Highlander.

**What else would you share?** Delira was amazed there are so many career opportunities within technology transfer that she was not aware of as a student or fellow. Her advice is to network with current tech transfer professionals to find out the pros and cons of potential career paths. Products go through many phases of development from concept to commercialization, making technology transfer exciting and rewarding.

Kevin pointed out that as in academia, to get established in the field or for growth opportunities, you may need to move. When interviewing, get feedback by talking to those at your level about what they've learned; and while hiring is often very specific, the job changes. For instance, one might take a job managing a growing portfolio of drug candidates because of their experience in drug discovery; however, a few years later, they may manage a software portfolio.

Amanda advised to hone your writing skills. Try writing clubs where you can nerd out about grammar and edit manuscripts. Also, be persistent in reaching out; if you aren't looking to move to the coasts, it can take time to find a law firm looking for someone with your scientific background, and many law firms may never post a job opening.

(the background image is of a variety of products proving the success of our licensing efforts)

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## A New Generation

We recently welcomed a new intern to our team! Jake Batchelder is a current PhD candidate in the lab of Scott Blanchard studying how ribosomes act during cancer metastasis. Jake hopes the knowledge he gains working with the OTL will give him valuable experience as he seeks a role in biotech equity research. "The connection between lab research and patient care at St. Jude has really transformed my career outlook," Jake said. "Seeing these kids' lives transformed by novel therapies has really cemented for me the importance of not only immersing myself in scientific discovery, but also getting drugs to market. Working with the OTL has allowed me to view the bridge that connects those two things, and I hope to continue working in that aspect of medicine for my entire career."



Aditi also worked with the OTL prior to Jake. She is a postdoctoral fellow in Dr. Peter McKinnon's lab. Her research is focused on understanding the molecular basis of a rare pediatric disease known as Aicardi-Goutieres syndrome. "The transfer of knowledge from an academic research laboratory to industry is a crucial step. I really enjoy cutting-edge discoveries that could become a product, and through my OTL experience I learned how to commercialize academic research and effectively communicate scientific discoveries to external partners."



**NOTE:** We are hiring a new licensing assistant into our office, so contact us if you know someone interested!

## 2022 Memphis Scipreneur Challenge and BioTN

The Mid-South Life Science Tennessee Academic Alliance, a group made up of graduate students and post-doctoral researchers interested in entrepreneurship, career development and knowledge sharing, became the BioTN Academic Alliance last year. The group is now aligned with BIO.org, the world's largest advocacy association representing member companies, state biotechnology groups, academic and research institutions and related organizations across the United States and 30+ countries. The Alliance also sponsors the Memphis Scipreneur Challenge (MSC) each year, which is a 10-week training and outreach program that showcases STEM-related intellectual properties being generated at Tennessee's premier research institutions and provide entrepreneurship training to students and postdoctoral fellows. Last year, the program was highlighted by two technologies being developed at St. Jude. Dr. Xiaotu Ma was the scientific advisor for a team working on the SequencErr/CleanDeepSeq2 (SJ-20-0018) technology, and Dr. Jaeki Min was the scientific advisor for the team working on JAK PROTACs (SJ-19-0047) technology. Historically, this program has been organized regionally, but this year will mark the first time the competition will be statewide! More information provided in the flyer to the right.

Join us for the  
**2022 SCIPRENEUR CHALLENGE!**

**ABOUT**

The BioTN Scipreneur Challenge is an entrepreneurship-based competition organized by the BioTN Academic Alliance in collaboration with area universities.

This year's Challenge will encompass all Academic Alliance chapters from Memphis, Nashville and Knoxville. The Challenge leads students in a 10-week training program that showcases STEM-related technologies generated at the state's premier research institutions. The students are provided with entrepreneurship training that leads to a mock pitch for investment in the technology. Participating teams, comprising of research scientists, business students, clinicians and mentors, present a business plan and compete to win prizes in the final pitch competition, judged by state business leaders and investors.

Collaborators & Sponsors:

**Final Pitch Competition 4/21/2022!**

