Dr. Peter William de Oliveira is the Head of the Innovation Center of the Leibniz-Institute for New Materials gGmbH (INM) in Saarbrücken, Germany. He is also Head of the program division “Optical Materials” of INM. De Oliveira earned the M.S. Degree in physics from the University of Sao Paulo and the Ph.D. degree from the University of Saarland (Germany). During the last 10 years, he had evaluated and constructed a new technological platform for the development of a new material class and application process for optical and electrical-optical applications based on nano composites. The main research field at INM has been the design materials for interference coating and for printed electronics as well as GRIN-nano composites (Graded Refractive Index nano composites) for embossing, lithography and holography. The developed know-how at the “Optical Materials” group in the optical elements and coatings technology has attracted projects with German, European and overseas companies and institutions.

Dr. Martin Amlung has studied and completed his Ph.D. in 1998 in Chemistry at Saarland University and has been working since 1996 at INM – Leibniz-Institute for New Materials in Saarbruecken as scientific researcher.
He has experiences in basic research projects and in a lot of international industrial research projects with the focus on corrosion protection.
He is assistant head of the department “Optical Materials” at INM.

POSTECH GIFT
Graduate Institute of Ferrous Technology

2017
Spring Semester
GIFT
Special
Seminar

Date & Time: May 24th (Wed.)
4~5:30pm
Venue: GIFT Auditorium #107
Speaker: Dr. Martin Amlung,
Dr. Peter William de Oliveira
(LeibnizS INM)
Host: Prof. Chang Hee Yim

http://gift.postech.ac.kr

INM and Optical Materials department in general

INM – Leibniz Institute for New Materials, situated in Saarbrücken/Germany, is an internationally leading centre for materials research. It is a scientific partner to national and international institutes and a provider of research and development for companies throughout the world. INM is an institute of the Scientific Association Gottfried Wilhelm Leibniz and employs around 250 collaborators. Its main research fields are Nanocomposite Technology (Optical Materials and Nanomers), Interface Materials, and Biointerfaces
Chemists, physicists, biologists, materials and engineering scientists shape the work at INM. From molecule to pilot production, they follow the recurring questions: Which material properties are new, how can they be investigated and how can they be used in the future?

The Program Division Optical Materials focusses on the development of composite materials for the functionalization of glass, ceramic and polymeric substrates to interact with electromagnetic radiation. Our expertise in wet chemical syntheses of organic-inorganic matrices combined with experience in the production of nanoparticles with specific chemical modifications allows the development of new optical materials for coating applications. Also, we fine-tune the chemical and physical properties of the new materials to fulfil the requirements of specific products and processes.

Glass-like protection coatings

At INM, several glass-like coatings has been developed as protective layers for metals, glasses and alloys which are applicable by spray-coating, dip-coating or roll-to-roll method. These coatings have strong corrosion and wear protection combined with flexibility and transparency. A further development from glass-like to glass-ceramic coatings with stability up to 900°C was successful. These two types of coatings will be presented.

Anorganic-organic composites “Nanomers”

The activities of the Program Division Nanomers comprise the development of functional coatings and bulks based on polymer-matrix composites. A strong focus is set on application-oriented projects for materials used in industry. Areas of interest are corrosion protection, control of friction, anti-microbial functionality or wear resistance combined with transparency and barrier properties. Fields of application can be found in electronics, medical devices and optics as well as in automotive, mechanical and electrical engineering.