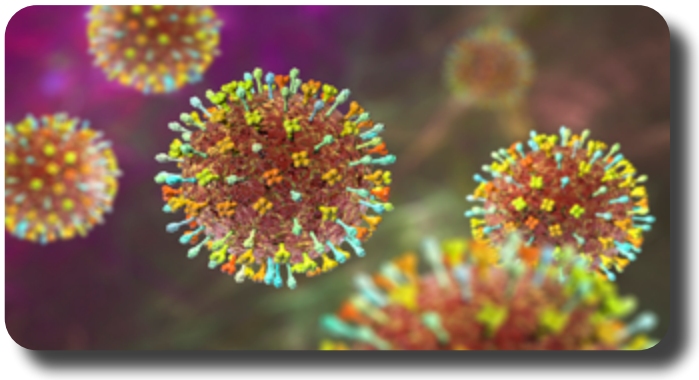
NIH TECHNOLOGY TRANSFER COMMUNITY NEWSLETTER

October 2022

NCI Co-Discovered Antibody Therapy Gifted for Multiple Compassionate Use Cases

Richelle Holnick, OTT



A monoclonal antibody therapy discovery that arose from a 2005 research collaboration between scientists at the National Cancer Institute (NCI) and the Henry M. Jackson Foundation for the Advancement of Military Medicine (HJF) has again been designated for human compassionate therapeutic use – this time in Australia. The technology is known as the m102.4 human monoclonal antibody – the world's first and only treatment against the highly pathogenic Hendra virus. The jointly-owned invention is managed by HJF who is working closely with its licensing partner, Mapp Biopharmaceutical, Inc., to quickly move the development of this treatment forward. This has already allowed it to be used in multiple compassionate use cases where individuals were exposed to the deadly Hendra virus.

The Hendra virus is a bat-borne virus that can spread to horses, which can pass the virus to humans. It was identified in 1994 in Hendra, Australia. There have been seven cases of Hendra virus in humans, four of which resulted in death. The m102.4 antibody is given to individuals exposed to the virus within a week of exposure in an attempt to prevent the individual from contracting the virus infection.

Once such case took place in 2010 when the cell line that produces the m102.4 human monoclonal antibody was given to the Australian Government, which has since been able to distribute the antibody to 15 individuals in Australia that had experienced high exposure to the Hendra virus and one person in the US who was exposed to the Nipah virus, a closely related member of the paramyxovirus family.

In 2018 there was a Nipah virus outbreak in India, with a subsequent outbreak in 2021, where Australia was able to give doses of the m102.4 antibody to the Government of India. Most recently, there was a Hendra virus outbreak in horses in Australia where two individuals who were in close contact with a horse that had been infected were able to receive the m102.4 through compassionate use. Mapp Pharmaceutical, Inc. itself has recently received a Department of Defense award that will be used to push the m102.4 antibody through a Phase I trial.

In This Issue

Tech Toon: Trick or Treat

Wayne Pereanu, OTT

The DDIR Interview: Dr. Michael Gottesman

Richelle Holnick, OTT

Dr. Michael Gottesman has been a member of the NIH community since 1976. He has held many positions throughout his tenure, including spending 29 years as the Deputy Director of Intramural Research (DDIR). He stepped down as DDIR this past year and has returned to focusing solely on being Chief of the Lab of Cell Biology at the National Cancer Institute. Dr. Gottesman was gracious enough to participate in the following interview with us to cover everything from his start at NIH, to his favorite accomplishments, and where he sees the tech transfer program heading in the future.

You received your M.D. from Harvard Medical School and completed a residency in medicine at the Peter Bent Brigham Hospital, what led you to doing basic research at NIH?

I went to medical school with the intention of using my medical education as a basis for a career in biomedical research. I completed my medical training, including a residency in medicine and board certification in internal medicine, not to practice medicine, but to increase my understanding of human biology and clinically important problems that needed to be addressed in the laboratory. The year that I graduated from medical school (1970), every physician in the country was drafted for military or public health service, and I choose to come to the NIH as a commissioned officer in the public health service where I could fulfill my military obligation and also pursue my interest in research. I was a research associate in Marty Gellert's laboratory in what was then NIAMS (now NIDDK), and worked on mechanisms of DNA synthesis and repair and a chloramphenicol-resistance "jumping gene," using E. coli as a model system.

It was enormously challenging and satisfying to be able to study problems that no one else had worked on before, but which were obviously of basic importance. Marty was a fabulous mentor and role model, and after that experience I was convinced that I wanted to spend my career at the bench, and preferably, in the intramural program at the NIH.

What advice would you give now to your younger self when you were new to NIH?

I was very fortunate to be in a very supportive institute, in a terrific lab, with outstanding colleagues. I always tell the people that I currently mentor that they should choose a lab and a problem carefully, because a bad experience can turn a budding scientist off to research. Check with others who have worked in the lab (I did), attend lab meetings if you can (I did not have this opportunity), and know with whom you will be working and on what problem (I did). You can also do a little research about the outcomes for previous people who

have been in a laboratory, which can give you some idea of whether previous trainees have followed the course you set out for yourself.

You were the DDIR for 29 years, what kept you interested and engaged in this work for so long?

I became DDIR in 1993 after my appointment as Chief of the Laboratory of Cell Biology in NCI, and Acting Director and then Scientific Director, NCHGR, now NHGRI. At this stage in my career, I had made some significant contributions to understanding multidrug resistance in cancer, and I felt an obligation to give back to NIH and to my NIH colleagues for the many years of support that I had received. In addition, I had quite a few ideas about how circumstances could be improved for NIH scientists and trainees, and the position as DDIR made it possible to put some of these into action. At the time of my appointment, the NIH was undergoing a Congressionally mandated review of the role, size, and cost of the intramural program, and our response to that report helped solidify Congressional support for the intramural program. Harold Varmus had just been appointed as NIH Director, and he and I got along well and agreed on the steps needed to assure the continued productivity and creativity of the intramural program.

That's how it started, but why did I hang in there so long? First, my colleagues in the Office of Intramural Research, including Richard Wyatt my deputy, and Phil Chen, my associate director, were extraordinarily capable, flexible, and welcoming. We have been able to assemble a team of senior staff, senior associates, and program directors who make the job a pleasure. Over time, I came to know and like virtually all of the principal investigators in the intramural program, and felt an obligation to do for them what I could to make it possible for them to do the outstanding science of which they were capable.

In addition, I had quite a few ideas about how circumstances could be improved for NIH scientists and trainees, and the position as DDIR made it possible to put some of these into action.

And last, but certainly not least, the intramural program has continued to bring challenges and opportunities for paradigm-shifting research, translation into clinical advances, commercialization to allow discoveries to be shared with the greater public, and administrative problems that required both management and interpersonal skills. There was never a dull moment, and with each new NIH Director asking me to stay on, I could not think of anything I would rather do.

You implemented many programs throughout your tenure as DDIR, is there one or so that you are most proud of?

I generally divide my areas of responsibility into 3 domains: (1) Oversight of research, including our review process, and the tenure process; (2) Training, mentoring, and career development; and (3) Regulatory requirements, such as animal care and use, human subjects research protections, and technology transfer. We have developed procedures

and policies in each of these areas to assure appropriate stewardship of public resources, and to support our scientists in their innovative endeavors. In the first area, I am really proud of our tenure-track (including the trans-NIH Stadtman and Lasker searches and the Distinguished Scholars Program to encourage DEIA). In training, I am enormously proud of our post-baccalaureate program, which provides training and mentoring during a critical period in career decision-making. In the regulatory domain, the consolidation of 12 IRBs into one central IRB under the able management of Jonathan Green makes me smile.

NIH National Institutes of Health
Office of Intramural Research

While you were DDIR, you also maintained your position as Chief of the Laboratory of Cell Biology at NCI. What kept you passionate for your own research while also overseeing that of the entire intramural program?

My laboratory research focuses on molecular mechanisms of multidrug resistance in cancer. The emergence of drug-resistance is an almost inevitable outcome of chemotherapy and the major barrier to the successful treatment of cancer. This problem persists and I feel the strong pull of research that seeks to provide solutions to this problem. But it's not only the problem itself that draws me, but the ability to work directly with a new generation of dedicated researchers, to formulate new ideas and directions with scientific colleagues, and to see on an almost daily basis progress towards the goal of improved treatment of cancer.

How has your perspective on tech transfer changed over the years from being a scientist to later managing the intramural program?

My own lab has provided tools for research on multidrug resistance (cell lines and probes) that continue to be sought after by the biotech and pharmaceutical industry. Simply signing an MTA, to developing CRADAs and collaborations with industry, has enhanced my appreciation for the tech transfer professionals who enable the practical application of our work. As DDIR I got to see the diversity of backgrounds and approaches that are required for a successful tech transfer program, and my respect for the professionalism, creativity, and efficiency of our tech transfer community has grown.


Gottesman in 1990 working on the Human Genome Project

Are there any inventions or discoveries from your own lab that particularly stand out in your mind?

Our most valuable contributions have been the well-characterized multidrug resistant cell lines that are used by Pharma to screen novel anti-cancer drugs. I believe that in some cases this has led to appropriate decisions about clinically useful drugs that evade some multidrug resistance mechanisms.

And finally, how do you see our Intramural NIH Tech Transfer program evolving in the future?

Dr. Michael Gottesman

In a real sense, tech transfer is where the rubber hits the road. If we don't provide innovative technologies to answer important questions in biology and medicines, there will be little progress in addressing public health issues. I think the current formulation of a central office with oversight and responsibility for marketing and royalty disbursements, and service centers that manage CRADAs and licenses, works well and puts the decision-making in the right hands. I have been pleased to see a new cadre of tech transfer leadership both in OTT and in the ICs, and new ideas about how to manage tech transfer at the NIH and improve training and services for our trainees. I am pleased about the trajectory of tech transfer operations.

AUTM Oncology Partnering Forum

Lauren Nguyen-Antczak, NCI

The AUTM Oncology Partnering Forum on October 20th is a unique opportunity to network with industry partners and take an in-depth look at the oncology technology sectors. Among the highlights will be a panel presentation from industry partners on trends in this focused area, how industry wants to engage universities and how to best work with their company on collaborations. Attending this event also gives you access to the AUTM Connect networking app where you can set up 1-1 meetings with potential partners for one week following the live event creating valuable connections.

The Oncology Virtual Partnering Forum will take place Thursday, October 20th, 2022 from noon - 2 p.m. ET. The cost is $99 for AUTM Members, $199 Non-Members, discounted for FLC members, and free for government employees thanks to FLC's sponsorship of the event! Use code CC22FLC to receive the discount. For more information on this event, please visit the AUTM website.

Agenda:

12:00 – 12:20 p.m. - Cancer Grand Challenge 2021
12:20 – 1:00 p.m. - Partnering in the Crowded Immuno-Oncology Landscape
1:00 – 2:00 p.m. - Company Presentations and Breakout Sessions

- Companies confirmed: AbbVie, Astellas Pharma, Elevate Bio, Janssen Oncology, and Qualigen

2:00 p.m. - Networking

NIH FY-2021 Top 20 Commercial Outcomes List

Wayne Pereanu, OTT

Each year NIH Technology Transfer releases a list of the top 20 royalty-on-sales grossing products of the year based upon license agreements to inventions made by the NIH intramural research program. The list is broken down into four categories: vaccines and therapeutics, diagnostics, instrumentation and devices, and research materials and services. Economic growth and activity (in addition to public health) remains an important goal of federal technology transfer programs such as those at NIH.

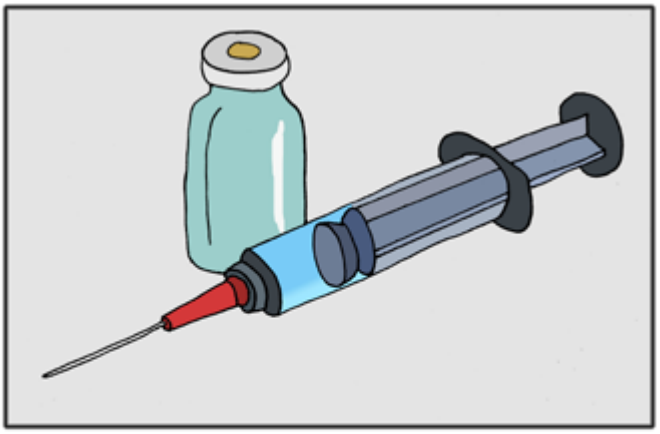
A new addition to the list, debuting at number one, is 'Anti-Coronavirus Antibodies' with lead inventor John Mascola of NIAID. This is a technology selected from a library of 1,329 anti-coronavirus antibodies that led to the development of Bamlanivimab®, the first COVID-19 therapeutic made available to the public by the FDA. If you are interested in finding out what other products were commercially successful in fiscal year 2021, you can see the full list here.

While their titles are helpful, we'll take a closer look at a few of these commercially-successful technologies. So, let's take a stroll and explore the top-ranked technology in each of the four categories.

Vaccine & Therapeutics

The number one commercially-successful technology is a treatment for coronavirus using custom-made antibodies by Mascola, et al. of the NIAID.

As we well know, the world has gone through a pandemic due to a coronavirus called SARS-CoV-2. People who were exposed to this virus could get an infectious disease called COVID-19. The first known case occurred in December 2019.



Clinical trials sprang up in the hundreds testing many existing antiviral drugs to see if they would help. Drugs for other diseases, like malaria, and brand-new experimental drugs were tried as well. In June 2020, a steroid called dexamethasone started getting used for severe cases. It was found to significantly reduce the death rate for critical patients.

In November 2020, the FDA authorized the emergency use of Bamlanivimab®, the antibody selected to target the SARS-CoV-2 virus by Mascola et al. This approach was authorized for mild-to-moderate COVID-19 cases. Bamlanivimab® was the first authorized treatment for less-than-severe cases and also the first that specifically targeted the SARS-CoV-2 virus.

Diagnostics

Number four on the list is an NCI-backed diagnostic breast cancer test from King, et al. that

detects for a protein called Human Epidermal Growth Factor Receptor 2.

In 1985, King et al. identified a new protein that was similar to the known EGF-receptor, but different. They described that this new protein, Human EGF Receptor 2 (HER2), was involved in human breast cancer based on the cell line they were working from, a human mammary carcinoma line.

JOHN HAD A HARD TIME TRANSITIONING FROM BEING A SHAKESPEAREAN ACTOR TO A PHYSICAN

There are many avenues used to treat breast cancer. Before HER2, the major treatments used included anastrozole and tamoxifen, both of which act hormonally and block production of estrogen.

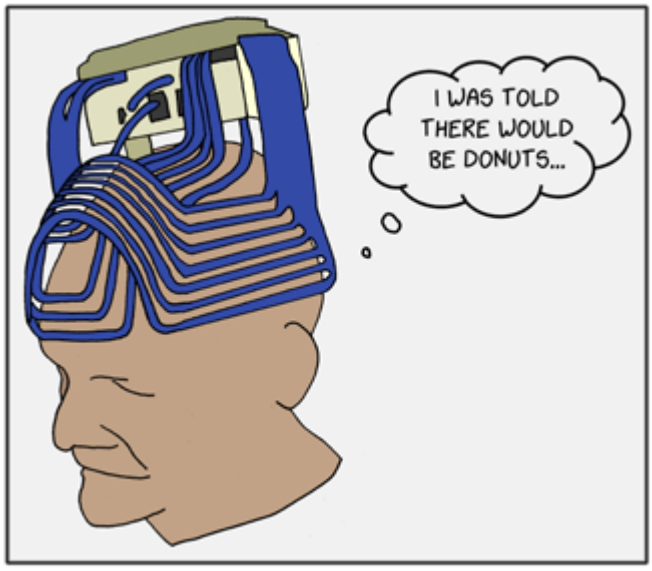
Cancer cells that have a lot of HER2 on their surfaces tend to divide and grow quickly. An antibody was developed by Genentech called trastuzumab (known as Herceptin® commercially) that binds to HER2 and stops cancer cells from growing or dividing. Consequently, this antibody treatment can be very effective, but only if the cancer cells have high levels of HER2 (which is the case for about 1 in 5). This invention covers the test for HER2 that is used on breast cancer patients to see if they can be treated with the antibody approach.

Instrumentation & Devices

While number 10 on the list overall, the NINDS and NIDA's "Transcranial Magnetic Stimulation System" by Zangen, et al. tops the list for commercially-successful Instrumentation & Devices.

In 1831, Michael Faraday found that moving a magnet along a wire could create an electrical current (for modern implementations, see the electric motors in your favorite electric car, or the generators inside the Hoover dam). It turns out that our brains use electrical activity to process the constant deluge of information from our senses to produce memories, feelings, thoughts, and eventually our motor outputs. What if we could change electrical activity in parts of our brains by using magnets? It turns out, we can. With Transcranial Magnetic Stimulation (TMS), a magnetic wand is placed near a person's head and a magnetic field is changed quickly causing changes in electrical activity in the person's brain.

Being able to change the electrical activity of a brain using TMS has been used to measure nervous system damage and can potentially treat a variety of conditions, including depression, anxiety, Parkinson's disease, addiction, and PTSD...



The idea of altering a person's brain electrical activity has its experimental roots in the now maligned (and rightfully so!) electroshock therapy of the 1930s through the 1970s (though some forms are still used today). It wasn't until 1980 that a method came around that could alter electrical activity from outside the brain: trans-cranially. Before Zangen's invention, TMS was done with wires coiled around in a figure-eight shape.

It turns out that the figure-eight-shaped coils activate areas near the surface of the brain, around a quarter-of-an-inch. As you might expect, there are many areas deeper in the brain that could be useful to target. Enter Zangen, et al.'s invention: the H-coil. Shaped like a half-donut and placed over the forehead from ear to ear, this coil is designed to target a deep brain structure involved in reward-seeking called the nucleus accumbens. The FDA cleared it for use in 2013 on depressive patients who failed to respond to antidepressant medications in their current episode of depression.

Research Materials & Services

As research tools, NCI's 345 cell lines developed by Oie, et al. were not patented, but instead commercialized using Biological Materials Licenses Agreements.

Cell lines are valuable for research because they can live indefinitely. Researchers make changes to these cells and examine the results, or try a variety of possible treatments to see if any might be worth testing in an animal, or eventually in humans through a clinical trial.

If you've read the eponymous book, you'll know about the immortal Henrietta Lacks, the source of the first human cell line. Researchers kept collecting, growing, and maintaining human cell lines after these first HeLa cells in 1951. While groundbreaking and useful for decades, scientists wanted more information about the clinical background of the patients whose cell lines they worked with.

Starting in 1976, the NCI started maintaining a collection of human cell lines. By 1989, they expanded this to also collect patient clinical data. This work continued until 1991. The majority of the resulting 300+ cell lines were collected from patients with small cell and non-small cell lung cancers, but there are also representatives from colon, lymphomas, breast tumors, and myelomas. These cell lines are now distributed from the American Type Culture Collection.

Top 20

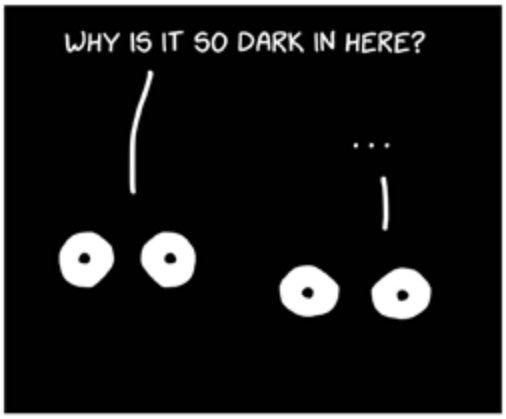
Unusual Inventions: Glow in the Dark Fish

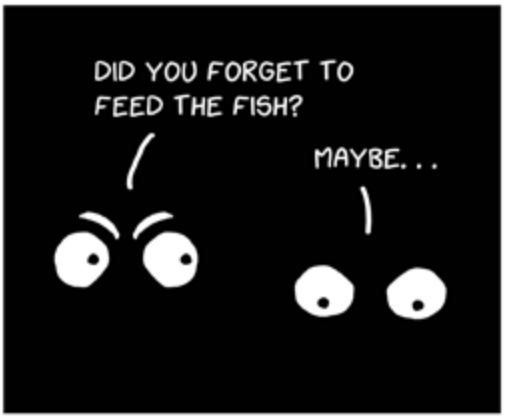
Richelle Holnick, OTT

You may remember that 'glow in the dark' items were all the rage in the '90s. Children had glow in the dark stars to line their ceilings, pens to write secret messages, and shoes that turned their feet into beacons of light in the dark. Even NIH was not exempt from the glow in the dark craze.

In 1995 Dr. George Pavlakis and colleagues, working in a lab at NCI Frederick, adapted a mutant green fluorescent protein (GFP) sequence from jellyfish, typically useful as a biological marker for laboratory work and a number of other scientific reagent applications. One unexpected request for commercial use of this GFP, however came from a company that wished to make fish glow in the dark. The GFP from NCI was to be used as an ornamental enhancement for pet fish or fish for educational instruction.

The license agreement for commercializing this GFP for pet store fish also itself had a very interesting list of restrictions. It could not be used in pharmaceuticals, agricultural products, flavors, fragrances, taste enhancers, prophylactics, diagnostics, food products, anti-infectives -- and most interesting of all: warfare!





Comics by Wayne Pereanu

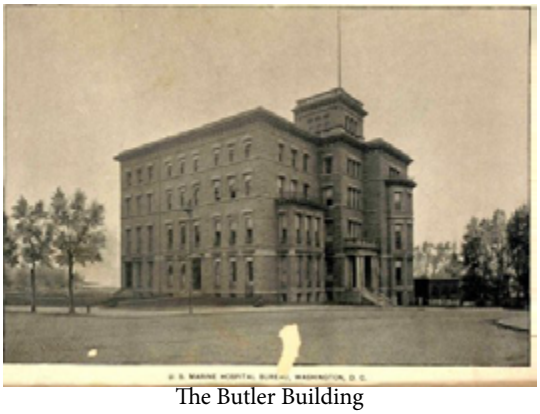
However, while this agreement was licensed in 2002, it was never commercialized as the licensee heard from their distributors that customers would only really want fish that glowed in ambient light, and since these fish only glowed under UV light it would not be marketable. The product was never launched and the license was dropped by the company.

Off Campus: Back to the Future

Richelle Holnick, OTT

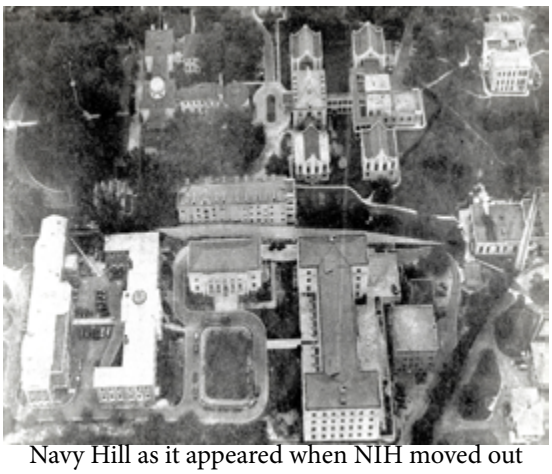
The Hygenic Lab located in the Marine Hospital

Long before NIH's main campus was located across 75 buildings on 300+ acres, there was just one man working out of one room in a marine hospital. The Hygienic Laboratory that Dr. Joseph Kinyoun worked in was founded in 1887 as a part of the Marine Hospital Service (MHS). The MHS was responsible for examining newly arrived immigrants as well as the crew of ships for cholera and yellow fever. Despite Kinyoun's limited resources, he demonstrated the presence of the *Vibrio cholera* bacterium among passengers on the steamship Alesia and proved the worth of his laboratory. Due to Kinyoun's work, Supervising Surgeon General John B. Hamilton advocated for an entire building dedicated to the germ theory of infectious disease, but had to settle for a floor of a building instead.



The Butler Building

In 1891, the lab moved to the top floor of the Butler Building in Washington, D.C and added more researchers to work with Kinyoun. They continued his line of work, expanding to studying how to distinguish variola virus from vaccinia virus, produced diptheria antitoxin and rabies vaccine, and conducted water and air pollution research. Kinyoun became the first American to prepare and test smallpox immune serum in humans.



Navy Hill as it appeared when NIH moved out

By 1901, Congress recognized the need for an entire building dedicated to studying infectious disease and authorized $35,000 to build a new laboratory building and an animal facility on Navy Hill. This was referred to as the 'North Building'. Soon after the building was finished, the Surgeon General who oversaw the program began asking for an expanded building as well as a few sheds and shops. Congress granted another $75,000 to the project, and the cycle of expanding the program (now a part of the Public Health Service) and therefore needing to expand the laboratory space began again.

Dr. Joseph Kinyoun

As this cycle continued, it eventually lead to the program, now an offshoot of PHS called the National Institute of Health (not yet plural!) moving onto Luke and Helen Wilson's 45-acre estate in Bethesda, Maryland that they had donated to the U.S. government. This renaming made Kinyoun NIH's first director (thus indirectly NIH's first tech transfer officer).

Interestingly, when NIH moved out, the predecessor to the CIA moved in! They stayed at Navy Hill until moving to Langley, Virginia in 1961.

3 Things to Know About PLS Surveys

Jill Roering, OTT

Quarter 3 Accomplishments for ETT

Terry Goodell, Sapient

The third quarter of 2022 saw a flurry of activity for the Enterprise Technology Transfer (ETT) system team. Three major milestones were completed: performance testing, assessment for the Authority to Operate, and User Acceptance Testing (UAT) Closeout.

Performance Testing:

Using 21 test criteria that measured time to complete specified tasks, the ETT Support team found that there was no meaningful change in system performance after loading the full legacy dataset, including all attached files. This testing assures us that the planned system architecture can successfully handle the expected number of records and files, and closes out a major risk that the team has been tracking throughout implementation.

Authority to Operate:

Two years of effort culminated in a formal assessment of more than 1,100 security control implementation statements. Collectively, the implementation statements were supported by 24 separate policy and process documents, and a collection of more than 100 artifacts to demonstrate compliance with NIH and HHS IT security requirements. ETT passed with flying colors and the assessment findings have been forwarded to the ISSO for review.

User Acceptance Testing:

For the UAT Closeout activity, Testers from all ICs and OTT reviewed activity lists and overview videos for the business areas relevant to them, and then performed the designated business activities in the ETT System to identify any issues. The testers then reported issues, finding 135 in total. UAT Closeout formally concluded on August 14th, however testers continued to give input that needed to be evaluated for an additional six weeks.

From the UAT Closeout, the ETT team triaged and analyzed the issues in order to de-duplicate and categorize them. From these reported issues, 12 were defects in the system that needed to be addressed, 19 were problems with data or user accounts, and 28 were requested changes to the system. Together with the issues reported in the earlier Testing Iteration cycles, 337 reported issues were evaluated and prioritized by the TTUG and added to the system development backlog. 224 of those issues were identified as a Priority 1 or high-value Priority 2 items, meaning that they need to be completed before the ETT system goes live. Note that some reported items were duplicates of each other, were issues related to training, and/or issues that could not be

reproduced. The ETT Support Team continues to process additional feedback and provide training as users continue to experiment with the new system.

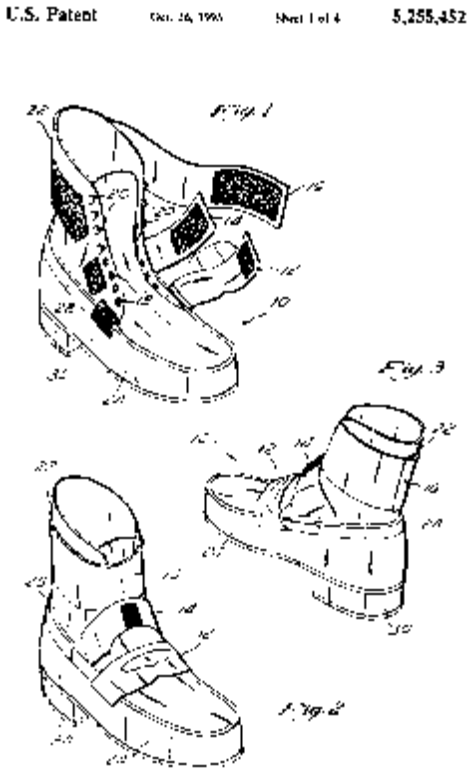
Now that these three major milestones have been completed, the launch of ETT is in sight. The ETT team is currently addressing all issues that the Governance Board and the Technology Transfer Users Group (TTUG) have identified as Priority 1 or 2. Once these issues have been resolved, the team will report that the system is "ready to go live". The Governance Board will then determine how much time is needed to prepare for the transition to ETT and set a "Go Live" date based on that information. Once all exports from the legacy systems have been imported into ETT, the system will "go live" for all users.

Celebrities and Their Patents

Barry Buchbinder, NIAID

Many celebrities hold patents for thing's directly related to their profession, such as singer Michael Jackson's patent for 'Method and Means for Creating Anti-Gravity Illusion', his famous performance trick, while others hold patents that lead to more questions, such as actor/comedian Zeppo Marx's patent for 'Cardiac Pulse Rate Monitor'. Below is a list compiled by Lexology:

- **Eddie Van Halen (Musician)**, U.S. Patent No. 4,656,917 for Musical Instrument Support
- **Zeppo Marx (Actor/Comedian)**, U.S. Patent No. 3,473,526 for Cardiac Pulse Rate Monitor
- **Harry Connick, Jr. (Musician/Actor),** U.S. Patent No. 6,348,648 for System and Method for Coordinating Music Display Among Players in an Orchestra
- **Michael Jackson (Singer)**, U.S. Patent No. 5,255,452 for Method and Means for Creating Anti-Gravity Illusion
- **Abraham Lincoln (U.S. President)**, U.S. Patent No. 6,469 for Method of Buoying Vessels Over Shoals
- **Marlon Brando (Actor),** U.S. Patent No. 6,812,392 for Drumhead Tensioning Device and Method
- **Lawrence Welk (Musician/Bandleader)**, U.S. Design Patent No. D170,898 for Welk Ash Tray
- **Jamie Lee Curtis (Actress)**, U.S. Patent No. 4,753,647 for Infant Garment
- **Mark Twain (Author)**, U.S. Patent No. 140,245 for Improvement in Scrap Books
- **Harry Houdini (Magician)**, U.S. Patent No. 1,370,316 for Diver's Suit
- **Prince (Musician/Singer)**, U.S. Design Patent No. D349,127 for Portable Electronic Keyboard Musical Instrument



Patent Drawing for Michael Jackson's U.S. Patent No.5,255,452

Changes Modernize SharePoint 2019

Mitchell Ha, Sapient

Background

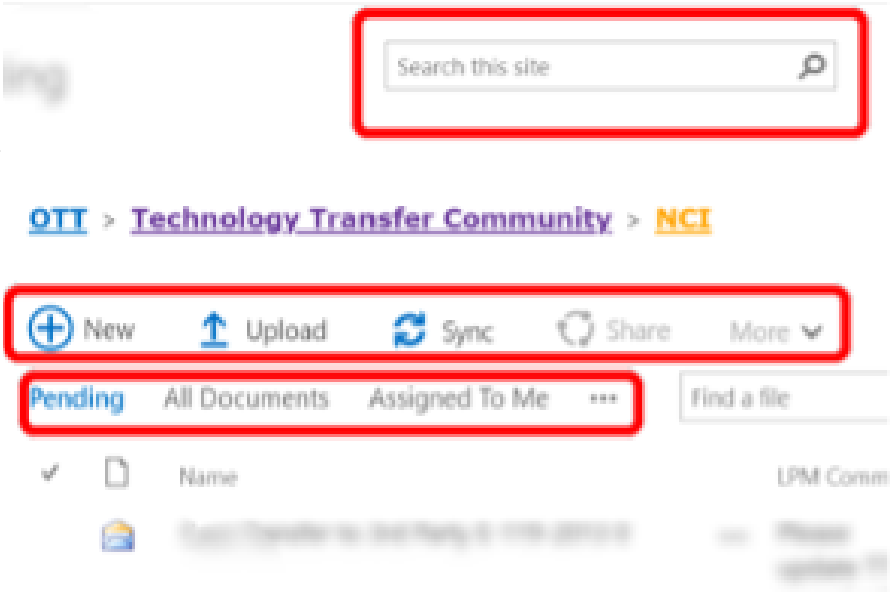
When OTT SharePoint was updated from SharePoint 2016 to 2019 in May 2022, the look and feel was kept as close to the 2016 version as possible. This allowed us to have a smoother transition and facilitate client adoption. Many of the issues and kinks arising out of the migration were addressed and documented.

Now we would like to take advantage of the modernization features in the system, since they provide more system stability. The modernization will update the look and feel which can provide intuitive controls and additional features.

What Is Changing?

Document Libraries and Lists

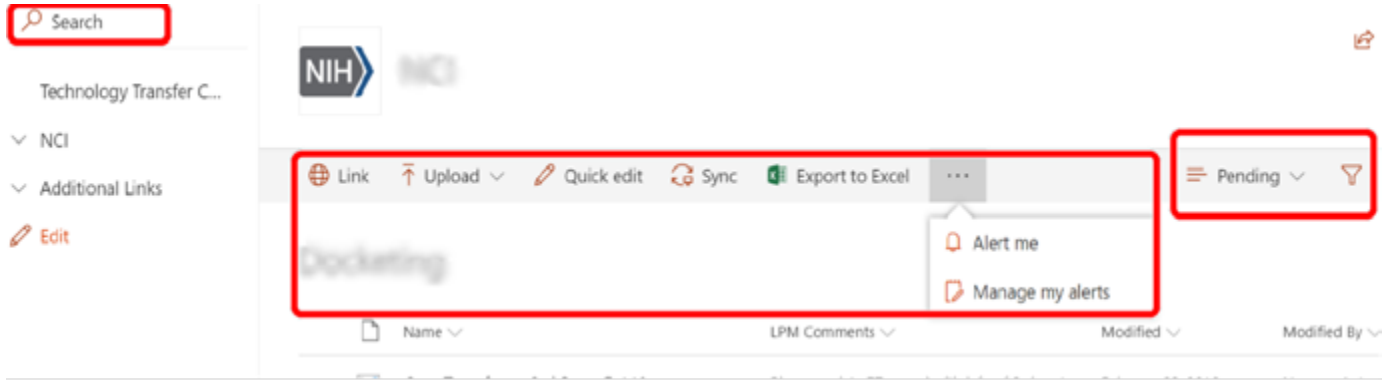
Non-Modernized -->



Changes:

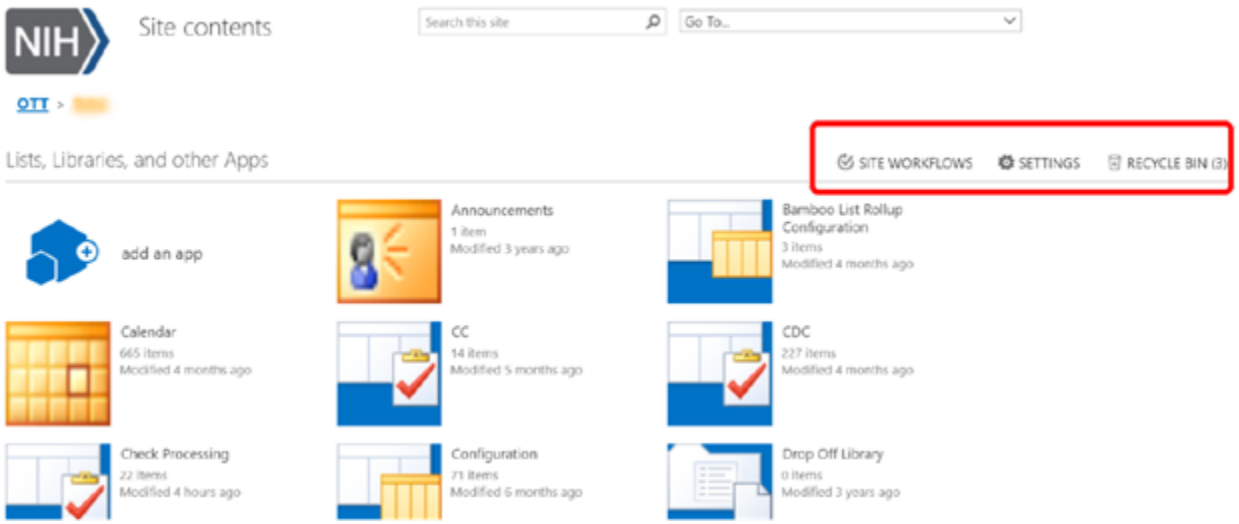
- The Search bar has been moved to the upper left-hand corner.
- The menu bar exposes the "Export to Excel" and Alert features.
- The views ("Pending All Documents Assigned To Me" in the non-modernized version) are rolled up into a dropdown on the right hand side.
    - The column filter icon is next to the view drop down list.

Modernized

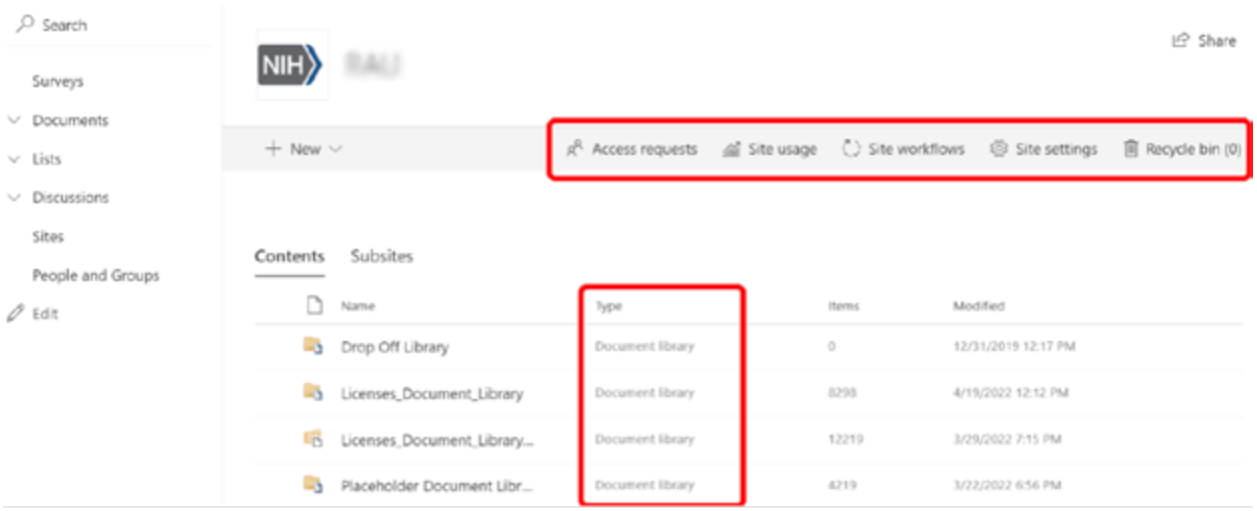


Site Content

Non-Modernized



Modernized



Changes:

- Site content in the modernized view will expose site usage and access requests.
- The content types can be sorted from the column header.

What is Not Changing?

Task Display and Edit Views

The Display and Edit Views of the tasks will remain the same.

Business Process Workflows

The modernization does not affect the business processes. You should be able to carry out your tasks with minimal to no adjustments.

How Does the Modernization Affect You?

Some visual changes will take some getting used to. Please contact us if you find any issues preventing you from carrying out your tasks.

We are Here to Support You

Before we turn on the modernization, we will make the Staging site (the links will be included in a future communication) accessible to the clients. You can schedule screen-sharing support with the SharePoint administration team.

If you have questions, please contact the OTT SharePoint Administrator Mitchell Ha at mitchell.ha@nih.gov.

If you have any OTT SharePoint related requests, please submit a helpdesk ticket referenced to OD-NIH-OTT SharePoint Support.

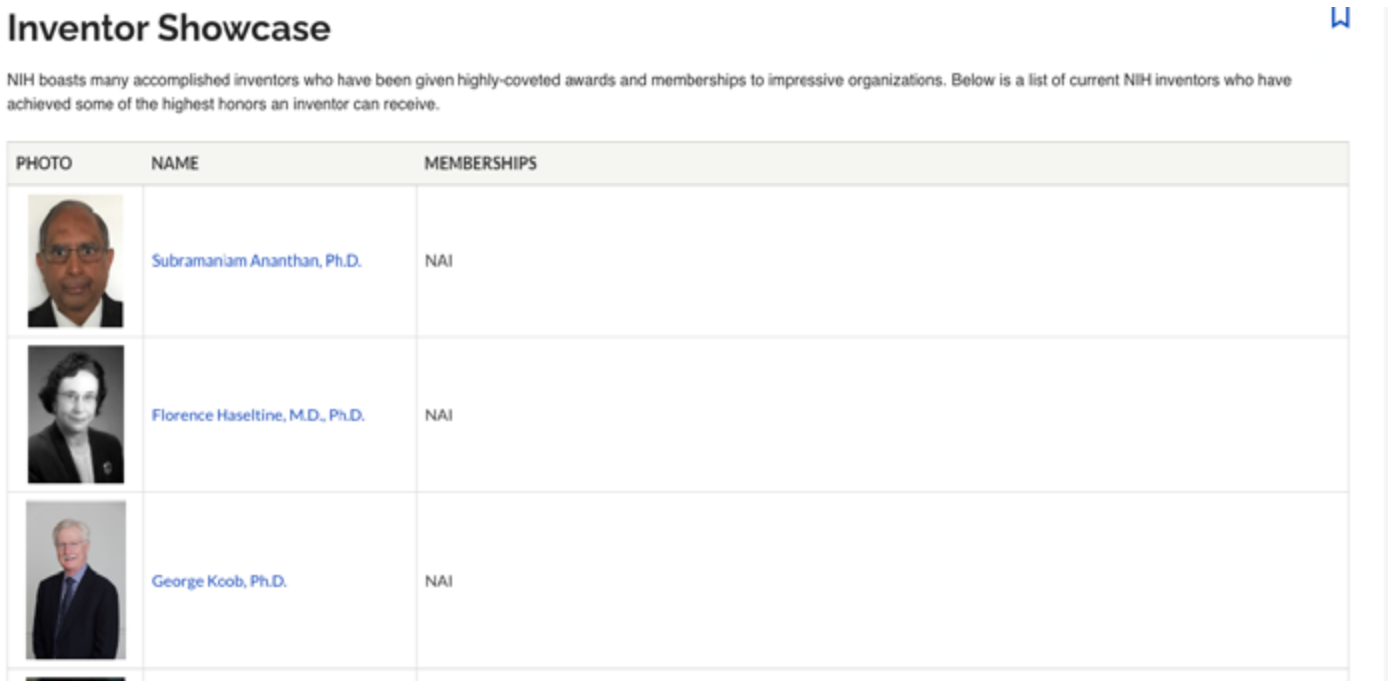
SharePoint

Brand New Inventor Resources Page

Richelle Holnick, OTT

Have you checked out the new Inventor Resources and Inventor Showcase pages on the NIH Technology Transfer website? The Inventor Resources page provides helpful information for NIH inventors, shortcuts to the Employee Invention Report, the NIH Technology Transfer Training, general information for NIH inventors, and a link to the new Inventor Showcase. The Inventor Showcase currently highlights all of the NIH members who have become National Academy of Inventors (NAI) members. The NIH Technology Transfer Community website is a place to find resources, share the success of the tech transfer program, and advertise available technologies.

We hope that this new inventor resource will benefit all of the inventors in the program. If you have any ideas for additional resources that would improve this page, please reach out to Steve Ferguson at sf8h@nih.gov.



Inventor Showcase

NIH boasts many accomplished inventors who have been given highly-coveted awards and memberships to impressive organizations. Below is a list of current NIH inventors who have achieved some of the highest honors an inventor can receive.

PHOTO	NAME	MEMBERSHIPS
	Subramaniam Ananthan, Ph.D.	NAI
	Florence Haseltine, M.D., Ph.D.	NAI
	George Koob, Ph.D.	NAI

How FLC Has Impacted Me: Whitney Hastings

Whitney Hastings, NCI

The Federal Laboratory Consortium for Technology Transfer (FLC) is a network of over 300 federal laboratories, agencies, and research centers that fosters commercialization, best practice strategies, and opportunities for accelerating federal technologies out of the labs and into the marketplace. Whether you are looking to expand your technology transfer knowledge, network with technology transfer colleagues from different agencies, or advance your career through volunteer and leadership opportunities, engaging in the FLC can help advance your professional development and bring knowledge and recognition back to your lab.

The FLC has been key to my growth as a senior technology transfer professional. Back in 2016, I went to my first National meeting in Chicago where I was welcomed by like-minded people, all enthusiastic and wanting to connect (and even trade a few licensing tips and tricks). That year I also joined the Awards committee with the goal of bringing back the best practices from other labs to my own and expanding my technology transfer knowledge beyond that of HHS. Ultimately, being a judge for the Awards program was so rewarding that I am now on my eighth year! Each year I learn about dozens of fascinating technology transfer successes and have a much better understanding and appreciation of how other agency TTOs operate. I also have an instant network of people and resources that I can call upon when trying to "think outside the box" to market a technology or get a deal done.

FLC
Federal Laboratory Consortium
for Technology Transfer

The FLC was also a great way for me to get invaluable leadership experience and serving on the Executive Board has been one of the true highlights of my career. Encouraged by NCI's Donna Bialozor, I started out as her Awards Committee Vice Chair and then took over as Chair when she retired. In this role I had the opportunity to develop and moderate panels and events at the FLC National meeting, add new award categories, lead the strategic and financial elements of the program, and work with fellow board members to develop FLC's current strategic plan. As the current Promote Pillar Chair, I now provide the leadership and vision for FLC's communication products (such as the planner, FLC newsletters, Lab Tech in Your Life), the website and FLC business redesign, and the new unified awards program. It is truly a rewarding experience that has provided me with professional growth, new skill sets, and an opportunity to give back to the transfer community in an impactful way.

The FLC has something for all federal T2 professionals, whether you're a newbie, a manager, or even working in the lab, I encourage you to take advantage of the free educational training and webinars, networking opportunities, and if you can, volunteer. The knowledge and friendships you gain through your involvement in FLC will last a lifetime.

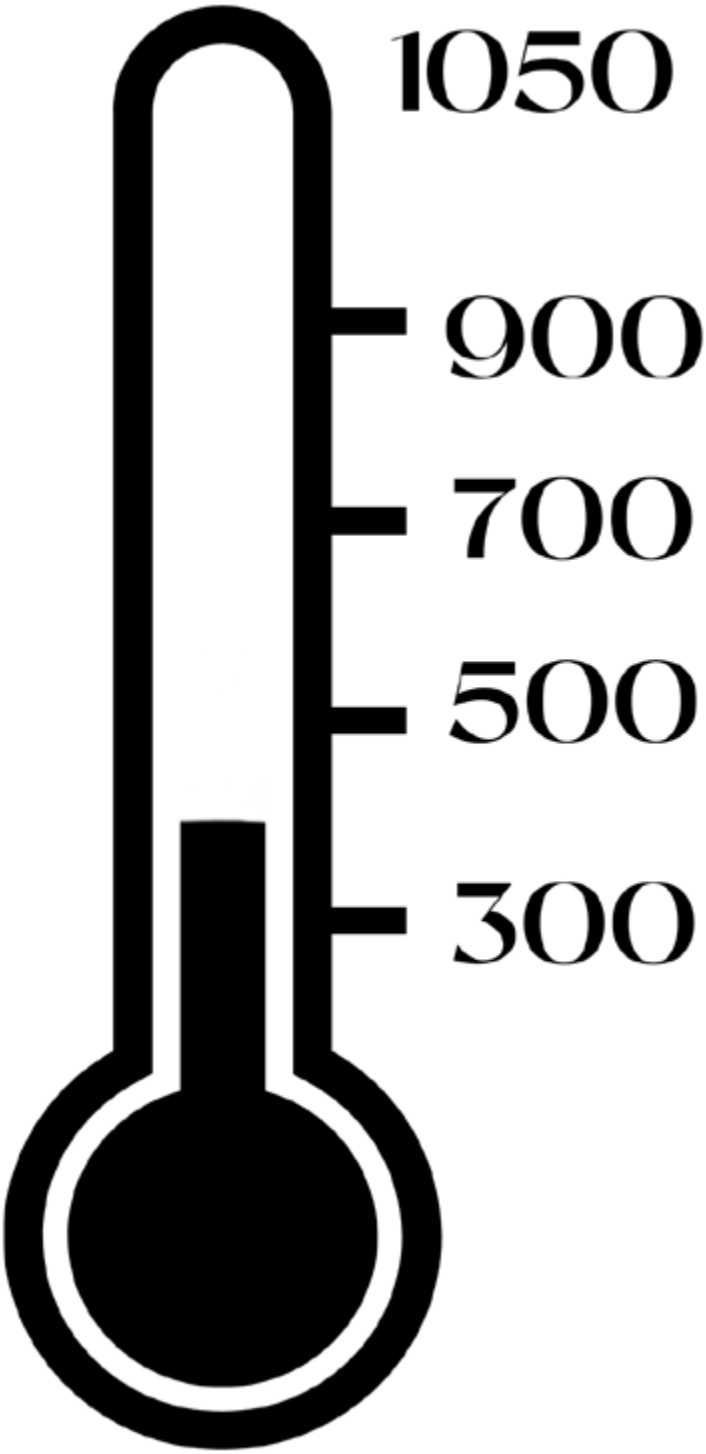
If you are interested in becoming involved with the FLC, check out their volunteer opportunities here.

The Case of the Missing Marketing Abstracts

Steve Ferguson, OTT

The NIH Technology Transfer program has an extraordinary number of great inventions just waiting for someone to come along interested in licensing or a collaboration. However, it was noticed that many of these technologies were only findable in TechTracS – never seeing the light of day on the public facing NIH Technology Transfer Community website. The more it was looked into, the larger the list of technologies grew. It was well over a thousand!

As OTT investigated this issue, we discovered that the vast majority of 'missing' abstracts were 5 years old or younger – meaning that the invention was likely still current and available for licensing or collaboration in some form. Realizing that IC TTOs are busy with a variety of duties and not always able to prepare their abstracts on a timely basis, OTT hired an abstract writer to help fill in the gaps.



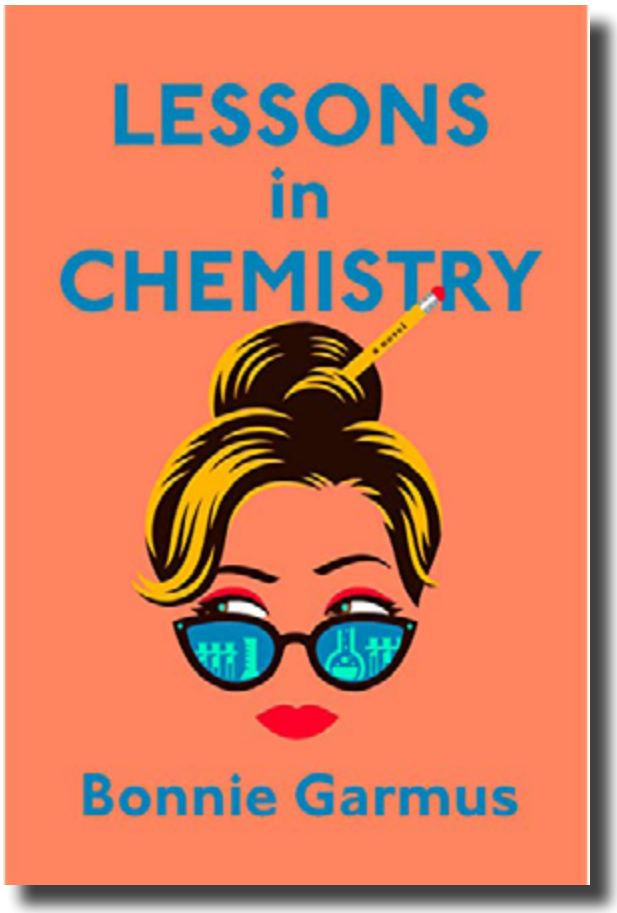
The abstract writer, Wayne Pereanu, was brought in last October and has been hard at work! Wayne has powered through 416 abstracts this year. This includes abstract review cycles with each IC, copying the information into TechTracS, and publishing to the website, as needed. As of October 2022, Wayne has written all of the missing abstracts from the past ten years through FY21 for NIDDK, NIDCR, NHGRI, NHLBI, NIAMS, NIBIB, NIDCD, NIEHS, NINR, NIAAA, NCATS, NIMH, and NINDS. Whew! Try saying that five times fast.

We look forward to continuing to work with the ICs to identify and write these 'missing' abstracts. And we can even take "special requests". If you have a case that would benefit from a new marketing abstract, just let us know and we will move it to the front of the abstract queue!

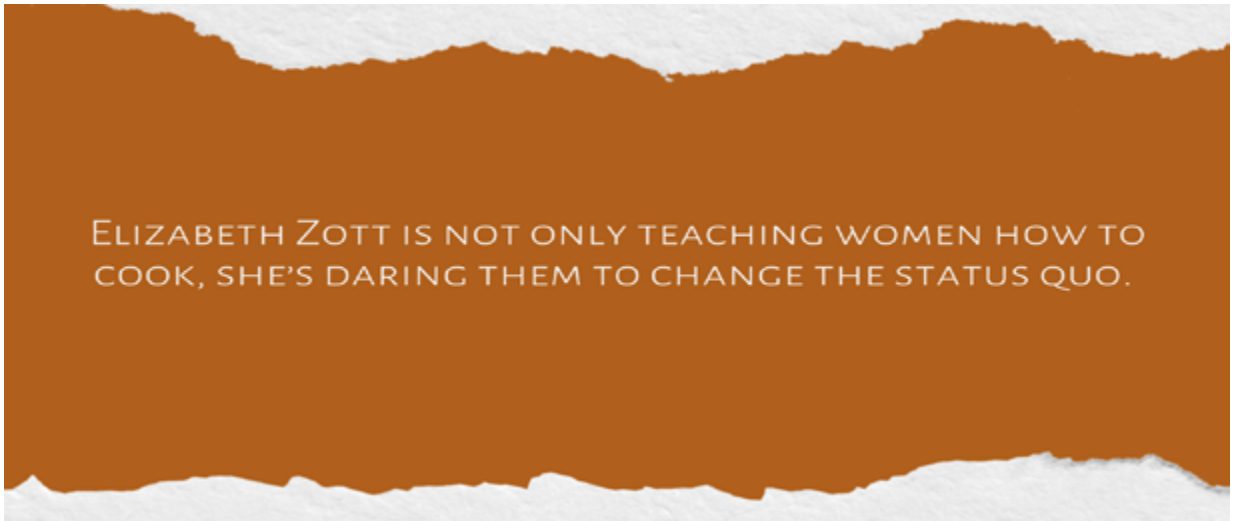
Book Review: Lessions in Chemistry by Bonnie Garmus

Charlene Maddox, OTT

Elizabeth Zott is a scientist, a chemist to be exact, working at an all-male team at Hastings Research Institute in the early 1960s. Her dreams of becoming a Ph.D. foiled after she got kicked out of her doctoral program for reporting her thesis advisor for sexual assault. While at Hastings, she fell in love with Calvin Evans, a distinguished scientist with his own lab and budget. They fell in love and lived togther unmarried in a tiny bungalow in Commons, California until his untimely death. She found herself unwed, and pregnant and without a job after Management at Hastings Research Institute learned of her circumstances. That didn't stop Elizabeth Zott. She kept pursuing her love for science and converted her tiny kitchen to a chemistry lab. She made ends meet by reading and interpreting lab results that her former male colleagues couldn't seem to figure out.



On the last day of her cooking show, Supper at Six, Elizabeth Zott spoke proudly into the live video stream to housewives all across America... "Chemistry is Change. Whenever you start doubting yourself, whenever you feel afraid, just remember. Courage is the root of change and change is what we're chemically designed to do. So when you wake up tomorrow make this pledge. No more holding yourself back. No more subscribing to others' opinions of what you can or cannot achieve. And no more allowing anyone to pigeonhole you into useless categoreis of sex, race, economic status, and religion. Do not allow your talents to lie dormant, ladies. Design your own future. When you go home today, ask yourself what you will change. And then get started."



TechTracS Account Deactivated?

Jill Roering, OTT

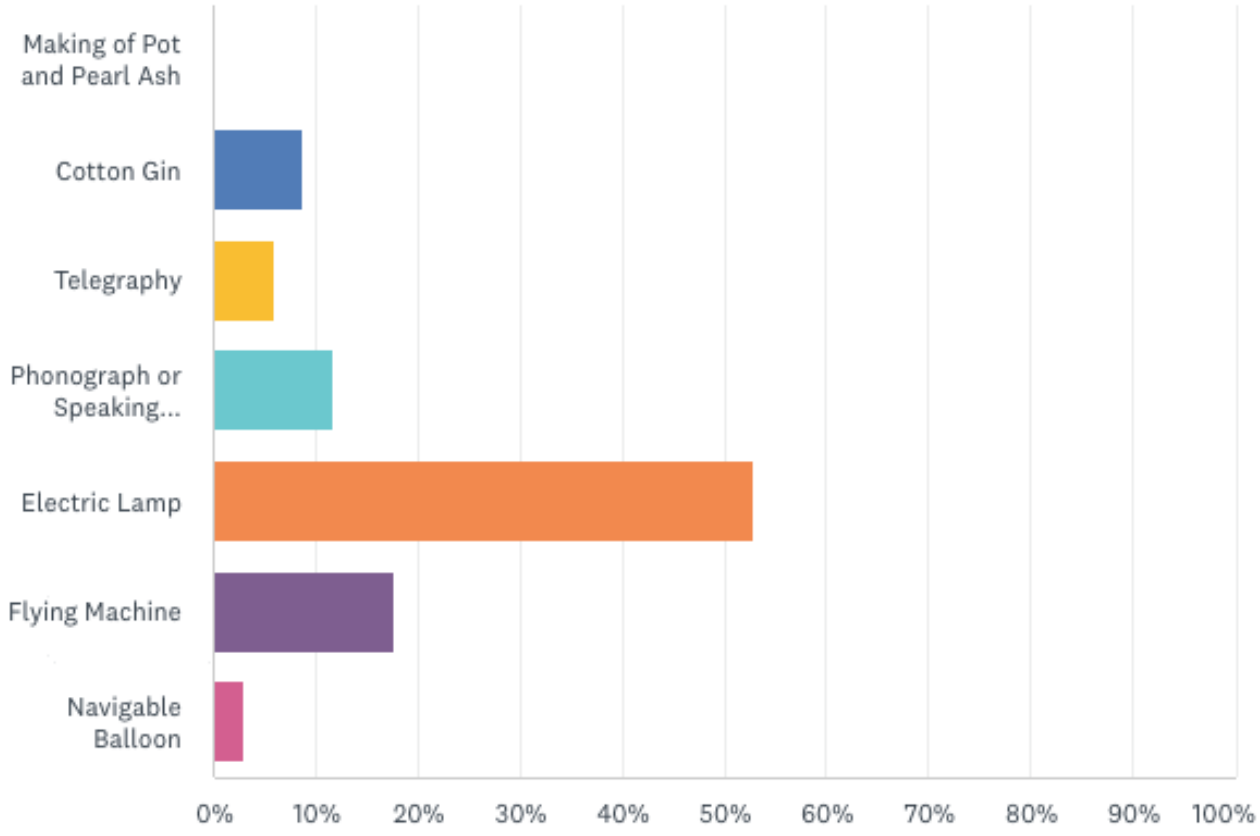
In order to avoid your TechTracS account from being deactivated, please log in at least one time during a 30-day period.

If 30 days has been exceeded without logging into the system, your account will be automatically deactivated.

If your account does become deactivated, please submit a Service Desk ticket (http://itservicedesk.nih.gov/support/) requesting assistance.

Favorite Historically Notable Patent Results

Steve Ferguson, OTT



In the Q3 addition of this newsletter, we asked the community to vote on their favorite historically notable patent and the results are in! The *electric lamp* took a large lead with over 50% of votes. The *flying machine* came in at second with 18%. Third and fourth were a close tie between the *phonograph* and the *cotton gin*. *Telegraphy* came in next with 6% of the vote, followed up by *navigable balloon*. Unfortunately for *making of port and pearl ash*, it received zero votes.

NIH Librarian's T2 Tip of the Month – Business Source Premier and selected journals for business information

Josh Duberman, NIH Library

The NIH Library provides access to a number of business information resources including Business Source Premier database (Ebsco), the journal Nature Biotechnology, and select publications from publishers Biocentury and Mary Ann Liebert. These can be searched to find information about companies, industries, market information and updates.

Ebsco's Business Source Premier database includes more than 2300 full-text business-oriented publications, including the Harvard Business Review, company profiles and industry reports. It's available from the NIH Library after signing in with a PIV card; click the 'Databases' tab at the lower left, search for 'Business Source Premier', and then click on "Business Source Premier" next to 'Links'.

Business Source Premier tutorials and search details are available by clicking on 'Help' at the upper right , and also https://support.ebsco.com/help/index.php?help_id=DB:46. A quick start guide is available at https://library.leeds.ac.uk/download/downloads/id/329/business_source_premier_quick_start_guide.pdf - however, to get access from the NIH Library, please use the instructions above. Additional online guides are available from various academic libraries, including, for example, https://morningside.libguides.com/bsp and https://infoguides.pepperdine.edu/c.php?g=1026311&p=7440363.

The journal Nature Biotechnology often includes useful biomedical business information, including technology analyses and state-of-the-art patent updates on specific subjects. It's available from the NIH Library after signing in with a PIV card; click the 'Journals' tab at the lower left, search for 'Nature Biotechnology', then click on the desired date range next to 'Links' . From the journal web page at https://www.nature.com/nbt/, search by subject, keyword or author after clicking on the magnifying glass at the upper right.

It's also useful to search for company, industry and business information from specialty publishers Biocentury and Mary Ann Liebert. These can be accessed by searching the publisher's name in the general search box at the lower middle of the NIH Library web page, after signing in with a PIV card.

After searching 'Biocentury', click on "Journal Biocentury – available online" or go to https://www.biocentury.com/editions/daily, then use the search box at the upper left.

After searching 'Mary Ann Liebert', click on one of the retrieved journals published by Mary Ann

Liebert or go to https://www.liebertpub.com/, then click on the magnifying glass at the upper right.

The NIH Library subscribes to some publications from both Biocentury and Mary Ann Liebert, so after a search you may be able to access the full text of a retrieved article, or you may be asked to purchase access. It's recommended that you search the internet for a desired article before ordering an article from the NIH Library at https://nihlibrary.ors.nih.gov/illiad/.

For example, searching Mary Ann Liebert publications for 'mrna market' retrieves the article, 'Key Insights into Overcoming mRNA Process Challenges', Genetic Engineering & Biotechnology News, 3/1/22. Various options to access the full text of the article include a $59.00 pay-per-view charge, but using Google to search the internet for the title in quotes ("Key Insights into Overcoming mRNA Process Challenges") retrieves the article free.

This particular article might be of interest to the technology transfer community, as it includes some market estimates: "…The expected growth of the mRNA market signals the success of the Moderna and Pfizer-BioNTech vaccines as only the beginning of a new era in the biopharmaceutical industry. In 2019—just before the COVID-19 outbreak—the mRNA vaccines and therapeutics market was valued at almost $600 million. Now, recent reports show this number could be as high as $2,911.9 million by 2026, with 155 therapies based on mRNA already in today's clinical pipeline…."

There are additional free specialty biomedical business journals that can be searched on the internet, including Drug Discovery News.

Contact the NIH Library for answers to any questions, or for training, at https://custserv.nihlibrary.ors.nih.gov/ask-a-question/. You may also click here for the NIH Library class schedule, or sign up for the NIH Library email news at https://www.nihlibrary.nih.gov/library-email-news-signup.

TechToon: T2 Camping Trip

Wayne Pereanu, OTT

A special thanks Wayne for providing all of the great cartoons in this edition! Please feel free to send in suggestions for cartoons that Wayne could illustrate for future editions.

Comings and Goings

Akshay Bhardwaj has joined OTT as an Architect on the ETT project. He graduated with a M.A. in Computer Sciences from Hood College in Frederick, MD. Akshay has over 15 years of experience implementing IT solutions as Datawarehouse Architect/Lead, Cloud SME, Data Engineer, Business Intelligence SME, also hold certification in AWS. He has supported several other government clients as well private sector clients across the board. In his spare time, he likes reading and spending time with his kids and wife.

Barry Buchbinder is retiring after 25 years in NIAID TTIPO. After B.S. from MIT in biology, a Ph.D. in molecular biology from Wisconsin, and a postdoc at the Fox Chase Institute for Cancer Research, he went to work at Agrigenetics, a small, long-gone, ag biotech/ seed company where he became a patent agent and wrote some of the first patents for GMOs. He then became patent manager at Life Technologies, which was then BRL and GIBCO and is now part of Thermo Fisher. His next job search landed him in TTIPO. Barry's plans for retirement include more naps, more reading, and cleaning out the basement. In retirement, one is supposed to spend time at one's hobbies. However, currently Barry's sole hobby is tech transfer, so he will need to explore and experiment.

Josh Duberman, an Informationist / Research Librarian specializing in technology transfer issues, will be retiring from the NIH Library October 13 after more than 17 years of service. While at the NIH, Josh searched for competitive intelligence and biotechnology information in support of the NIH intramural tech transfer program. He also taught lectures on biomedical business and patent information resources at the NIH Library, in FAES classes and at various technology transfer offices. We all congratulate Josh on his retirement and wish him well.

Dani Klinberg has left OTT where she served as a PLS/ETT Support Analyst. Dani was a large help to the community, especially with ETT users, and has now accepted a position with McKinsey. If you had previously worked with her for ETT related issues, please send any future questions or concerns to ETT_support@nih.gov.

Fuki Mathaudhu has joined the NIAID TTIPO as a paralegal. Previously Fuki worked as a Patent Paralegal at W. R. Grace & Co., a chemical company in Columbia, MD, also as a Patent Secretary at IP boutique law firms in the DC metro area. She has over 15 years of experience in handling patent prosecution, docketing, annuity management, as well as various types of IP and commercial agreements (e.g. NDAs, JDAs, licenses). She grew up in Japan and came to U.S. to study English in her high school years. She graduated from University of South Carolina in B.A., from George Washington University in M.A., majored in International Relations and Government.

Melborne Moon was recently promoted to Royalties Analyst. He has been supporting the Royalties Administration Unit since he started working at OTT as a contractor back in 2004. He became a Federal employee in 2006 as a Royalties Assistant. Since 2010, he has been a Royalties Coordinator managing his own docket of licenses and royalties. As part of the Royalty Administration Team, Melborne has received an OD Honor Award in 2021 and received NIH Merit Awards in 2008 and 2011.

Nadi Peyravian, Ph.D. has joined NIAID TTIPO as a Fellow. She received her bachelor's degree in biology and psychology from UNC-Chapel Hill in 2016. She then attended to the Univ. of Miami Miller School of Medicine Ph.D. Program in Biomedical Sciences and received the UM Fellowship. Nadia's interest in drugs discovery and therapeutic developments lead to her seeking and joining the lab of Biochemistry and Molecular Biology Departmental chair, Dr. Sylvia Daunert. Under the mentorship of Sylvia, Nadia developed original Ph.D. projects that were widely received and awarded, published several first author papers, and patented and licensed an IP. Nadia successfully completed her Ph.D. this past June.

Nicholas Ratliff is a new Product Manager at OTT supporting the ETT project, bringing over 8 years of government contracting experience. He brings a wide variety of experience from contracting including Emergency Management and Program Management with the Department of Energy, Intelligence Analysis with Federal Law Enforcement, and Product Development and Product Management with the Department of Defense. Nick holds a M.A. in National Security Affairs, and a B.A. in Political Science.

Michael Rennolds has left his position at OTT as Senior Business Analyst supporting the ETT project. He has been redeployed by Sapient to work for a project supporting the Health Resources and Services Administration. Mike worked closely with the TTUG, if you had previously reached out to him directly for assistance, please use the ETT_ support@nih.gov email in the future.

Tarunikha Sriram has joined OTT as a PLS/ETT Support Analyst. She recently graduated from the University of Virginia, where she received a B.S. in Commerce and Media Studies. She has studied and has experience in marketing, product management, and computer science. In her free time, she enjoys reading and ice skating.

Sean Terry has left his position at OTT as a Data Engineer on the ETT project. He has been redeployed by Sapient to work on a project supporting the Health Resources and Services Administration. Sean worked closely with the community on building reports and forms that will be needed in the new ETT system. If you were working with Sean on any ongoing tasks, this work has been taken over by Nicholas Ratliff.

Ellen Davis Zalucha has served this past year as a NIAID TTIPO fellow. She is now a Licensing Associate at Nationwide Children's Hospital in Colombus, Ohio. We wish her nothing but the best in her new role in the Buckeye state!