Biological Chemistry Discussion

Fall Semester, 2014

Tuesdays: 14:00 –15:40 (Session #1); 16:00 - 17:40 (Session #2)

Zhong Yuan, Room 506

Course Description

This is an undergraduate biochemistry discussion course offered in parallel with the Biochemistry lecture (2 credits).

Instructors:

Profs. **Yongting Wang** and **Weihai Ying**
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Overseas Guest Lectures:

C. James Ingles, Ph.D. <cj.ingles@utoronto.ca>
Professor (Emeritus)
University of Toronto

Jimmy Zhou, Ph.D. <jimmy.zhou@yale.edu>
Marvin L. Sears Professor of Ophthalmology and Visual Science
Yale University School of Medicine

#	Date			Instructor	Discussion paper
1	Sep	23	Tue	Prof. Ingles	DNA replication mechanisms. Proc. Natl. Acad. Sci. 63, 1343, 1969 Biochemistry 15, 1838, 1976
2		30	Tue	Prof. Ingles	Transcription I. Science 260, 58, 1993 Genes & Dev. 19,1572, 2005
3	Oct	11	Sat	Prof. Ingles	Transcription II Cell 81,359, 1995
4		14	Tue	Prof. Ingles	Transcription III Science 322, 1845, 2008
5		21	Tue	Prof. Wang	Structures of the CXCR4 Chemokine GPCR with Small-Molecule and Cyclic Peptide Antagonists. (2010) Science 330, 1066-1071
6		28	Tue	Prof. Wang	Functional Links Between Ab Toxicity, Endocytic Trafficking, and Alzheimer's Disease Risk Factors in Yeast. (2011)

					Science 334, 1241-1245
7	Nov	4	Tue	Prof. Zhou	Ralf Mohrmann et al. (2010) Fast Vesicle Fusion in Living Cells Requires at Least Three SNARE Complexes. Science 330: 502-505.
8		11	Tue	Prof. Zhou	Georg Nagel et al. (2003) Channelrhodopsin-2, a directly light-gated cation-selective membrane channel. PNAS (100) 13940-13945.
		18	Tue		(no class)
9		25	Tue	Prof. Wang	Ras activation by SOS: Allosteric regulation by altered fluctuation dynamics. (2014) Science 345, 50-54
10	Dec	2	Tue	Prof. Ying	Heather R. Christofk et al. The M2 splice isoform of pyruvate kinase is important for cancer metabolism and tumour growth. Nature 452:230-234.
11		9	Tue	Prof. Ying	Alano CC et al. NAD+ depletion is necessary and sufficient for poly(ADP-ribose) polymerase-1-mediated neuronal death. J Neurosci. 2010 Feb 24;30(8):2967-78.
12		16	Tue	Prof. Ying	Weir HJ et al. SIRT3: A Central Regulator of Mitochondrial Adaptation in Health and Disease. Genes Cancer. 2013 Mar;4(3-4):118-24.
13		23	Tue	Prof. Ying	Marcu R et al., Mitochondrial Matrix Ca2+ Accumulation Regulates Cytosolic NAD+/NADH Metabolism, Protein Acetylation and Sirtuins Expression. Mol Cell Biol. 2014 May 27. pii: MCB.00068-14. [Epub ahead of print]