

研究室セミナー

講演テーマ

LED it Be

講演者 : Utrecht University Prof. Dr. MEIJERINK Andries

日時 : 令和7年1月15日(水)15:00~16:30

場所 : 知識科学系講義棟 2F K3・K4 講義室

講演要旨

The invention of the blue LED (in Japan) has profoundly changed the lighting market. The future is LED lighting. The first success in creating a white light LED (again in Japan) relied on YAG:Ce³⁺, a well-known phosphor that turned out to check all the boxes to survive the extreme conditions (high temperature and light flux) experienced by phosphors in LEDs. To improve the performance of white light LEDs in efficiency, colour rendering and color gamut for displays, many new lanthanide-based phosphors were found such as CASN:Eu²⁺ (yet again in Japan) but also 3d transition metal based phosphors, for example KSF:Mn⁴⁺. In this presentation recent developments in LED phosphor research will be discussed. Many challenges remain, both in developing better phosphors for new applications and understanding issues as quenching, defects, high power effects, stability, alternative ions. Some 'hot' areas of research include human centric lighting, plant centric lighting (horticulture), narrow band phosphors for high color gamut/efficiency, micro LED phosphors, nanophosphors and high power LEDs and saturation issues. Recent work in our group related to these issues/applications will be discussed followed by an outlook.

講演者略歴

Andries Meijerink received his MSc and PhD degree in Chemistry at Utrecht University. After a post-doc in Madison (University of Wisconsin) he returned to Utrecht in 1991. In 1996, at the age of 32, he was appointed at the chair of Solid State Chemistry in the Debye Institute of Utrecht University where he leads an active group in the field of luminescence spectroscopy of quantum dots and lanthanide ions.



参加申込・予約は不要です。直接会場にお越しください。

お問い合わせ先 : 物質化学フロンティア研究領域 上田純平 ueda-j@jaist.ac.jp