

# Research project for polarization engineering at UU-CORE

(大谷・偏光工学研究拠点プロジェクト)

**Yukitoshi Otani**, Nathan Hagen, Jessica Onaka, Kazuma Shinoda

Visiting professors : R.Chipman (Meta), N.Dushkina(Millersville Univ.),

D.Serrano (Guadalajara Univ.) , M.Ebisawa (Tokyo Metro. Industrial Tech. Res. Institute ),

S.Kawabata (Tokyo Polytech Univ) , K.Oka (Hirosaki Univ) , T.Oonuma (Photonic Lattice)

Students : M.Sun, Y.Suzuki, R.Fujita, R.Hakoda, S.Nakui,

W.Nakagaito, Y.Nomura, K.Takahashi, H.Kozawa

Center for Optical Research and Education (CORE), Utsunomiya University

7-1-2 Yoto, Utsunomiya 321-8585, Japan

otani@cc.utsunomiya-u.ac.jp

We have started “Research Project for Polarization Engineering” in the Center for Optical Research and Education, Utsunomiya University since April 2022. The propose of this group is set as,

- 1) Formation of a Strategic Base for research of polarization engineering
- 2) Educational campaign for polarization technology through reskilling and consultancy
- 3) To establish technique for polarization theory, especially for interface for optical design and quantum optics
- 4) Application area for polarization imaging, especially spectrum snapshot channeled imaging for Stokes parameters and Mueller matrices and its application for automobile and environmental; sensing
- 5) Polarization standard: Proposal of standard sample, calibration method and polarization calibration service

Our goal after 5 years is pointed out as,

- 1) International collaboration paper is 1 paper per year.
- 2) International funding is 2 projects per year.
- 3) To establish a startup company, a polarization consortium for polarization standardization.

Short biography:



Yukitoshi OTANI is the director of Center for Optical Research and Education (CORE), a professor and head of Department of Optical Engineering and, Utsunomiya University, JAPAN. He received his master's degree from Tokyo University of Agriculture and Technology in 1990 and his doctor's degree from the University of Tokyo in 1995. After working at HOYA Corp., an associate professor at Tokyo University of Agriculture and Technology until 2010, he joined the CORE from April 2010. His current interests include polarization engineering, optical measurement and optomechatronics. He is a fellow of SPIE and Optica(OSA), Editor-in-Chief of Optical Review, an associate editor of OSA continuum and Precision Engineering, a board member of Optik-International Journal for Light and Electron Optics and an Editorial Board of International Journal of Optimechatronics.