



CTTC

Center for Technology Transfer
& Commercialization

VANDERBILT - CTTC *ENTREPRENEURSHIP* NEWSLETTER

SPRING/SUMMER 2021

TURNING IDEAS INTO OPPORTUNITIES

VANDERBILT



UNIVERSITY®

THINKING OUTSIDE THE BOX

More than at any time in the history of translating university research results into products, universities have come to understand the importance of supporting commercialization efforts through startups. Unlike standard licensing programs, facilitating the formation, launch, and growth of new ventures is a uniquely strategic process that must address leadership, financing, facilities, productization, and other operational attributes to position a startup company for success in the marketplace. Vanderbilt's Center for Technology Transfer and Commercialization (CTTC) new ventures team expertly provides this support to Vanderbilt-affiliated startup companies.



The purpose of this newsletter is to inform and report on entrepreneurial and new venture activity at Vanderbilt – both on campus and at the medical center. This will include information about new companies launched, recent investments in these companies, sales of companies, and other activities that reflect this growing role of entrepreneurship and new venture formation.

If entrepreneurship at Vanderbilt interests you, or if you would like to engage in entrepreneurship and new venture creation with us – whether to explore investment opportunities, connect with key opinion leaders, mentor faculty or student

entrepreneurs - we welcome your involvement. Research being conducted on campus has the potential to translate into products and services that bring significant economic opportunity and societal benefit. However, the engagement of external investors, entrepreneurs, and business partners is critical to the translation of this research into commercial enterprises.

We welcome your interest.

Please feel free - at any time - to call any member of the CTTC new venture team. Our contact information can be found on the last page.

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COMPANY SPOTLIGHT

ABSEEK BIO, INC.

AbSeek Bio, Inc. is a Vanderbilt startup formed to leverage proprietary technology developed by Dr. Ivelin Georgiev of the Vaccine Center at Vanderbilt University Medical Center. The technology known as LIBRA-seq, or linking B cell receptor to antigen specificity through sequencing, is on the cutting edge of immunology, virology, and bioinformatics (see the technology's debut in the journal *Cell* here).

This high-throughput screening method for antibody-based vaccines and therapeutics provides significant advantages over current high-throughput screening methods, including speed and scalability of the screening process. The most impressive advantage, however, is in the depth of information obtained during a single screen. Most



Dr. Omar Flores



Dr. Ivelin Georgiev

other microfluidics-based screening methods use fluorescence as the primary readout, which is greatly confined by spectral overlap (i.e., there are only so many distinct colors in the assay). LIBRA-seq converts antigen-antibody interactions into sequenceable events through oligonucleotide tagging as the primary readout, theoretically eliminating this constraint. This results in a much more thorough screen of a single run, which is vital when working with rare samples. Epitope binning and other advanced bioinformatic analyses add to the depth of data acquired through LIBRA-seq, thanks in large part to Dr. Georgiev's expertise in the field. In total, this comprehensive screening at the initial step of drug discovery greatly increases the likelihood of ultimate success for antibody candidates identified to treat some of the world's most challenging.

AbSeek is currently in the process of organizing their Series A round of fundraising. CTTC is excited to see this team revolutionize the field of antibody discovery.

Anyone interested in learning more about AbSeek may contact our office at cttc@vanderbilt.edu.

Vanderbilt is facilitating the formation of a new company, *OrcoGuard*, to commercialize the VUAA compound created by Larry Zwiebel, the Cornelius Vanderbilt Chair in Biological Sciences. The compound, developed with significant Gates Foundation support, repels (but does not kill) insects by over-stimulating their orco receptors. All insects have orco receptors.

NEW STARTUP: ORCOGUARD



OrcoGuard will develop formulations of the compound and introduce VUAA into various markets beginning with the perimeter treatment market in the US. Aside from its significant effectiveness, the team at Vanderbilt that has developed the business plan for the company to be formed and explored several regulatory pathways. Based on this analysis, the Vanderbilt team believes that the US EPA would likely classify the compound as “eco-friendly”, a designation that the company believes will facilitate its entry into the marketplace.

The business plan developed by the Vanderbilt team was

reviewed and evaluated by a group from the class of Professor Jon Lehman at the Owen Graduate School of Management. The Owen team provided significant and valuable analysis which was incorporated into the business plan. The Owen School and CTTC will continue these collaborations with regard to other potential startups in the future.

In addition to Dr. Zwiebel, the management team includes a CTTC entrepreneur-in-residence, Andrew Walters, and Dr. Ann Carr, a scientist with relevant science and industry experience.

CTTC's **Entrepreneur-in-Residence (EIR) program** engages experienced businesspeople to advise faculty and staff as they launch startups and explore the commercialization of research. EIRs are experts in business formation and operations who have been successful entrepreneurs, investors in startup companies, and/or seasoned executives from large corporations with experience in an entrepreneurial setting. EIRs offer aspiring entrepreneurs valuable industry connections

and expertise. EIRs evaluate technologies for their appropriateness as the basis for a startup company. They develop business plans, financial models, go-to-market strategies, and the like. They advise on management teams, advisory boards, and corporate governance. They mentor Vanderbilt researchers who are exploring potential startup opportunities. They connect these startups to investors and potential strategic partners.

ENTREPRENEUR-IN-RESIDENCE PROGRAM



Adam Jay Harrison

An entrepreneur, inventor, and senior executive who has worked extensively with the US Department of Defense and national security community on topics related to technological innovation and competitiveness. Jay has founded and led multiple technology startups in the aerospace and defense sector. He currently manages a boutique venture capital fund, Dead Run Ventures. Jay is the John R. Boyd National Security Innovation Fellow at New York University, where he researches the efficacy of national innovation policies that capitalize on collaboration between the Federal government, universities, and the private sector.

Jay is advising Vanderbilt regarding its agreement with the Army Futures Command that links creative, innovative soldiers with top-tier Vanderbilt University experts so that ideas can quickly become useful products. The role of the Army Futures Command is to modernize the Army. Jay is also advising Vanderbilt regarding software applications that may be relevant to US military operations.



Andrew J. Walters

Andrew's professional career began with an internship at Humana for two years. Following that, he joined Deloitte as a financial auditor working across various verticals, including manufacturing, consumer products, healthcare, and healthcare technology. Most recently, during his time at Vanderbilt's Owen School of Management, Andrew spent several months interning at a healthcare private equity firm in Nashville focusing on life sciences and medical device verticals. Andrew received his Bachelor's in Business Management cum laude with degrees in Accounting and Marketing from the University of Louisville and his Master of Science in Finance from the Vanderbilt University Owen School of Management.

Andrew is currently leading the formation of a new company, OrcoGuard, being formed to commercialize an insect repellent developed by Larry Zwiebel at Vanderbilt.

ASPIRE TO INNOVATE

The ASPIRE to Innovate Postdoctoral Fellowship program is a two-year program developed by the School of Medicine, Dean Larry Marnett, the School of Medicine's Board of Visitors, the Office of Biomedical Research Education and Training, and CTTC.

Fellows will work full-time to develop a commercialization strategy for a specific technology while immersing themselves in the local bioscience entrepreneurial ecosystem. The program will provide extensive mentorship, supplemental training, and networking opportunities to give the fellow the tools to transition from academic researcher to entrepreneur.

The ASPIRE to Innovate Fellow will be supervised by the Associate Dean for Research, the Senior Associate Dean for Biomedical Research, Education and Career Development, a member of CTTC and the Principal Investigator of the technology chosen for the program.

This program provides post-doctoral researchers with significant financial and business resources to form a company to develop technology created at Vanderbilt. Among other areas of support, the Program will provide the post-doctoral researcher with business support through CTTC, business training and education conducted by Vanderbilt's Wond'ry, participation in the NSF i-Corps program, and introductions to entrepreneurs and investors who can advise the Fellow.

The Program has tremendous potential to expand the entrepreneurial ecosystem at Vanderbilt by engaging scientists into the new venture milieu.

The ASPIRE to Innovate Postdoctoral Fellowship program has two primary objectives:

- 1** To enable the commercialization of technologies discovered at Vanderbilt University
- 2** To provide a biomedical PhD scientist with a structured training opportunity to learn how to transform a technology into a company

NEW VENTURES NEWS



On November 30, 2020, the Nashville-based company **Appello Pharmaceuticals, Inc.** completed a Series A capital raise of \$15.5 million. Appello holds a license for mGlu4-specific PAMs that were developed at Vanderbilt's Warren Center for Neuroscience Drug Discovery. Since its inception in 2018, Appello's focus has been on advancing a set of novel compounds – positive allosteric modulators (PAMs) of the metabotropic glutamate receptor subtype 4 ("mGlu4") – a new potential treatment for Parkinson's disease.

These mGlu4 PAMs work in a fundamentally different way from dopamine replacement therapy, the current standard of treatment, by modulating one of brain's neurotransmitters, glutamate. The mGlu4 PAMs on which Appello is focused have been

shown in a pre-clinical modeling context to reach the brain and relieve motor symptoms not well-addressed by other treatments.

Investors in this round of financing included New York City-based Deerfield Management Company and Mountain Group Partners, a Nashville-based venture capital firm that invests in early stage life sciences companies. Both investors are represented on the Company's board of directors.

Appello is led by Co-founder, President, & CEO Brian Laden. Laden is also co-founder and a managing director of TriStar Health Partners, a Nashville venture capital firm. He was formerly an Assistant Director at CTTC.

AMERICAN LEARNING SOLUTIONS (ALS)

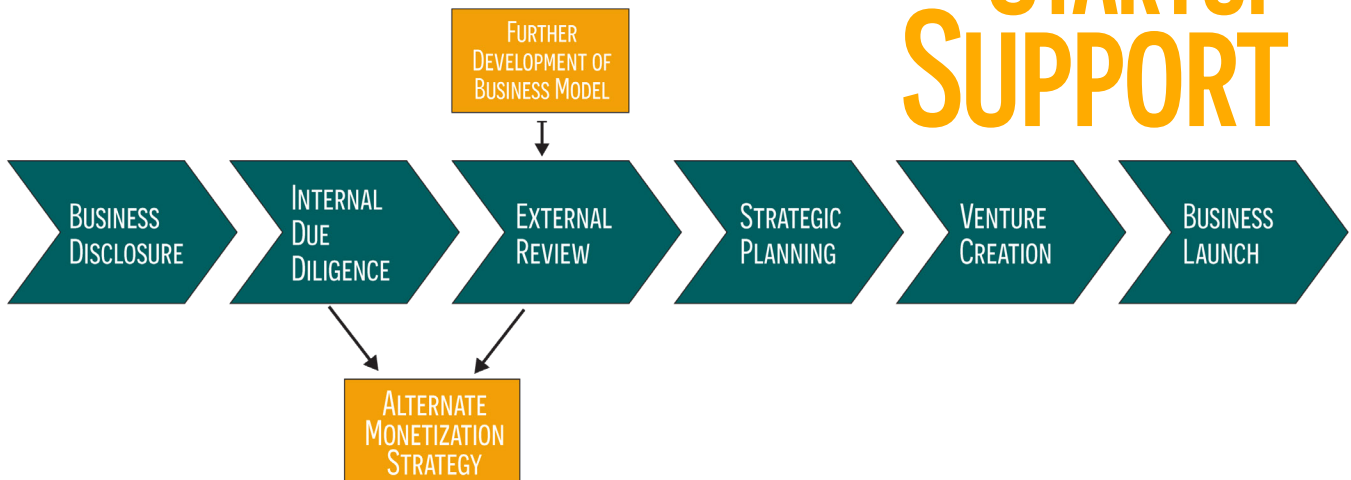
On February 28, 2021, Sale of **American Learning Solutions** (ALS), which operated American Sentinel University (ASU), merged with Post University in Connecticut. ASU cultivated a significant reputation in graduate education, particularly in advanced nursing degrees. In a release, Post University CEO & President John L. Hopkins said:

"Acquiring American Sentinel University, along with Sentinel U®, two exceptional institutions, is a great strategic fit for Post University as it catapults us into the high demand nursing and healthcare vertical. I'm ecstatic about our future possibilities given the combined talents and resources of the merged entity."

ASU was founded by Richard Oliver. Dr. Oliver was formerly a professor at the Vanderbilt Owen Graduate School of Management. Peter Rousos served as a director of ALS for the past 10 years.



STARTUP SUPPORT



The CTTC new ventures team is primarily responsible for identifying and supporting suitable opportunities for startup companies being formed to commercialize Vanderbilt intellectual property.

In concert with the “pre-launch” activities at the Wond’ry, Vanderbilt’s innovation center, CTTC’s new ventures team focuses on “launch” activities to help entrepreneurs in the Vanderbilt community translate their ideas into executable plans through support with market research, customer discovery, business planning, and financial modeling.

We also provide external validation of our work through regular engagement with our Entrepreneurship Advisory Council (EAC) composed of sixteen experienced members of the local business community. This membership includes serial entrepreneurs, venture capital partners, and C-suite executives in various disciplines who are committed to help us grow the entrepreneurial culture at Vanderbilt and within Nashville.

Once the external validation phase is completed, the CTTC new ventures team continues to provide support with technology licensing, marketing, and access to entrepreneurial talent to build management teams.

After helping teams perfect their investor pitch, we support their entry into pitch competitions and connect them with sources of capital locally and around the globe. We also support teams in identifying and applying for federal grants designed to support small business innovation and incubators/accelerators that align with their technology market. While much of this work is handled in-house, we work closely with our partners at the Nashville Entrepreneur Center (ec.co), LaunchTN (launchtn.org), Nashville Capital Network (nashvillecapital.com), and other local resources to improve the odds of success for our companies.

For a complete list of regional entrepreneurial resources, please visit the resource map page on our website here.

CTTC's NEW VENTURES TEAM

The mission of the new ventures team is to facilitate the formation of new ventures powered by Vanderbilt technology. Our objective is to be the principal partner for our faculty, staff, inventors and entrepreneurs who are exploring new venture opportunities. Our engagement model helps university inventors and entrepreneurs to better understand the new venture creation process - from ideation to formation.



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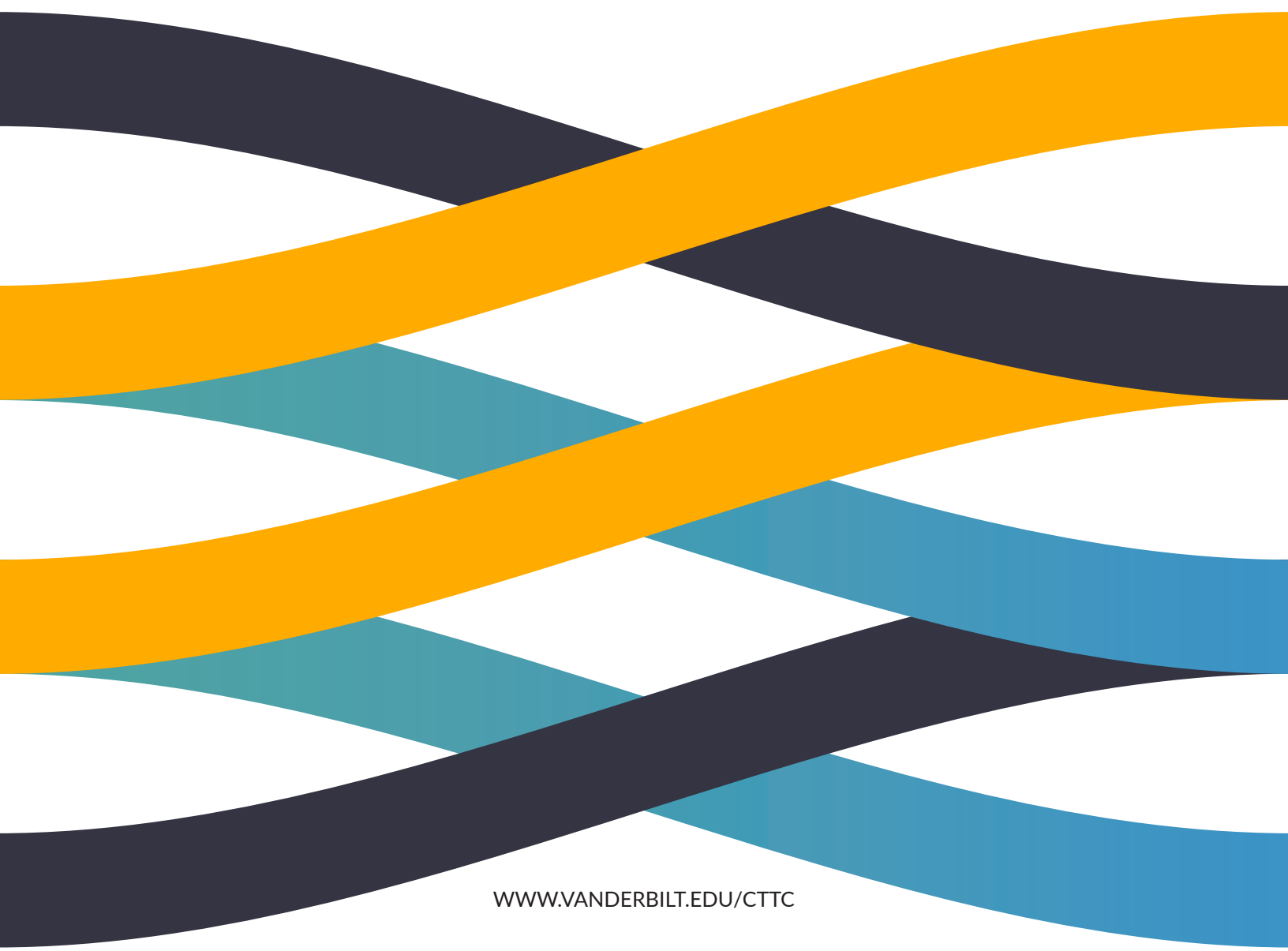
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