Department of
Mechanical Engineering
The University of Hong Kong

DEPARTMENT OF
MECHANICAL ENGINEERING
THE UNIVERSITY OF HONG KONG

SEMINAR

Bottom-up Au electroplating of high-aspect-ratio Si-based X-ray micrograting

Date: 8 April, 2024 (Monday)
Time: 2:00 p.m.
Venue: HW7-32, Haking Wong Building
HKU

Speaker: Dr. Liyang Chen
Post-doctoral Researcher
Institute for Biomedical Engineering
ETH Zürich Paul Scherrer Institut
Switzerland

Abstract:

Au micrograting with small pitches and high aspect ratios are desired for high-sensitivity X-ray interferometry imaging. We use Au bottom-up filling (BUF) in Si templates to realize high-aspect-ratio Au micrograting. Void-free BUF in low-aspect-ratio gratings is first demonstrated to show BUF progression, and the mechanism of bismuth-stimulated BUF is explained by simulations. Fine tuning of process parameters is needed as a function of grating feature sizes; void-free BUF becomes more challenging when the aspect ratio increases as truncated BUF can occur. Progress to void-free filling of gratings with 2.1-μm-wide and 150-μm-deep trenches (aspect ratio > 70) is reported.

ALL INTERESTED ARE WELCOME

For further information, please contact Prof. W.D. Li at 3917 8982.