

From the Editorial Board

Companies Recognized as Innovators for 2021

ABSTRACT

Our awards are framed into the 4 models or paths to innovation as described by Boni and Joseph, and published in JCB previously in two companion articles, c. f. JCB Vol. 24, No. 4 (2020); "Aligning the Corporation for Transformative Innovation: Introducing Dashboard 2.0", pp 14–22, & "Four Models for Corporate Transformative, Open Innovation", pp. 23–31. The 4 models that we categorized can be summarized: 1) Direct Entrepreneurship; 2) Consortia/Alliances – open innovation partnerships or alignments with Startups & Emerging Companies; 3) External Accelerators; and, 4) Corporate Accelerators.

Journal of Commercial Biotechnology (2021) 26(2), 13–7. doi: 10.5912/jcb986

INTRODUCTION AND OVERVIEW

HOW DID WE come up with our list of companies to recognize? For this, our inaugural or first year, each member of the JCB editorial board was asked to provide a list of their candidates. We also included perspectives from other thought leaders in the industry in our networks beyond the Editorial Board, and the Editorial Advisory Board. In subsequent years, we intend to solicit broader input from the community.

As noted, we aggregate the organizations to be recognized into the four quadrants identified in the recent Boni and Joseph articles listed in the Abstract. We recognize that there has been widespread adoption of open innovation/partnering that has occurred in our industry over the last two decades as biotech and pharma have blended into biopharma. So, while these categories provide a useful framework, most larger organizations use a combination of internal and external resources to innovation. Therefore, we include a brief description of each company, and include them in a category that predominantly describes their approach to pursuing innovation. Keep in mind that most organizations in biopharma employ open innovation today so could be listed in multiple categories. So, we note that in the descriptive material for each company, why we are including them for recognition. The organizations that we recognize below clearly demonstrate innovation by bringing truly transformative technologies to market – and in the case of Covid-19 therapeutics, in record time! And, also meeting all of the criteria that we have established for recognition and discussed on the introduction.

CONSORTIA/ALLIANCES – OPEN INNOVATION PARTNERSHIPS OR ALIGNMENTS WITH STARTUPS & EMERGING COMPANIES

Our Consortia/Alliances category is dominated this year by **Covid-19 therapeutics** that were brought to market in alliances between larger pharmaceutical companies in partnership with smaller emerging companies who had been advancing the mRNA and adenovirus technologies previously. These novel solutions were brought to market in about one year time in 2021! A remarkable achievement driven by the Covid-19 pandemic. The very first vaccines for Covid-19 to complete phase 3 testing are an entirely new type: mRNA vaccines. Never before have mRNA vaccines — such as the two-dose Pfizer/BioNTech and Moderna vaccines that have now received emergency use authorization from the FDA — been approved for use in any disease. Adenovirus is one of the viral vectors used by J&J/Janssen in partnership with Novavax. In these viral vector vaccines (that are one dose), a gene unique to the virus being targeted is added to the viral vector. For COVID-19 vaccines, this gene codes for the spike protein, which is only found on the surface of SARS-CoV-2. So, our short list for celebrating and recognizing innovation in this category is highlighted by: **Pfizer/BioNTech; Moderna/Lonza** with funding from BARDA and NIH (and with recently announced a series of supply chain partnerships with IBM, Baxter and Recipharm, and a distribution in Japan partnership with Takeda); **Johnson & Johnson/Janssen/Novavax**. We note that Novavax received significant funding from the Bill and Melinda Gates Foundation, and this was certainly essential in their pursuit of this project with perseverance over the

years. Right behind this group is **Astra Zeneca/Oxford U with partnerships with IQVIA/Serum Institute of India**. As of this writing they have not yet received Emergency Use Approval from the FDA. While (to our knowledge) vaccines have not been developed previously by AZ, they deserve credit for stepping up and trying it now via the partnerships and alliances.

Additionally, **Roche, with their recent acquisition of Spark Therapeutics** also deserve recognition for advancing the field of **gene therapy**. Once again, after previous pivotal partnerships and acquisition transactions with pioneering biotech companies (Genentech and Foundation Medicine), Roche acquired gene therapy pioneer Spark Therapeutics. Spark had a product already on the market with Luxturna [from Children's Hospital of Philadelphia – CHOP] when they signed the deal with Roche. But, it is apparent that Roche really bought them for their futures. For more details see “The Art of Collaborations: Understanding the Anatomy of Transformative Innovation in Biopharma” by Boni, published in JCB Vol. 25, No. 4, pp 50–56.

One other company pursuing gene therapy also deserves mention and that is BioMarin. After some setbacks in 2020, **BioMarin Pharmaceutical Inc.** announced in January 2021 positive Phase 3 results for adults with severe hemophilia A. Their study met all primary and secondary end points in their one year data set. This followed an unexpected rejection in August 2020. The full one-year results for Roctavian are a positive indicator for the company's pursuit of a new approach for hemophilia. The full one-year results from the study are an important milestone for Roctavian, which was unexpectedly rejected in August 2020 by the Food and Drug Administration after BioMarin had applied for an accelerated approval. The regulator, asked BioMarin for two years of follow-up data. So, stay tuned on this important innovation within the next year. Perseverance in this effort, as with any entrepreneurial pursuit is necessary and laudable.

DIRECT ENTREPRENEURSHIP – FROM PROMISING EARLY STAGE TO MATURE COMPANIES ACROSS THE COMPANY LIFE CYCLE

Many pivotal biopharmaceutical companies emerged in the Boston area and paved the way from innovation since the late 1990's. We highlight four of them. They are **Millennium Pharmaceuticals (since acquired as an operating unit by Takeda)**, **Alnylam Pharmaceuticals**, **Kymera**, and **Moderna** (mentioned above for their pioneering mRNA for Covid-19). Their importance and

impact it recognized as essential drivers in the Boston/Cambridge innovation ecosystem surrounding MIT and Harvard. Refer to the mini-case study by Sheen Rong in a later section of this issue of JCB for more details on these four companies.

Gilead Sciences, Inc., is an American biopharmaceutical company headquartered in Foster City, California, that focuses on researching and developing antiviral drugs used in the treatment of HIV, hepatitis B, hepatitis C, and influenza, including Harvoni and Sovaldi; c.f. Wikipedia. Also refer to article titled “Lessons from Sovaldi: Fueling Innovation while Ensuring Access” by Daniel S. Levine & Marc. C. Watrous article in JCB, Vol. 25, No.4, pp 10–20 (2020).

Amgen, Inc. has been a biotechnology pioneer since 1980, and has grown to be one of the world's leading independent biotechnology companies. Its products have reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential. We refer the interested reader to the book on the origins of Amgen written by Gordon Binder (who took over as CEO from founding CEO George Rathman). Refer to the book review by Boni, “Science Lessons; What Biotech Taught Me About Business”, JCB Vol. 15, No. 1, pp 86-91, January 2009.

Vertex Pharmaceuticals, Inc. is an American biopharmaceutical company founded by Dr. Josh Boger in 1989 and based in Boston, Massachusetts. It was one of the first biotech firms to use an explicit strategy of rational drug design rather than combinatorial chemistry; c.f. Wikipedia. Josh Boger's vision was to prove he could do rational drug design using high-tech approaches like X-ray crystallography and molecular modelling. This was long before pharma companies were willing and able to pursue these transformational technologies.

Regeneron Pharmaceuticals, Inc. is a biotechnology company founded in 1988 and specializes on monoclonal antibody technology. Taken from the Regeneron website: “Regeneron is applying our 30 years of scientific and technology expertise to combat the COVID-19 pandemic. We feel uniquely positioned to face this public health threat given our proprietary *VelociSuite*® technologies and our track record against infectious diseases such as Ebola. We have moved REGEN-COV™ (casirivimab and imdevimab) from discovery to late-stage clinical development and regulatory review in record time”.

Eli Lilly and Company is a well know, leading pharmaceutical company founded over 100 years ago. Their antibody combo for Covid-19, reduces hospitalization, & deaths by nearly 90%. This is certainly a noteworthy contribution to the worldwide fight against Covid-19.

Flatiron Health is based in New York City, Flatiron Health is a healthcare technology and services company focused on accelerating cancer **research** and improving patient care. The company's platform enables cancer researchers and care providers to learn from the experience of every patient. Flatiron has emerged and is now a unit of Roche Holding AG.

In the next subsection, we highlight some promising, emerging early stage organizations to look out for in the coming years as the transformative technologies on which they are founded evolve – and appropriate business models and partnerships are implemented! Since CRISPR is currently emerging as a platform technology, 5 emerging CRISPR companies are grouped and listed first. We did not attempt to rank order any of the companies selected.

CRISPR THERAPEUTICS AG

(From Wikipedia) is a Swiss–American biotechnology company. CRISPR Therapeutics was founded in 2013. Two of the co-founders are Emmanuelle Charpentier and Jennifer Doudna who later shared the Nobel Prize in Chemistry in 2020. As part of a working group, they provided the first scientific documentation on the development and use of CRISPR gene editing. The company, CRISPR Therapeutics applies this new technology commercially. In 2016, the company went public on NASDAQ. In August 2016, the company started to operate Casebia Therapeutics as a joint venture with Bayer (who is an investor in CRISPR). In 2019, Casebia Therapeutics came directly under the control of CRISPR Therapeutics.

EDITAS MEDICINE

(From Wikipedia) is a clinical-stage biotechnology company which is developing therapies based on CRISPR-Cas9 gene editing technology. Editas is based in Cambridge, MA and has facilities in Boulder, Colorado. It was founded in 2013 with funding from Third Rock Ventures, Polaris Partners, and Flagship Ventures; and, licensed CRISPR patents from the Broad Institute's Feng Zhang, patents from Harvard's David Liu and George Church, and patents from Partners Healthcare – MGH's J. Keith Joung. These four were co-founders and scientific advisory board members along with Jennifer Doudna.

INTELLIA THERAPEUTICS

(From Wikipedia) is a biotechnology company developing biopharmaceuticals using a CRISPR gene-editing system invented by Jennifer Doudna (with colleagues at the University of California, Berkeley, Virginijus Siksnys (with colleagues at Vilnius University)). The company has partnerships with Novartis and Regeneron. It was backed by Atlas Venture and Novartis.

Scribe Therapeutics, Caribou, Mammoth Bio-Sciences are 3 additional companies co-founded by Jennifer Doudna and are profiled in our editorial commentary in the last section of this special edition so we will not repeat the company descriptions here.

INSCRIPTA

(From LinkedIn). This company is developing the world's first benchtop platform for scalable digital genome engineering. The company's advanced CRISPR-based platform, consisting of an instrument, consumables, software, and assays, offers a fully automated workflow that enables massively parallel, trackable editing of single cells at an unprecedented scale. Inscripta's goal is to empower scientists whose gene editing research is stifled by current technical and licensing limitations. By providing this unique platform and engaging in collaborative business practices, such as making its MAD7™ CRISPR nuclease free for research and development purposes, the company enables scientists to realize a new era of biological discovery. Inscripta is headquartered in Boulder, Colorado, with offices in Pleasanton, California, San Diego, California and Copenhagen, Denmark. Inscripta is backed by an array of leading investors.

GRITSTONE ONCOLOGY

The company with headquarters in Emeryville CA, engages the immune system against cancer, by leveraging their artificial intelligence Gritstone EDGE™ platform, as well as their expertise in cancer genomics. Gritstone is developing multiple immunotherapies designed to direct a robust immune response to neoantigens. They are developing two key classes of tumor-specific neoantigen product candidates to treat patients with cancer.

ABRIDGE AI

The Pittsburgh-based early-stage company's mission is to bring context and understanding to every medical conversation so people can stay on top of their

health. This development stage company is focused on the consumer—and using technology to bridge the gap between patients and clinicians. That attracted their investment partner, since most healthcare entrepreneurs attempt to solve things from the healthcare side. Abridge focuses on building a great user experience for the consumer. See their mini case study in Section 4 for more detail!

FLUIDFORM

FluidForm is an early stage company that aspires to be a world leader in functional human tissue for research, repair, and replacement. Their patented FRESH 3D printing technology has developed in the laboratory of Dr. Adam Feinberg, at Carnegie Mellon University in Pittsburgh, and has been published in Science. The technology to create Fluid Form was licensed from CMU. According to a recent press release, the company's robust pipeline includes development and preclinical programs addressing significant unmet need in human health. These programs include bioprosthetic implantable medical devices, and a new generation of structurally and compositionally complex tissue models to test drug efficacy and cardiotoxicity, with an ultimate focus on tissue and organ replacement. FluidForm is in the Boston area, and recently signed an agreement with Ethicon, Inc., a member of the Johnson & Johnson Medical Devices Companies, to develop 3D Bio printed applications using FluidForm's patented FRESH technology. For more detail on this emerging technology, see a recent JCB publication on commercializing 3D printing technology, including a discussion on commercializing the technology underlying FluidForm's developments, c. f. Thakur, Cabrera, DeCarolis and Boni (Vol. 24, No 1, 2018).

SHERLOCK BIOSCIENCES

Is a Boston, MA based company that (according to their LinkedIn site) aims to disrupt molecular diagnostics with better, faster, affordable tests. Their unique Engineering Biology platforms, place them on the cusp of solving challenges ranging from faster pathogen detection and simpler testing for cancer to improved food safety. They envision a world where their products will enable users to make more effective decisions in any environment, whether in hospitals, industrial settings, the developing world, or at home. Their team and founders include Engineering Biology pioneers with world-leading expertise in CRISPR and Synthetic Biology, diagnostic industry veterans, and disease-area authorities. Together, they

provide an unparalleled set of capabilities that are transforming molecular diagnostics in clinical and non-clinical settings. They recently received a grant from the Bill and Melinda Gates Foundation to continue the development of its synthetic biology-based INSPECTR molecular diagnostics platform.

10x GENOMICS

Is an American biotechnology company headquartered in Pleasanton, CA that designs and manufactures gene sequencing technology used in scientific research. It was founded in 2012 by Serge Saxonov, Ben Hindson, and Kevin Ness. 10x Genomics products have been adopted by researchers around the world including in all of the top 100 global research institutions as ranked by Nature in 2019 based on publications and all of the top 20 global pharmaceutical companies by 2019 research and development spend, and have been cited in over 2,250 research papers on discoveries ranging from oncology to immunology and neuroscience.

NEUBASE THERAPEUTICS, INC.

This early-stage company is built upon a technology platform (PATrOL™) that has reverse-engineered nature's information encoding system to be able to engage misbehaving genes in the human genome and increase, decrease or even edit a gene's functions to resolve the causal defects undergirding rare and common diseases. Almost every human disease is genetically-driven and thus the market opportunity and potential for impact on health are expansive. The chemistry behind the platform has the highest precision of engagement with a genetic sequence in the industry and appears to be biologically and immunologically inert. Precision of target engagement allows discrimination between misbehaving genes with even single-base variation and their normal counterparts – this reducing or eliminating “off-target” engagement which causes side effects. Tolerability is important as chronic, lifelong therapy must not trigger, for example, an immune response or other types of adverse reactions.

ARIEL PRECISION MEDICINE

We published in our most recent edition on business model challenges associated with transformative technologies, a mini case study published on this company that specializes in augmenting healthcare with human-centered technologies AI technologies, c. f. JCB, Vol. 25,

No. 4, pp 35–40. This article includes a mini-case study that focuses augmented intelligence is being applied to precision medicine.

MOLECULAR ASSEMBLIES

This company, based in San Diego is a pioneer with focus on the new frontiers in DNA writing using enzymatic synthesis. Their objective is to make DNA synthesis more cost effective, faster, sustainable, and more accurate. It was also highlighted in JCB, Vol. 25, No. 4, pp 56–62.

IONIS PHARMACEUTICALS

The company has been a pioneer in antisense oligonucleotides, an area of genetic medicine that acts on modulating RNA. I list the company not only because of its technology, but it is rare success story of a biotech that used a partnering model to advance a broad pipeline. Most companies that have a platform technology start out that way but end up commercializing their own products because the economics of partnerships and changes in partner's management and pipeline needs are usually disastrous for these companies. Ionis has a broad pipeline (40?), many of which are partnered with Big Pharma companies.

BRIDGEBIO

This company finds, develops, and delivers breakthrough medicines for diseases where the mechanism is well-understood. Then develops medicines that target rare genetic diseases at their source. The company bridges advancements in genetic science with a unique entrepreneurial engine required to rapidly create lifesaving medicines for patients with unmet needs. Founded in 2015, the company has built a portfolio of more than 15 transformative drugs ranging from pre-clinical to late-stage development in multiple therapeutic areas including genetic dermatology, oncology, cardiology, neurology, endocrinology, renal disease, and ophthalmology. The BridgeBio model of creating nimble, focused subsidiaries around in-licensed assets creates efficiency and scale. It lets the company distribute shared central resources while remaining hyper-focused on developing therapies for each disease. In just three years, BridgeBio has more than 15 drug programs for 20 genetic diseases. The company has a \$10 billion market cap. (For more detail, see mini-case study by Danny Levine elsewhere in this issue of JCB).

BERKELEY LIGHTS

Whether it is cells engineered to provide therapeutic benefits or bio manufacturing processes to replace energy-intensive and toxic chemical byproducts of industrial manufacturing, getting the right cell for the job is essential. Berkeley Lights has developed platform technologies that allow researchers to rapidly screen large numbers of cells and analyze them to identify the best cells for their purposes. (For more detail, see mini-case study by Danny Levine elsewhere in this issue of JCB).

UNLEARN AI

One of the challenges of conducting clinical trials is finding enough patient to include in a control arm of a study. This can slow the pace of drug development and increase its costs. Unlearn AI is seeking to change that by using its artificial intelligence platform to create digital twins of trial participants that can serve as control arms in studies. This provides a way around many of the barriers to data sharing including privacy and regulatory hurdles as the synthetic data is not actual patient data.

SENTI BIO

Is using synthetic biology to build intelligence into cell and gene therapies, altering the way they act depending on the changing biological circumstances they may encounter in the body. Doing so may lead to safer and more effective therapies and address such things as the tumor microenvironment and mechanisms cancer have to grow, spread, and become resistant to treatments. It is engineering a new class of intelligent medicines capable of hitting multiple targets. It's focusing on oncology but leveraging the technology in other areas through partnerships. In April 2021, Fierce Biotech reported that "Roche's gene therapy unit Spark Therapeutics entered into a \$645 million-plus biobucks pact with Bayer-backed Senti Biosciences for new tech aimed at tweaking next-gen gene therapies. Under the deal, Spark will maneuver Senti Bio's gene circuit tech to drive the development of gene therapy 2.0. specifically directed toward specific cell types in the central nervous system, eye or liver".

RANI THERAPEUTICS

Delivering biologics orally rather than through injection has been an intriguing goal but has proven difficult. Most efforts have focused on finding ways to turn these large protein molecules into formulations where they

would not breakdown along the digestive tract before they can be absorbed and provide a therapeutic benefit. Rani Therapeutics has taken an unusual tact. Rather than reconceiving the biologic, Rani has reconceived the pill itself. The company has developed what it calls a “robotic” pill that carries the therapeutic to the gut where it injects the drug into the wall of the intestines.

RECURSION PHARMACEUTICALS

One of the early and truest AI drug development platforms. They started out with the intent of finding drugs to repurpose for rare diseases, but they have expanded into novel molecules and, through a big dollar collaboration with Takeda, moved into cancer and other areas.

HUMACYTE

This company is an emerging regenerative medicine company – material drawn from; <https://e.endpointsnews.com/t/t-l-msgyd-ctikulijr-k/>. (Authored by John Carroll)

“Laura Niklason left a prominent position at Yale last fall so she could take charge of her regenerative med biotech at a critical point in its 17-year history. Celebrated by Time and Fortune, and heralded as a leader in the long-running regenerative med technology story in tissue engineering, with roots in the field that go back to her days as a postdoc in Bob Langer’s storied lab at MIT, the scientific founder of Humacyte made a career switch that put her in charge of a company with 130 staffers and ongoing late-stage programs that could put them on the threshold of commercialization”. Recently, “the scientist-come-CEO is making a swift leap onto Nasdaq, adding \$255 million in new financing to the company — on top of about half a billion dollars already raised — through a SPAC led by Rajiv Shukla”.

INSITRO

(From LinkedIn). Insitro is a data-driven drug discovery and development company that leverages machine learning and high-throughput biology to transform the way medicines are created to help patients. At Insitro, we are rethinking the entire drug discovery process, from the perspective of machine learning, human genetics, and high-throughput, quantitative biology. Over the past five decades, we have seen the development of new medicines

becoming increasingly more difficult and expensive, leaving many patients with significant unmet need. We’re embarking on a new approach to drug development – one that leverages machine learning and unique in vitro strategies for modeling disease state and designing new therapeutic interventions. We aim to eliminate key bottlenecks in traditional drug discovery, so we can help more people sooner and at a much lower cost to the patient and the healthcare industry. We believe that by harnessing the power of technology to interrogate and measure human biology, we can have a major impact on many diseases. We invest heavily in cutting edge bioengineering technologies to enable the construction of large-scale, high-quality data sets that are designed specifically to drive machine learning methods. Our first application is to use human genetics, functional genomics, and machine learning to build a new generation of in vitro human cell-derived disease models whose response to perturbation is designed to be predictive of human clinical outcomes. This cannot be done without great people. We are bringing together an outstanding team of people whose expertise spans multiple disciplines – life sciences, machine learning, human genetics, engineering, and drug discovery – and building a unique culture where people from diverse backgrounds work as a single team towards a common goal. Daphne Koller, Ph.D., founder and chief executive officer of Insitro said as part of a recent \$400 million financing: “We built out and demonstrated the capabilities of our target discovery platform in our Gilead collaboration in NASH, receiving the first of our operational milestone payments, and put in place an outstanding collaboration with Bristol Myers Squibb in ALS; we also took a big step forward towards moving from targets to medicines through the acquisition of Haystack Sciences, a high throughput chemistry platform that enables ML-driven molecular design; and we recruited Dr. Roger Perlmutter to our board to help guide our drug discovery efforts”.

CORPORATE ACCELERATORS

We have previously cited **JLabs** (a Johnson and Johnson entity) for their leadership role in supporting corporate innovation; also, Bayer’s **CoLaborator**, and **Illumina’s Accelerator**. We also note that Illumina has now extended their ‘footprint’ internationally (see a mini case study on that organization included in the last section of this volume). Also, refer to the recent Corporate Accelerator Forum survey on innovation approaches being taken in the Covid-10 pandemic. The three organizations are now being highlighted for their leadership roles for identifying and supporting innovation that may be leveraged for corporate purposes, and is definitely worthy of further recognition. We further refer interested readers to a

recent paper written by Diana Joseph, Susan Windham-Bannister, and Mikel Mangold titled “What Corporates Can Do to Help an Innovation Ecosystem Thrive – and, Why They Should Do It” c. f. our most recent issue, JCB Vol. 26, No. 1 (2021).

EXTERNAL ACCELERATORS

In our previous writings we have recognized several external accelerators that need no further elaboration. However, we recognize Tech Stars, Plug & Play Technology Center and Rock Health. At the current time, we single out Elevate BIO and BioMotiv/Harrington Project for their exceptional business models to advance biopharma innovation.

ELEVATE BIO

Is a Cambridge, MA organization that acts as a holding company to grow and launch multiple biotech companies focused on cell and gene therapy. In a recent press release, it was reported that ElevateBio also runs what it calls a “BaseCamp” in a 140,000-square-foot mixed-use Waltham building, which serves as the research, development, and manufacturing hub for all of its portfolio companies. Its goal is to provide biotech businesses and researchers an “end-to-end” ecosystem to speed up the development of these therapies. https://www.bostonglobe.com/2021/03/15/business/elevatebio-raises-525-million-fuel-growth-cell-gene-therapy/?s_campaign=8315.

BIO MOTIV/HARRINGTON PROJECT

<https://www.biomotiv.com/the-harrington-project>. The Harrington Project for Discovery & Development is a \$340 million US and UK initiative to support the discovery and development of therapeutic breakthroughs by physician-scientists. It is a new and powerful model that addresses a set of major challenges in advancing medicine. The Harrington Project for Discovery & Development consists of an aligned set of mission-driven organizations: The Harrington Discovery Institute and BioMotiv. Together, the organizations support prestigious physician-scientists, transform drug development from research institutions, and create a robust biotech development platform for the benefit of patients and society. The Harrington Discovery Institute at University Hospitals in Cleveland, Ohio is a nonprofit initiative that enables physician-scientists to transform their extensive, cross-cutting knowledge derived from real-life practice

and research into therapies that improve patients’ lives significantly more than the current standard of care. Through annual competitions, the Harrington Discovery Institute selects a group of scholars whose projects are grant funded for advancing their discoveries. It is led by Dr. Jonathan Stamler and guided by a renowned advisory board, all of whom are physician-scientist innovators.

The Innovation Support Center within the Harrington Discovery Institute, also a nonprofit initiative, provides mentorship, resource connections, and business support to assist physician-scientists. Guided by experienced industry and investment professionals, the Innovation Support Center develops relationships between inventors and industry experts to prepare discoveries for advancement to commercialization.

BioMotiv, a for-profit, mission-driven company, is designed to specifically advance breakthrough discoveries into medicines through an innovative business model. We note that this initiative was informed by the late David C. U’Prichard who we have highlighted previously as one of the key figures in driving the emergence of biopharma thru informed investment models. Ref. Dr. U’Prichard in JCB, Vol. 18, No. 2, pp 11-18, and by Boni in JCB, Vol. 25, No. 4, pp 21-24 (“An Introductory Perspective on Emerging, Transformative Technologies in Biopharma; Promises, Challenges, and Impediments”).

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