

特別講演会開催のお知らせ

流体科学研究所において、下記の特別講演会を開催致します。

米国 Lafayette College の Joshua Smith 先生より、脳内の物質輸送の数値シミュレーションに関してご講演頂きます。

ご関心をお持ちの方は是非ご参加下さいますよう、ご案内申し上げます。

記

日時： 平成 21 年 8 月 7 日 (金) 14:00 ~ 15:00

場所： 東北大学流体科学研究所 1 号館会議室

講師： Prof. Joshua Smith, PhD (Lafayette College)

題目： A nonlinear biphasic model for fluid and mass transport in brain tissue:
Implications for hydrocephalus and convection-enhanced delivery

概要：

Nonlinear stress-strain curves under finite deformations have been documented for brain tissue under both tension and compression.

Nevertheless, most biphasic models of brain tissue have assumed linear elasticity of the solid phase. Recent attempts at modeling convection-enhanced delivery in brain have been conducted under the even more limiting assumption that the tissue is rigid during the infusion. We present a spherically symmetric model of brain tissue that considers both nonlinear stress-strain curves under finite deformation and nonlinear variation of hydraulic conductivity. The spherical model is used to study the physics that occurs during hydrocephalus and convection-enhanced delivery in order to determine the importance of including nonlinear behaviors in such simulations.

連絡先： 流体科学研究所 超実時間医療工学研究分野

船本 健一

TEL: 022-217-5297

Email: funamoto@reynolds.ifs.tohoku.ac.jp

