

## **Press Release**

### **CIMP-BIIF Mentor Sanjeev Kumar, a University of Illinois Urbana-Champaign Graduate, Plays Key Role in Development of Groundbreaking Handheld Biosensor for Alzheimer's and Parkinson's Detection**

Patna - Sanjeev Kumar, a distinguished mentor at CIMP - Business Incubation & Innovation Foundation (CIMP-BIIF) and a graduate from the University of Illinois Urbana-Champaign in Data Science, has played a pivotal role in a groundbreaking international research initiative that has led to the development of a handheld biosensor for the accurate detection of biomarkers associated with Alzheimer's and Parkinson's Diseases. The non-invasive device, detailed in the November 13, 2023, issue of the Proceedings of the National Academy of Sciences, is poised to revolutionize medical diagnostics.

A global team of researchers, with Kumar as a co-author, successfully demonstrated the biosensor's exceptional accuracy in detecting biomarkers during initial in vitro tests. This cutting-edge technology, led by Professor Ratnesh Lal of the UC San Diego Jacobs School of Engineering, has the potential to transform the landscape of neurodegenerative disease diagnosis.

Sanjeev Kumar, also a lead researcher in AI/ML at an American MNC, brought his expertise in artificial intelligence and cloud computing to the project. Kumar applied advanced techniques to develop a machine-learning model that played a critical role in identifying potential issues in the biosensor's design, contributing significantly to the success of the research.

While Kumar serves as a mentor at CIMP-BIIF, the research itself is a collaborative effort involving international experts and institutions. The biosensor's capabilities extend beyond Alzheimer's and Parkinson's detection, with plans to expand trials to include saliva and urine samples. This versatility positions the device as a potential game-changer in the

field of medical diagnostics, offering the ability to detect biomarkers associated with various conditions.

Ratnesh Lal, one of the corresponding authors of the paper and a professor at UC San Diego, anticipates seeking FDA approval within the next five to six months, with a goal to bring the handheld biosensor to market within a year.

The Director of CIMP Dr. Rana Singh and the CEO of CIMP-BIIF Shri Kumod Kumar expressed immense pride in Sanjeev Kumar's contributions to this groundbreaking initiative, showcasing the foundation's commitment to supporting innovation and advancements that contribute to improving healthcare globally.

This collaborative achievement, led by international researchers and supported by Sanjeev Kumar's expertise, represents a significant leap forward in medical technology, offering a non-invasive and efficient method for detecting Alzheimer's and Parkinson's biomarkers, with the potential to revolutionize diagnostics across various medical conditions.

### **About CIMP-BIIF:**

CIMP-BIIF is a leading business incubation and innovation foundation committed to fostering entrepreneurship, innovation, and research. With a focus on nurturing startups and supporting cutting-edge research initiatives, CIMP-BIIF plays a vital role in driving advancements in various fields. Learn more at [CIMP-BIIF Website].

### **About Sanjeev Kumar:**

Sanjeev Kumar is a mentor at CIMP-BIIF and a lead researcher in AI/ML at an American MNC. Hailing from Bihar, Kumar extends his expertise to startups associated with CIMP, contributing significantly to the intersection of artificial intelligence, cloud computing, and medical technology.

