

Johns Hopkins University
Krieger School of Arts and Sciences and Whiting School of Engineering

The Eaton E. Lattman

Graduate Student Community Lecture Series

April 2, 2009, 5:00 - 7:00 P.M.

Computational Science and Engineering Building, B17

Light refreshments will be served.

Lori Orosco, Biology Department

“Conserved Regulation of Myelin Gene Expression Across Vertebrates”

Myelin or the brain's white matter is a structure exclusive to vertebrates and essential for all neurological processes. Many human diseases such as multiple sclerosis (MS) and patients with spinal cord injuries, underscore the significance of the myelin. This lecture presents research into the development of transgenic zebrafish that express fluorescent reporters in cells producing myelin. Through these fish, real-time myelination has been observed.

Patrick Fessenbecker, English Department

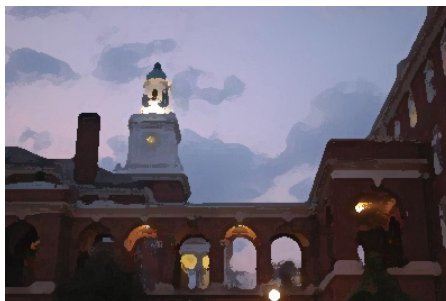
“Freedom of the Will and Determination by Culture: Harry Frankfurt and Michel Foucault”

Suppose you get up tomorrow morning and think to yourself, “A lot of the kids these days seem to have iPods; I think I'll get myself one” - and then you drive up to the Apple Store in Towson and make a purchase. Have you acted freely? In one sense, you clearly have: no other person or institution has forced you to act in the way you did. In another sense, you almost certainly haven't: your actions, and the beliefs and desires that caused them, were clearly the result of discernible and analyzable cultural forces in some sense external to yourself. Yet this example makes it look like no one could ever be “free,” since human actions always occur within the context of socio-cultural forces. This lecture attempts to clarify some of the terms - particularly “freedom” - and questions involved in such a debate by first establishing a model of selfhood and freedom that draws on the work of Harry Frankfurt, then pressing an objection, arising from the analysis of selfhood in the works of Michel Foucault, against it. The lecture concludes by arguing that the key question is about the nature of evaluative concepts, which is then analyzed at length.

Thong Do, Electrical and Computer Engineering Department

“Compressive Sensing Theory and Applications to Distributed Video Coding and Robust Video Transmission”

Compressive Sensing Theory has recently become widely popular in the signal processing community, serving as a paradigm shift from the conventional signal processing framework. This lecture attempts to present this new theory and its underlying philosophies via simple examples. These principles are then employed to design new solutions to several practical applications such as distributed video coding and robust video transmission over packet loss channels for further illustrating the potential applications of Compressive Sensing.



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