



**For Immediate Release**

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**NICO Awards \$180,000 Grant to Study GBM Progression  
Using Novel Longitudinal Serial Sampling in Translational Research**

*NICO technologies provide fresh, viable tumor tissue from patient to implant in a research setting*

**INDIANAPOLIS, IN** (April 19, 2023) – [NICO Corporation](#) has awarded Arabinda Das, PhD, neuroscientist and neuro-oncology assistant professor at the Medical University of South Carolina (MUSC), a \$180,000 Investigator Initiated Study (IIS) grant supporting the development of a new glioblastoma (GBM) patient-derived xenograft (PDX) model. The study uses the new NICO Myriad® Research Laboratory System to safely and progressively sample intracranial tissue over time in murine models *without the need for euthanization*. This is the first study involving fresh human tumor tissue collected intraoperatively and implanted for serial sampling in translational research.

The goal of the study is to evaluate the impact of various interventions on GBM cellular, genetic and microenvironment information over tumor progression through *longitudinal serial biopsy* – assessing the tumor and disease state progression in the same murine model over time. This allows Dr. Das to study disease treatment as it adapts to intervention, allowing for an improved understanding of GBM growth and biological adaption patterns over time.

The study – Innovations in Brain Tumor Surgery Using Less Invasive NICO Myriad System to Provide More Options and More Hope: A Translational Approach – uses the scaled down NICO Myriad® tissue resection tool that is connected to the proprietary Automated Preservation System® to establish a standard method of intraoperative tissue acquisition. Together, the technologies can eliminate potential variables introduced by incongruent tissue handling and processing in the operating room.

“With consistently higher quality fresh tissue samples obtained through a standardized human intraoperative process, deeper investigation into genomic and transcriptomic heterogeneity will be possible,” said Dr. Das. “Successful completion of this study will allow any neurosurgeon to apply this method of collecting high quality tissue samples while maintaining relevant biological characteristics in a controlled microenvironment – all key factors contributing to cancer health disparities.”

Traditionally, standard serial sampling is performed in the research setting by implanting lab-grown xenograft samples into the flank of multiple hosts to test therapeutic efficacy. However, the flank does not represent the same biological microenvironment as the brain. Additionally, when research hosts are implanted with neurological tumor in their brain, two problems occur: the host must be euthanized to evaluate therapeutic impact, therefore not providing an understanding of disease progression over time once a therapy is delivered; and implanted lab-grown xenographic tissue is not as biologically accurate as freshly-derived human tissue.

“NICO technologies enable scientists and researchers to modernize their approach to novel therapeutic

development by performing the same treatment experiments in translational research that we would perform in humans,” said Jim Pearson, president and CEO of NICO Corporation. “This is a significant advancement in understanding the most effective therapies needed to fight GBM disease progression *for each patient* – opening the door for truly targeted oncology precision medicine therapies for the patient-specific tumor profile.”

The study builds on Dr. Das’ [recently published data](#) showing brain tumor tissue samples collected and biologically preserved intraoperatively using the NICO Automated Preservation System® (APS), are equal or superior to current standard en bloc collected samples intended for research.

The NICO IIS grant program is dedicated to supporting novel pre-clinical and clinical research efforts related to improved patient and economic outcomes using NICO technologies. The program supports physicians and researchers across a wide range of neuro-specialties committed to building clinical and scientific data to achieve better outcomes for patients and healthcare providers, as well as expanding the body of evidence for vascular, tumor and oncology clinical practices. [Learn more about the IIS program areas of interest and how to apply for a grant.](#)

NICO has been a leader in supporting development of strong scientific evidence promoting safe, novel approaches to brain disorders and expanding clinical research efforts in pursuit of improved patient outcomes using minimally invasive brain surgery techniques. All projects supported by this program are conducted by the applicant(s) and their respective affiliate institution(s); NICO is neither involved in collecting information, conducting research, or in the publication of any study project findings.

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