Owkin and NYU Langone Health to Advance Non-Small Cell Lung Cancer Research with Artificial Intelligence

September 21 2020, New York -- Owkin, a startup company that deploys artificial intelligence (AI) and Federated Learning technologies to augment medical research and enable scientific discoveries, announces a new collaboration with NYU Langone Health and its Perlmutter Cancer Center. This engagement leverages NYU Langone's high-quality datasets and world class medical research, as well as Owkin's pioneering technologies and research platform. Collaborations such as these have potential to advance clinical research and drug development.

Researchers at NYU Langone, led by Harvey I. Pass, MD, have teamed-up with Owkin to develop and validate machine learning models for Non-Small Cell Lung Cancer (NSCLC). These models will be trained on multimodal clinical data sets from NYU Langone in order to develop models focused on predicting prognosis and progression of NSCLC patients following surgery.

"The NYU Thoracic Oncology Team, composed of experts in pathology, computational biology, surgery and medical oncology, is keenly interested in using AI to better understand which patients with early, completely resected lung cancer will recur," says Dr. Pass, the Stephen E. Banner Professor of Thoracic Surgery, director of General Thoracic Surgery, and vice chair of Cardiothoracic Surgery Research at NYU Langone. "Partnering with Owkin will allow us to utilize their unique capabilities and develop novel AI algorithms from a well-defined cohort of patients. This approach holds the potential to identify individuals in need of closer surveillance postoperatively and/or improve selection of patients who may need adjuvant therapies after surgery, ultimately improving patient outcomes."

This partnership makes it possible for NYU Langone to join the Owkin Loop, a federated network of US and European academic medical centers that collaborate with Owkin to generate new insights from high-quality, curated, research-grade, multimodal patient data captured in clinical trials or research cohorts. Loop generated insights can inform pharmaceutical drug development strategy, from biomarker discovery to clinical trial design, and product differentiation. Owkin seeks to create a movement in medicine by establishing federated learning at the core of future research.

Federated learning technologies enable researchers in different institutions and different geographies to collaborate and train multicentric AI models on heterogeneous datasets, resulting in better predictive performance and higher generalizability. Data does not move, only the algorithms travel, thus protecting an institution's data governance and privacy. Furthermore, Owkin's data use is compliant with local ethical body consent processes and data compliance regulations such as HIPAA and GDPR.

"We are thrilled to be working with Dr. Pass and NYU on this exciting project and are looking forward to leveraging Owkin's AI and machine learning capabilities to generate new insights that will improve the care of patients with early-stage lung cancer and to starting a productive and impactful partnership with one of the world's premier academic medical centers", said Peter Alff, Vice President of Partnerships at Owkin.

About Owkin:

The French-American startup, which was co-founded in 2016 by Dr. Thomas Clozel, a clinical research doctor and former assistant professor in clinical hematology and Gilles Wainrib, Ph.D., a pioneer in the field of artificial intelligence in biology, has raised $70 million in venture capital.

Owkin connects several of the largest medical research centers and pharmaceutical companies in Europe and the U.S. within a federated research ecosystem. Owkin has developed four key components to build this ecosystem: Owkin Loop (the network), Owkin Connect (the technology infrastructure), Owkin Studio (the AI software tool) and Owkin Lab (the expertise).

Owkin Connect is a privacy-preserving, traceable, secure technology that allows the company to connect with research centers in the Owkin Loop network. Using Owkin Connect's federated learning approach, the data do not move, only algorithms travel. This enables insights from the data to be collectively shared while guaranteeing privacy for patients and compliance with data ownership.

In October 2019, Owkin published in Nature Medicine its breakthrough analysis of tumor biology using an interpretable deep-learning model, called MesoNet. In February 2020, Hepatology published Owkin's novel deep learning models to predict survival after hepatocellular carcinoma resection from histology slides. Most recently, in May 2020, following a winning entry to the data challenge organized last October by the Société Française de Radiologie et d'imagerie médicale (SFR), Owkin published its methodology to automatically measure muscular area from CT scans to assess sarcopenia in Diagnostic and Interventional Imaging. In August 2020, Owkin published its novel genomic analysis tool (HE2RNA) in Nature Communications.

For more information, please visit www.owkin.com, follow @OWKINscience on Twitter, contact Anna Huyghues-Despointes: anna.hd@owkin.com

About NYU Langone Health:

NYU Langone Health is a world-class, patient-centered, integrated academic medical center, known for its excellence in clinical care, research, and education.

Included in its 350+ locations throughout the New York area are six inpatient locations: Tisch Hospital, its flagship acute-care facility; Kimmel Pavilion, its state-of-the-art healthcare facility, opened in 2018; NYU Langone Orthopedic Hospital, a dedicated inpatient orthopedic hospital with all musculoskeletal specialties ranked top 10 in the country; Hassenfeld Children's Hospital at NYU Langone, a comprehensive pediatric hospital supporting a full array of children's health services; NYU Langone Hospital—Brooklyn, a full-service teaching hospital and level 1 trauma center located in Sunset Park, Brooklyn; and NYU Winthrop Hospital, a 591-bed hospital and level 1 trauma center located in Mineola, Long Island. Also part of NYU Langone Health is the Laura and Isaac Perlmutter Cancer Center, a National Cancer Institute–designated Comprehensive Cancer Center; NYU Grossman School of Medicine, which since 1841 has trained thousands of physicians and scientists who have helped to shape the course of medical history; and NYU Long Island School of Medicine, on the campus of NYU Winthrop, which offers full-tuition scholarships with an innovative, accelerated three-year curriculum exclusively devoted to training primary care physicians.

For more information, go to nyulangone.org, and interact with us on Facebook, Twitter, YouTube, and Instagram.