

*Invited talk on*  
**MICROBIAL MINDS IN GUT-BRAIN  
CROSS TALK IN ALZHEIMER'S  
DISEASE**

**Organized by**



**DEPARTMENT OF ZOOLOGY  
ST. JOSEPH'S DEGREE COLLEGE  
KURNOOL.**

**DR. SHABANA M SHAIK**

RESEARCH SCIENTIST  
THE UNIVERSITY OF ARIZONA,  
TUCSON, USA.



**Date & Time: August 13, 2025 & 10.30 AM  
Venue: Seminar hall, Block 3**



## St. Joseph's Degree College

Sunkesula Road, Kurnool-518004.

[www.sjcknl.edu.in](http://www.sjcknl.edu.in)

(Affiliated to Rayalaseema University, Kurnool, A.P.)

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To,  
The IQAC Coordinator,  
St. Joseph's Degree College,  
Kurnool.

**Subject:** Permission to Conduct an Invited Talk on "*Microbial Minds in Gut–Brain Cross Talk in Alzheimer's Disease*"

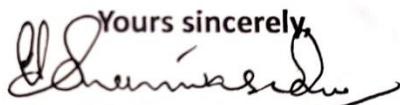
**Respected Sir,**

The Department of Zoology seeks permission to organize an **Invited Talk** titled "*Microbial Minds in Gut–Brain Cross Talk in Alzheimer's Disease*".

This session aims to connect foundational biology with advanced research, highlighting the role of host–microbe interactions in Alzheimer's disease. It will encourage students to explore life sciences beyond the classroom and inspire them to pursue higher education and research. The event aligns with our department's vision of promoting research-oriented learning and contributes to the academic enrichment of our students.

We kindly request your approval to conduct this program.

Thanking you,

Yours sincerely,  
  
Dr. C.S. Sreenivasa Rao

Head, Department of Zoology.

## CIRCULAR

Date 28.01.2025

All Life Science students are hereby informed that an **Invited Talk** on “*Microbial Minds in Gut–Brain Cross Talk in Alzheimer’s Disease*” will be held on **13-08-2025 at 10:30 AM in the Seminar Hall.**

This talk will explore how gut microbes influence brain health, particularly in the context of Alzheimer’s disease, bridging basic biology with cutting-edge research. It is a wonderful opportunity for students to gain insights into current trends in life sciences and research.

All Life Science students are encouraged to attend and actively participate in this enriching academic experience.

Department of Zoology

St. Joseph's Degree College.



**St. JOSEPH'S DEGREE COLLEGE, KURNOOL**

**INVITED TALK ON MICROBIAL MINDS IN GUT -BRAIN  
CROSS TALK IN ALZHEIMER'S DISEASE**

**ORGANIZING COMMITTEE:**Department of Zoology

**NAME OF THE ACTIVITY:**Invited Talk on Microbial Minds inGut – Brain Cross Talk in Alzheimer's Disease

**RESOURCE PERSON : Dr. Shabana M Shaik**

Research Scientist, University of Arizona, USA

**DATE & TIME:**13 -08-2025; 10:30 AM

**VENUE:** Seminar Hall, Building -II,St. Joseph's Degree College, Kurnool.

**NO. OF STUDENTS ATTENDED:** 150

## Event Gist:

### Invited Talk on Gut-Brain Cross Talk in Alzheimer's Disease

The Department of Zoology at St. Joseph's Degree College, Kurnool, organized an invited talk on "Microbial Minds in Gut-Brain Cross Talk in Alzheimer's Disease" on August 13, 2025. The session was delivered by Dr. Shabana M. Shaik, Research Scientist at the University of Arizona, Tucson, USA. The event was attended by Dr. K. Shantha, Principal, faculty members, and the Life Sciences student community. The program aimed to deepen understanding of the microbiota–gut–brain axis and its emerging relevance to neurodegenerative diseases, particularly Alzheimer's disease.

#### **Objectives of the Event**

The primary objectives were to introduce students to cutting-edge research on the role of gut microbiota in brain health, to contextualize current scientific advances in Alzheimer's disease, and to encourage inquiry-driven learning and research orientation among Life Sciences students. The event also sought to bridge classroom knowledge with translational research trends, fostering interdisciplinary thinking.

#### **Speaker Profile**

Dr. Shabana M. Shaik is a research scientist affiliated with the University of Arizona, Tucson, USA. Her work focuses on microbial ecology, host-microbe interactions, and neuroinflammation, with special interest in the mechanistic pathways through which gut microbiota may influence central nervous system function. Her presentation distilled complex research insights into accessible concepts for undergraduate and postgraduate learners.

#### **Overview of the Session**

The session began with a formal introduction of the speaker and a brief outline of the topic's relevance to contemporary biomedical research. Dr. Shaik presented the concept of the gut–brain axis, explaining how microbial communities in the gastrointestinal tract communicate with the brain through neural, immune, and metabolic pathways. She emphasized the potential of microbiome modulation as a complementary avenue in understanding and managing neurodegenerative conditions. The talk maintained a balance between foundational principles and recent findings, ensuring that students without prior specialization could follow the discussion while still engaging advanced learners.

### **Scientific Context and Rationale**

Dr. Shaik highlighted the growing body of research linking alterations in gut microbiota composition to neuroinflammatory processes implicated in Alzheimer's disease. She described how microbial metabolites, such as short-chain fatty acids, can influence blood–brain barrier integrity, microglial activation, and synaptic function. The role of systemic inflammation and vagal signaling in mediating gut–brain communication was discussed, portraying Alzheimer's as a multifactorial condition where peripheral physiology and central pathology intersect.

### **Research Highlights Presented**

Drawing from recent literature and experimental trends, the speaker discussed associations between dysbiosis and cognitive decline, evidence from animal models demonstrating microbiome-driven changes in amyloid and tau pathology, and early-stage clinical investigations exploring probiotics, prebiotics, diet, and fecal microbiota transplantation as potential adjuncts to standard care. She also noted methodological considerations, including the challenges of causality, inter-individual variability, and the need for standardized protocols in microbiome research.

### **Educational Value and Student Engagement**

The event was designed to be interactive, with opportunities for students to ask questions and relate the topic to coursework in physiology, biochemistry, and immunology. Students engaged with queries on experimental design, ethical aspects of human microbiome studies, and the translational potential of dietary interventions. The discussion encouraged critical appraisal of evidence, helping learners distinguish between correlation and causation and recognize the importance of rigor in biomedical research.

### **Institutional Participation**

The presence of the Principal, Dr. K. Shantha, and faculty members underscored the college's commitment to promoting research-driven education. Their participation helped frame the session within the institution's broader academic goals, including capacity building, mentorship, and fostering collaborative research culture within the Life Sciences departments.

## **Outcomes and Impact**

The talk enhanced student awareness of an emerging interdisciplinary field and its relevance to public health. Attendees reported increased motivation to explore research opportunities, including literature reviews, mini-projects, and internships related to microbiology and neuroscience. The session contributed to strengthening research literacy, improved understanding of experimental methodologies, and a clearer view of career pathways in biomedical sciences.

## **Acknowledgments**

The Department of Zoology acknowledges the contributions of the organizing committee, faculty coordinators, student volunteers, and administrative staff. Special thanks are extended to Dr. Shabana M. Shaik for delivering an insightful and inspiring lecture, and to Principal Dr. K. Shantha for her support and presence.

## **Conclusion**

The invited talk on “Microbial Minds in Gut-Brain Cross Talk in Alzheimer’s Disease” effectively connected foundational biology with frontier research, inspiring students to pursue inquiry in life sciences. By contextualizing Alzheimer’s disease within the broader framework of host–microbe interactions, the event advanced the department’s goals of research-oriented education and set the stage for future scholarly activities.

## Attendance

**St. Joseph's Degree College, Sunkesula Road, Kurnool-4**

Programme: *Invited Talk on Microbial Minds in Gut - Brain Cross Talk in Alzheimer's Disease.*

Department: *ZOOLOGY*

Date: *13/8/25*

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Date: 13/8/25

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