

國家理論科學研究中心數學組 (臺北辦公室)

NCTS/TPE Applied Mathematics Seminar

Speaker: Prof. Yuusuke Iso (Kyoto University)

Title: Mathematical modeling for propagation of infrared lights in biomedical tissues -- A fundamental study for the diffused optical tomography.

Abstract:

The aim of the of this talk is focused on validity of a mathematical model for the phenomena related with DOT. The diffused optical tomography (DOT) is considered as one of the forthcoming technologies in medical diagnosis, and it will be expected to make a breakthrough in the Brain science. It is reduced to inverse scattering problem of infrared lights in biomedical tissues and is reduced to an inverse problem to determine coefficients in the governing equation. The radiative transport equation is considered as the fundamental mathematical model for DOT, but it depends, indeed, upon not only experiments but upon numerical simulations in the process of mathematical modeling. We remark the difference of numerical schema adopted in mathematical modeling leads us to different results, and we will reveal problems to be studied as fundamental research for DOT. This work is joint one with our graduate students.

Time: Nov. 29 (Fri.) 15:00 – 16:00

Venue: R440, Astro-Math Building (NTU Campus)

Organizer: Prof. I-Liang Chern (National Taiwan University)

For more information, please refer to <http://www.math.ntu.edu.tw/~ctsdev/> or contact "cts_tpe@math.cts.ntu.edu.tw".