

## GLOBAL APPLIED MICROBIOLOGY CONFERENCE

International Congress on &amp;

## MICROBIAL &amp; BIOCHEMICAL RESEARCH AND TECHNOLOGIES

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Toronto, Canada**Kip2 is required for maintenance of normal spindle dynamics and cell cycle progression****Beryl Augustine**

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**Statement of the Problem:** The mitotic spindle is an elegant machine employed by the cell to segregate chromosomes during cell division. It is composed of both nuclear and cytoplasmic microtubules (cMTs), whose movements are regulated by microtubule motor proteins. A key protein that polymerizes and stabilizes cMTs is Kip2p. As most previous studies have focused on the role of *KIP2* in spindle positioning, not much is known about the protein's role during early cell division cycle.


**Methodology & Theoretical Orientation:** To determine the physiological significance of Kip2p during cell division, we performed genetic studies and examined spindle dynamics in the absence or upon overexpression of *KIP2*. We used live-cell imaging and confocal microscopy to study spindle dynamics.

**Findings:** In the absence of *KIP2*, defects in spindle orientation and nuclear migration were observed. Interestingly, overexpression of *KIP2* resulted in a cell cycle arrest.

**Conclusion & Significance:** Our results indicate that regulation of Kip2p levels is essential to maintain normal spindle dynamics and ensure cell cycle progression. Therefore, Kip2p could have a potential role in anti-cancer therapies.

**Speaker Biography**

Beryl Augustine is a PhD graduate from the National University of Singapore, where she completed her Doctoral degree in Life Sciences, receiving the prestigious NUS Research Scholarship. Her research work was focused on the molecular regulation of cell division machinery, with potential applications in oncology therapies. Inspired by the power of genetics, whereby one mutation in a gene can impact the whole organism, she did her undergrad in Biotechnology, for which she was awarded the university silver medal. She has a passion to bring the benefits of science and technology to society. She enjoys travelling and exploring different cities and cultures. She has presented her research at several international conferences including Cincinnati, San Francisco and Seattle, the latter with a Travel Fellowship award. She has co-authored two research articles in reputed peer-reviewed journals, one of which is a first-author paper to be published later this year.

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