

## Microplastics and the Ocular Surface: An Invisible Threat

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S2S Building, No. 18 Kent Ridge Road, Singapore 119227

Host: Dr Emily Curren & Dr Sandric Leong



**Please register:**

[https://nus-sg.zoom.us/webinar/register/WN\\_NbGH1irTRcS9mhen1DibyA](https://nus-sg.zoom.us/webinar/register/WN_NbGH1irTRcS9mhen1DibyA)

### **ABSTRACT:**

The systemic infiltration of microplastics (MPs) has become a focal point of environmental health, yet the direct vulnerability of the ocular surface to these pollutants remains largely unquantified. Our work identifies a significant and previously unrecognized vector for MP exposure: commercial lubricant eye drops. Evidence from toxicological assessments indicates that these particles are not biologically inert. Instead, they appear to induce a cascade of structural and inflammatory alterations within the corneal epithelium. Such findings present a clinical paradox: for patients with chronic conditions like dry eye or glaucoma, the repetitive instillation of topical therapies may introduce a subclinical burden of MPs that inadvertently exacerbates ocular surface disease. Ultimately, this research underscores the necessity for longitudinal studies on the cumulative effects of MP exposure and calls for an urgent re-evaluation of material safety standards in ophthalmic manufacturing.

### **About the Speaker:**

Asst Prof Chris Lim is an ophthalmic surgeon specialising in cornea, ocular surface diseases, and refractive surgery. He has completed dual subspecialty fellowships in Cornea and Refractive Surgery and Oculoplastics. He leads the dry eye and ocular surface service at NUHS. He holds a PhD from the University of New South Wales. His research focuses on ocular surface disease, novel diagnostics, and the impact of environmental contaminants on ocular health. This work has earned him awards such as the Royal Perth Hospital Research Foundation Prof Lyn Beazley Emerging Leader Award. He is a passionate educator, recognised with the NUS Medicine Dean's Award for Teaching Excellence. He is an Adjunct Assistant Professor of the NUS Centre for Sustainable Medicine and a Lecturer with the Faculty of Design at the LASALLE College of the Arts.