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CELL SIGNALING IN THE CONTROL OF LIFE AND DEATH

Cells continuously face the decision to live or die. These decisions are controlled by multiple growth factors operating through cellular receptors and signaling systems composed of receptors, second messengers, kinases and effector proteins. These pathways of cell growth or cell death are traditionally presented as binary nodes in a linear sequence. However, this model does not consider spatial and temporal control of signaling within the cell. Also, signaling through multiple pathways contribute to the cellular context which controls cell function. In addition to kinase pathways, oxidation and reduction of proteins are now recognized as controlling cellular functions. Our recent studies have begun to develop techniques to visualize protein oxidation during cell signaling. These techniques allow us to to ask questions about the timing and localization of protein oxidation within cells and to develop more robust models of cellular signaling.

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PROMOTION OF EHR/EMR AND HEALTH INFORMATICS EDUCATION IN THE US

Recent movement and trends of EHR/EMR systems and Health Informatics Education in the US are introduced. EHR/EMR is currently being promoted by the US federal government as a part of their health care reform. Their goal is not only to adopt EHR/EMR systems in all health care providers but also to realize 'meaningful use' of such systems by 2015. Its progress, impacts on medical staffs and service providers (e.g. hospitals), and issues are presented with relevant statistics. In response to a significant needs of skilled workforce for those deployed EHR/EMR systems, many universities in the US started offering Health Informatics programs at all levels. Their trends and issues are presented throughout our own program development as an example. When time allows, possible contribution of Soft Computing in Health Informatics is discussed.

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