Neurophotonics Summer School 2021

	Monday 10	Tuesday 11	Wednesday 12	Thursday 13	Friday 14
9:00-10:30	**Daniel Côté** Basics of lasers and optical imaging	**Paul De Koninck** tracking molecular events in neurons	**Yves De Koninck** Optogenetics: from basic principles to in-vivo applications	**Michèle Desjardins** Multimodal multiscale hemodynamic-based functional brain imaging in awake mice	**Ed Ruthazer** Imaging Brain Circuit Development in vivo
10:30-10:45	Coffee break	Coffee break	Coffee break	Coffee break	
10:45-12:15	**Flavie Lavoie-Cardinal** Principles of fluorescence and Superresolution approaches	**Pierre Marquet** Digital Holographic Microscopy: a high-speed label-free technique to resolve neuronal network activity	**Robert Campbell** Genetically encoded fluorophores and biosensors to illuminate neuronal activity	**Daniel Côté** Multimodal cellular imaging *in vivo*	**Tim Murphy** Mouse In Vivo Imaging and Optogenetic Tools for Elucidating Cortical Circuit Structure and Function Following Stroke
12:15-13:00	Lunch break	Lunch break	Lunch break	Lunch break	Lunch break
13:00-17:00	**Demo 1**: Fluorescence Lifetime imaging (Godin, Barbeau) **Demo 2**: STED microscopy (Lavoie-Cardinal – Deschênes)	**Demo 3**: Whole-brain, two-photon imaging of Ca2+ in zebrafish (P. De Koninck – V. Boily) **Demo 4**: Digital Holographic Microscopy (DHM) (Marquet – Bélanger)	**Demo 5**: Fiber photometry (Proulx, Martianova) **Demo 6**: In-vivo Ca2+ imaging in the DRG (Y. De Koninck, Wang)	**Demo 7**: Intrinsic optical and speckle contrast functional imaging in awake mice (M. Desjardins, J. Guilbert) **Demo 8**: Acousto-Optic Deflector (AOD) microscopy (Y. De Koninck, Munoz-Pino)	**Demo 9**: In-vivo single-cell with the optrode (Y. De Koninck, Bories, Alonso)
17:00-18:30	Dinner break	Dinner break	Dinner break	Dinner break	Dinner break
18:30-20h00	Student's projects presentations	Data analysis: Raspberry-Pi Group 1 (J. LeDue)	Image Analysis (G. Leclerc, C. Bouchard)	Data analysis: Raspberry-Pi Group 2 (J. Ledue)	

	Saturday 15 – Sunday 16	Monday 17	Tuesday 18	Wednesday 19	Thursday 20
9:00-10:30	**FREE TIME**	Mini-projects	Mini-projects	Mini-projects	Students presentations? (in case mini-projects take longer than expected)
10:30–12:15		Mini-projects	Mini-projects	Students presentations (Mini-projects)	Students presentations? (in case mini-projects take longer than expected)
12:15-13:00		Lunch break	Lunch break	Lunch break	
13:00-19:00		Mini-projects	Mini-projects	Students presentations	