

Biomedical engineering

FACULTIES OF ENGINEERING,
MEDICINE, AND SCIENCE

IN THE NEWS

- **AAIC 2020 -- ALZHEIMER'S ASSOC. INTERNATIONAL CONFERENCE**

<https://www.alz.org/aaic/program/scientific-sessions.asp>

- **Flu Shot And Pneumonia Vaccine Might Reduce Alzheimer's Risk, Research Shows**

<https://www.npr.org/sections/health-shots/2020/07/27/894731147/flu-shot-and-pneumonia-vaccine-might-reduce-alzheimers-risk-research-shows>

The evidence comes from [two studies](#) presented Monday at this year's [Alzheimer's Association International Conference](#), which is being held as a virtual event.

- **CIHR 2020 INFO SESSIONS**

CIHR will be offering webinars (via MS Teams) to support students, postdoctoral fellows and institution staff regarding CIHR awards programs. Sessions will include an overview about relevant policies, tips for applicants, guidelines on how to submit an application and information on how award competitions have been impacted by the COVID-19 pandemic, and will allow time for Q and A. Please see the attached posters and distribute this information within your Units as appropriate. Those who are interested can register at this link.

The dates/times of the webinars are as follows: <https://cihr-irsc.gc.ca/e/45096.html>

- **ILAE – INTERNATIONAL LEGUE AGAINST EPILEPSY**

<https://www.ilae.org/news-and-media/news-about-ilae/call-for-comments-on-new-wearable-seizure-detection-devices-clinical-guideline>

Call for comments on new wearable seizure detection devices clinical guideline

- **SPECTRUM NEWS:** <https://www.spectrumnews.org/>

- **Autism and seizures may share roots in development**

SPECTRUM NEWS: <https://www.spectrumnews.org/news/autism-and-seizures-may-share-roots-in-development/>

- **Brain responses to social stimuli may vary by sex in autism**

<https://www.spectrumnews.org/news/brain-responses-to-social-stimuli-may-vary-by-sex-in-autism/>

- **Popular screen may mistake intellectual disability for autism**

https://www.spectrumnews.org/news/popular-screen-may-mistake-intellectual-disability-for-autism/?utm_source=Spectrum+Newsletters&utm_campaign=e95bc6ff67-EMAIL_CAMPAIGN_2020_07_28_07_16&utm_medium=email&utm_term=0_529db1161f-e95bc6ff67-168825782

- **SPIE -- Intl Society for Optics & Photonics:** <https://spie.org/>

Shining new lights on photoacoustic imaging

<https://spie.org/news/shining-new-lights-on-photoacoustic-imaging>

ANNOUNCEMENTS

AWARDS

- **VANIER CANADA GRADUATE SCHOLARSHIP**
\$50,000/yr up to 3 years · For PhD students
Research Field(s): Unrestricted
Deadline: September 11, 2020
More Info
- **BANTING POSTDOCTORAL FELLOWSHIPS COMPETITION**
\$70,000 per year for two years · For Postdoctoral students
Research Field(s): The Banting Postdoctoral Fellowships program is designed to support world-class postdoctoral researchers. The program is open to both Canadian and international researchers who have recently completed a PhD, PhD- equivalent, or health professional degree. Applications must be completed in full collaboration with the proposed host institution.
Deadline: October 1, 2020
More Info
- **ORDER OF THE WHITE ROSE SCHOLARSHIP**
<https://www.polymtl.ca/ordreroseblanche/en>
\$30,000.00 scholarship – an initiative to encourage young female engineering students to pursue their academic career at the graduate level
This is an annual Canada-wide scholarship created to honour the 14 victims of the tragedy of 6 December 1989. Each university is permitted to submit only one portfolio.
- **CIHR: COVID-19 RESEARCH FUNDING**
<https://cihr-irsc.gc.ca/e/51917.html>
 - **Rapid Research Funding Opportunity Results**
<https://cihr-irsc.gc.ca/e/51908.html>

COURSE / SPECIALTY OFFERINGS

GRADUATE FOCUS ON AGING CONCENTRATION

DETAILS: Centre for Aging Calendar

CONTACT: Rachel Ines, Centre on Aging, Rachel.Ines@umanitoba.ca

1. **FORM:** Intent Form must be submitted to FGS
2. **PROGRAM:** Masters or Doctoral students must complete the requirements of the program to which they have been admitted **AND** the requirements of the Graduate Focus on Aging Concentration
 - a. Six (6) credit hours of graduate (7000-level or higher) courses that focus on aging and are approved by the student's Advisory Committee;
 - b. A thesis/practicum on an aging-related topic;
 - c. Having at least one Advisory committee member who is officially affiliated with the Centre on Aging as a Research Affiliate; and
 - d. Participating in the annual Spring Research Symposium of the Centre on Aging at least once as a poster presenter.

Graduate students may be able to attain their 6 credit hours of courses within the existing course requirements of their graduate program. Students must attain a minimum grade of C+ (or higher, if stipulated in the department/unit supplementary regulations), for the required 6 credit hours of aging courses.

Graduate students who are not in a thesis/practicum will be considered on a case-by-case basis.

PHYSIOLOGY & PATHOPHYSIOLOGY COURSE OFFERING

- **PHYG-7310: 3.0 credits -- Principles of Electronics for Life Sciences-I.**
 - **DATES:** Sept 8 – Dec 18, 2020, Fridays 2:00-4:45pm
 - Sessions will be held once weekly on-line tentatively slated for Fridays 2-4:45
 - **FORMAT:** Each session will consist of on-line lectures & discussions with mandatory student participation in online discussions. The students will be informed about the topics prior to the lectures.
 - **CONTACT:** Dr. Katinka Stecina (Katinka.Stecina@umanitoba.ca). A minimum of 3 students will be required to offer the course.
 - **PREREQ:** a basic course in biology and/or physics or the consent of the coordinator(s)
 - This course is a 3.0 credit hour for M.Sc. and Ph.D. students and is open to graduate students in all disciplines within and outside of the Rady Faculty of Health Sciences.

COURSE DESCRIPTION: This course will review and discuss basic concepts related to physics and electronics. Moreover, the course will explore applications of electronics principles for use in the understanding of neural activity. Concepts such as electrical stimulation, field potentials, recording methods, analog to digital conversion and acquisition of signals and some methods based on electrically charged dyes used in animal research as well as the basis of electrophysiological techniques used in human research will be covered. Performance in this course will be based on quizzes, exams, on-line discussion participation, and also based on a small, self-directed research component. Students in the course will be asked to survey methods and fundamental principles in relation to an electrophysiological method of their choice (and approved by the instructor) e.g. related to research techniques used for their thesis work, or clinical work or own interest. Participation in on-line (pre-recorded lectures) is flexible and some group discussions will be scheduled based on the availability of all enrolled students.

STUDENT NEWS

STUDENT EMAILS will be down 21-24 August to move to the same environment as Office 365

STUDENT PUBLICATIONS: https://umanitoba.ca/biomedical_engineering/current_students/publications.html

CONGRATULATIONS

Melissa Anderson, M.Sc. Student (Advisor: Dr. Melanie Martin)

Melissa is the recipient of the Master Award for Indigenous Students. This award is valued up to \$10K

FALL 2020 INCOMING STUDENTS

- **Melissa Anderson, M.Sc. Program**
Advisor: Dr. Melanie Martin, Dept. of Physics
- **Logan Froese, Ph.D. Program**
Advisor: Dr. Frederick Zeiler, Dept. of Surgery
- **Ala Karajey, M.Sc. Program**
Advisor: Dr. Rasit Eskicioglu, Dept. of Computer Science
- **Yarmak, Pavel, M.Sc. Program**
Advisor: Dr. Sherif Sherif, Dept. of Electrical & Computer Eng.

MAY 2020 GRADUATES

Ph.D.

Dr. Mohammad Norouzi

Advisor: Donald Miller, Pharmacology / Neuroscience Research

M.Sc.

Azam Darvari Dolatabadi

Advisor: Betram Unger, Internal Medicine

OCTOBER GRANDUANDS

Ph.D.

Dr. Ahmed Mamdouh Elwali

Advisor: Dr. Zahra Moussavi, Electrical & Computer Engineering

M.Sc.

Vinay Gupta

Advisor: Dr. Ji Hyun Ko, Human Anatomy & Cell Science

FACULTY NEWS

CONGRATULATIONS

Dr. Ji Hyun Ko, promoted to Associate Professor

WELCOME NEW FACULTY

Dr. Saeid Ghavami, Asst. Prof., Dept. of Human Anatomy and Cell Science

<http://home.cc.umanitoba.ca/~ghavami/>

NEW FUNDING

- **Drs. Zahra Moussavi & Clare Ramsey & Brian Lithgow** (\$49,880)
With Function Four Ltd, IDFusion Software
Alliance Grants (ALLRP) entitled "A Touchless Tool to Screen for Covid-19 for reopening Industries"
- **Dr. Zahra Moussavi & Clare Remsey** (\$50,000)
With Function Four Ltd
Alliance Grants (ALLRP) entitled "Post Discharge Tele-monitoring of COVID-19 Survivors for Long-Term Impacts and Point-of-Care"
- **Dr. Hagar I. Labouta**
 - (Two Tri-Agency Funds)
NSERC and New Frontiers in research fund - Exploration Stream
Both applications are for Dr. Labouta's work in the Dept. of Pharmacy and Biomedical Engineering
 - Major Project Funding: "Open Laboratories Interdisciplinary Science Research and Education – A Pilot Study (\$25,000). This will allow Dr. Labouta to open 4-month positions to Biomedical and/or Science undergraduates.

FACULTY PUBLICATIONS: https://umanitoba.ca/biomedical_engineering/people/publications.html

- **Dr. Benedit Albensi**
 - Potential New Approaches for Diagnosis of Alzheimer's Disease and Related Dementias, in, *Frontiers in Neurology*
https://www.frontiersin.org/articles/10.3389/fneur.2020.00496/full?utm_source=F-NTF&utm_medium=EMLX&utm_campaign=PRD_FEOPS_20170000_ARTICLE
 - The Aging Imageomics Study: Rationale, design and baseline characteristics of the study population, in, *Mechanisms of Ageing and Development* <https://authors.elsevier.com/c/1bBF1ArDpWzZp>
 - Early onset of sex-dependent mitochondrial deficits in the cortex of 3xTg Alzheimer's mice in, *Cells* [journal name]
https://www.mdpi.com/journal/cells/special_issues/Sex_Differences_Signaling_Pathways

- **Dr. Francis Lin:**
 - Z. Rovei Miab, F. Lin and J. Anderson, "Traction and attraction: Haptotaxis substrates collagen and fibronectin interact with chemotaxis by HGF to regulate myoblast migration in a microfluidic device", *American Journal of Physiology-Cell Physiology*, 2020, doi: 10.1152/ajpcell.00417.2019.
 - X.O. Ren, A. Alamri, J. Hipolito, F. Lin and S.K.P. Kung, "Applications of microfluidic devices in advancing NK-cell migration studies", *Methods in Enzymology*, 2020, 631, 357-370.
- **Dr. Hagar I. Labouta**
 Meta-Analysis of Nanoparticle Cytotoxicity via Data-Mining the Literature. Hagar I. Labouta*, Nasimeh Asgarian, Kristina Rinker, and David T. Cramb*. <https://pubs.acs.org/doi/abs/10.1021/acsnano.8b07562>
- **Prof. Brian Lithgow**
 - Ashiri M., Lithgow B, Suleiman A, Mansouri B. and Moussavi Z., "Electrovestibulography (EVestG) application for measuring vestibular response to horizontal pursuit and saccadic eye movements," *Graefe's Archive for Clinical and Experimental Ophthalmology*, Accepted June 2020.
 - Kehler L, Francisco C, Uehara M, and Moussavi Z., "The effect of transcranial alternating current stimulation (tACS) on cognitive function in older adults with dementia," forthcoming *IEEE-EMBE* July 2020.
 - Ashiri M., Lithgow B. and Moussavi Z., "Using Electrovestibulography to comparatively Measure Vestibular Responses to Virtual vs Physical Contralateral/Ipsilateral Head Tilts," 11th Augmented Human International Conference, May 2020.
 - "Pulsed electromagnetic field therapy for exercise-induced muscle injury", (2000) Cohen M., Heath B., Lithgow B., Cosic I. and Bailey, M., In: *The Engineering of Sport*, Ed. A.J. Subic and S.J. Haake, Blackwell Science Publishers, Oxford U.K., 317-328.
 - "A novel dual adaptive approach to speech processing," (2002) Orr, M.C., Lithgow, B.J., Mahony, R., and Pham, D.S., in *Advanced signal processing for communication systems*, Eds. T. Wysocki, M. Darnell, and B. Honary: Kluwer Academic Publishers, 2002., 47-58
 - "Differences between physical versus virtual evoked vestibular responses," Ashiri M., Lithgow B., Suleiman A., Blakley B., Mansouri B. and Moussavi Z., *Annals of Biomedical Engineering (ABME)*, Jan. 2020. <https://doi.org/10.1007/s10439-019-02446-3>
 - "New Insight into Correlation between Convergence Insufficiency/Vestibular Abnormalities and Depression in Post-Concussion Syndrome", Anssari, N., Suleiman, A., Ashiri, M, Lithgow, B.J., Moussavi, Z. and Mansouri, B. 2020, *E.C. Ophthalmology* (accepted).
 - "Transcranial magnetic stimulation safety from operator exposure perspective."
 - Rutherford, G., Lithgow, B. and Moussavi, Z. *Med. Biol. Eng. & Comp.* (2020) 58, 249:256.
- **Dr. Zahra Moussavi**
 - Invited talk: Predicting Obstructive Sleep Apnea through breathing sounds analysis, July 22, 2020 *IEEE EMBS Conference, Minisymposium on New Developments in Sleep bioengineering Part 2*.
 - Ashiri M., Lithgow B, Suleiman A, Mansouri B. and Moussavi Z., "Electrovestibulography (EVestG) application for measuring vestibular response to horizontal pursuit and saccadic eye movements," *Graefe's Archive for Clinical and Experimental Ophthalmology*, Accepted June 2020.
 - Kehler L, Francisco C, Uehara M, and Moussavi Z., "The effect of transcranial alternating current stimulation (tACS) on cognitive function in older adults with dementia," forthcoming *IEEE-EMBE* July 2020.
 - Ashiri M., Lithgow B. and Moussavi Z., "Using Electrovestibulography to comparatively Measure Vestibular Responses to Virtual vs Physical Contralateral/Ipsilateral Head Tilts," 11th Augmented Human International Conference, May 2020.
 - Hajipour F, Giannouli E. and Moussavi Z., "Acoustic characterization of upper airway variation from wakefulness to sleep with respect to obstructive sleep apnea," *J Medical & Biological Engineering & Computing*, accepted May 2020.

- Elwali A. and Moussavi Z., “The Modified Allen Test and a Novel Objective Screening Algorithm for Hand Collateral Circulation using Differential Photoplethysmography for Preoperative Assessment: a Pilot Study,” J Medical Eng. Tech, Feb. 2020. DOI: 10.1080/03091902.2020.1723729
- **Dr. Marcus Ng**
 - TEXTBOOK: *Atlas of Intensive Care Quantitative EEG*
<https://www.amazon.ca/Atlas-Intensive-Care-Quantitative-EEG/dp/0826193544>
 - A Primer of EEG Spectrograms. Ng M, Jing J, Westover MB. Journal of Clinical Neurophysiology. 2020 (accepted)
 - Effects of REM Sleep in Anti-NMDA Receptor Encephalitis with Extreme Delta Brush Pattern. Jain D, Ng M. Canadian Journal of Neurological Sciences. 2020 (accepted, in press)
 - Critically Ill Benign EEG Variants: Is There Such a Thing?. McLeod GA, Jones ML, Ng M. Clinical Neurophysiology. 2020 Jun; 131:1243-51. PMID: 32305854.
 - Breakthrough Spikes in Rapid Eye Movement Sleep from the Epilepsy Monitoring Unit are Associated with Peak Seizure Frequency. McKenzie MB, Jones ML, O’Carroll A, Serletis D, Shafer LA, Ng M. Sleep. 2020 May; 43(5):1-7. PMID: 31768558.
 - Development of Expert-Level Automated Detection of Epileptiform Discharges During Electroencephalogram Interpretation. Jing J, Sun H, Kim JA, Herlopian A, Karakis I, Ng M, Halford JJ, Maus D, Chan F, Dolatshahi M, Muniz C, Chu C, Sacca V, Pathmanathan J, Ge W, Dauwels J, Lam A, Cole AJ, Cash SS, Westover MB. JAMA Neurology. 2020 Jan; 77(1):103-8. PMID: 31633740.
 - Interrater Reliability of 3xperts in Identifying Interictal 3pileptiform Eischarges in 3electroencephalograms. Jing J, Herlopian A, Karakis I, Ng M, Halford J, Lam A, Maus D, Chan F, Dolatshahi M, Muniz C, Chu C, Sacca V, Pathmanathan J, Ge W, Sun H, Dauwels J, Cole AJ, Hoch DB, Cash SS, Westover MB. JAMA Neurology. 2020 Jan; 77(1):49-57. PMID: 31633742.
 - Stratified outcome analyses of the quantitative burst suppression ratio in refractory status epilepticus. Mehdiratta N, Xu S, Ng M. Asian Oceanian Congress on Clinical Neurophysiology; Kuala Lumpur, Malaysia; 2020 [COVID-19]. American Clinical Neurophysiology Society Annual Meeting; New Orleans, USA; 2020.
 - Peak seizure frequency correlates with disruptive spiking in rapid eye movement sleep. McKenzie M, Jones ML, O’Carroll A, Serletis D, Shafer LA, Ng M. 72nd Annual Meeting of the American Academy of Neurology; Toronto, Canada; 2020 [COVID-19].
- **Dr. Stephen Pistorius**
 - Reimer, T., Solis-Nepote, M., & Pistorius, S. The impact of the inverse chirp z-transform on breast microwave radar image reconstruction. International Journal of Microwave and Wireless Technologies, 2020, 1-7. doi:10.1017/S1759078720000379
 - R.C. Conceição, H. Medeiros, D. Godinho, M. O’Halloran, D.Rodriguez-Herrera, D. Flores-Tapia, S. Pistorius, “Classification of Breast Tumour Models with a Prototype Microwave Imaging System,” Medical Physics, 2020 Apr;47(4):1860-1870. doi: 10.1002/mp.14064. Epub 2020 Mar 1.
 - M. Hedyehzadeh, K. Maghooli, M. MomenGharibvand, S. Pistorius, “A Comparison of the Efficiency of Using a Deep CNN Approach with Other Common Regression Methods for the Prediction of EGFR Expression in Glioblastoma Patients,” Journal of Digital Imaging, 2020 Apr; 33(2):391-398. doi: 10.1007/s10278-019-00290-4.
 - P. Anusionwu, J.E. Alpuche Aviles, S. Pistorius, “The use of 0.5rcav as an effective point of measurement for cylindrical chambers may result in a systematic shift of electron percentage depth doses”, Journal of Applied Clinical Medical Physics, 2020 Jan;21(1):117-126. doi: 10.1002/acm2.12797. Epub 2020 Jan 3
- **Dr. Frederick A. Zeiler**
 - Bokhari R, Youc E, Bakhaidar M, Bajunaid K, Lasry O, Zeiler FA, Marcoux J. Dural venous sinus thrombosis in patients presenting with blunt traumatic brain injury and skull fractures: a systematic review and meta-analysis. World Neurosurg. Accepted Jun 22nd, 2020.
 - Gravesteijn BY, Sewalt CA, Ercole A, Akerlund C, Nelson D, Maas AIR, Menon D, Lingsma HF, Steyerberg EW; Collaborative European NeuroTrauma Effectiveness Research for Traumatic Brain Injury Collaborators. Toward a

New Multi-Dimensional Classification of Traumatic Brain Injury: A Collaborative European NeuroTrauma Effectiveness Research for Traumatic Brain Injury Study. *J Neurotrauma*. 2020 Apr 1;37(7):1002-1010. doi: 10.1089/neu.2019.6764.

- van Wijk RPJ, van Dijck JTJM, Timmers M, van Veen E, Citerio G, Lingsma HF, Maas AIR, Menon DK, Peul WC, Stocchetti N, Kompanje EJO; CENTER-TBI investigators and participants. Informed Consent Procedures in Patients With an Acute Inability to Provide Informed Consent: Policy and Practice in the CENTER-TBI Study. *J Crit Care*. 2020 May 25;59:6-15. doi: 10.1016/j.jcrc.2020.05.004.
- Chowdhury T, Zeiler FA, Singh N, Gray KDR, Qadari A, Beiko J, Cappellani RB, West M. Awake Craniotomies Under 3-Tesla Intraoperative Magnetic Resonance Imaging: A Retrospective Descriptive Report and Canadian Institutional Experience. *J Neurosurg Anesthesiol*. Accepted May 29th, 2020.
- Czeiter E, Amrein K, Gravesteijn BY, Lecky F, Menon DK, Mondello S, Newcombe VFJ, Richter S, Steyerberg EW, Vyvere TV, Verheyden J, Xu H, Yang Z, Maas AIR, Wang KKW, Büki A; CENTER-TBI Participants and Investigators. Blood Biomarkers on Admission in Acute Traumatic Brain Injury: Relations to Severity, CT Findings and Care Path in the CENTER-TBI Study. *EBioMedicine*. 2020 May 25;56:102785. doi: 10.1016/j.ebiom.2020.102785.
- Riemann L, Beqiri E, Smielewski P, Czosnyka M, Stocchetti N, Sakowitz O, Zweckberger K, Unterberg A, Younsi A; CENTER-TBI High Resolution ICU (HR ICU) Sub-Study Participants and Investigators. Low-resolution Pressure Reactivity Index and Its Derived Optimal Cerebral Perfusion Pressure in Adult Traumatic Brain Injury: A CENTER-TBI Study. *Crit Care*. 2020 May 26;24(1):266. doi: 10.1186/s13054-020-02974-8.
- Voormolen DC, Zeldovich M, Haagsma JA, Polinder S, Friedrich S, Maas AIR, Wilson L, Steyerberg EW, Covic A, Andelic N, Plass AM, Wu YJ, Asendorf T, von Steinbüchel N, CENTER-TBI Participants and Investigators. Outcomes After Complicated and Uncomplicated Mild Traumatic Brain Injury at Three-and Six-Months Post-Injury: Results From the CENTER-TBI Study. *J Clin Med*. 2020 May 18;9(5):E1525. doi: 10.3390/jcm9051525.
- Riemann L, Zweckberger K, Unterberg A, El Damaty A, Younsi A; Collaborative European NeuroTrauma Effectiveness Research in Traumatic Brain Injury (CENTER-TBI) Investigators and Participants. Injury Causes and Severity in Pediatric Traumatic Brain Injury Patients Admitted to the Ward or Intensive Care Unit: A Collaborative European Neurotrauma Effectiveness Research in Traumatic Brain Injury (CENTER-TBI) Study. *Front Neurol*. 2020 Apr 30;11:345. doi: 10.3389/fneur.2020.00345.
- Gomez A, Dian J, Froese L, Zeiler FA. Near Infrared Based Cerebrovascular Reactivity as a Means of Monitoring Autoregulation and Predicting Outcome in Moderate/Severe Traumatic Brain Injury: A Pilot Study Protocol and Planned Analyses. *JMIR Res Protoc*. Accepted May 15th, 2020.
- Timmers M, van Dijck JTJM, van Wijk RPJ, van Veen E, Maas AIR, Menon DK, Citerio G, Stocchetti N, Kompanje EJO; and the CENTER-TBI Investigators and Participants. How do 66 European institutional review boards approve one protocol for an international prospective observational study on traumatic brain injury? Experiences from the CENTER-TBI study. *BMC Med Ethics*. 2020; 21(1); 36. doi: 10.1186/s12910-020-00480-8.
- Froese L, Batson C, Gomez A, Dian J, Zeiler FA. The Limited Impact of Current Therapeutic Interventions on Cerebrovascular Reactivity in Traumatic Brain Injury: A Narrative Overview. *Neurocrit Care*. Accepted May 13th, 2020.
- van Veen E, van der Jagt M, Citerio G, Stocchetti N, Epker JL, Gommers D, Burdorf L, Menon DK, Maas AIR, Lingsma HF, Kompanje EJO; and the CENTER-TBI Investigators and Participants. End-of-life practices in traumatic brain injury patients: report of a questionnaire from the CENTER-TBI study. *J Crit Care*. 2020 Apr 21;58:78-88. doi: 10.1016/j.jcrc.2020.04.001.
- Zeiler FA, Cabeleira M, Hutchinson PJ, Stocchetti N, Czosnyka M, Smielewski P, Ercole A; and the CENTER-TBI High Resolution ICU (HR ICU) Sub-Study Participants and Investigators. Evaluation of the Slow-Wave Relationship between Intracranial Pressure, Mean Arterial Pressure and Brain Tissue Oxygen in TBI: A CENTER-TBI Exploratory Analysis. *J Clin Monit Comput*. Accepted May 8th, 2020.
- Feng J, van Veen E, Yang C, Huijben JA, Lingsma HF, Gao G, Jiang J, Maas AIR; Collaborative European Neuro Trauma Effectiveness Research in Traumatic Brain Injury (CENTER-TBI) Investigators and Participants. Comparison of Care

System and Treatment Approaches for Patients with Traumatic Brain Injury in China versus Europe: A CENTER-TBI Survey Study. *J Neurotrauma*. 2020 Apr 28. doi: 10.1089/neu.2019.6900. [Epub ahead of print]

- Mathieu F, Gutling H, Gravesteijn B, Monteiro M, Glocker B, Kornaropoulos EN, Kamnitsas K, Robertson CS, Levin H, Whitehouse DP, Das T, Lingsma HF, Maegele M, Newcombe VFJ, Menon DK; and the CENTER-TBI Investigators and Participants. Impact of antithrombotic agents on radiological lesion progression in acute traumatic brain injury: a CENTER-TBI propensity-matched cohort analysis. *J Neurotrauma*. Accepted April 20th, 2020.
- Hasen M, Gomez A, Froese L, Dian J, Raj R, Thelin EP, Zeiler FA. Alternative continuous intracranial pressure derived cerebrovascular reactivity metrics in traumatic brain injury: a scoping overview. *Acta Neurochir (Wien)*. Accepted April 23rd, 2020.
- Gomez A, Batson C, Froese L, Zeiler FA. Genetic Variation and Impact on Patient-Oriented Outcomes in Traumatic Brain Injury: An Overview. *Curr Neurol Neurosci Rep*. Accepted May 2020.
- Monteiro M, Kamnitsas K, Ferrante E, Mathieu F, McDonagh SG, Cook S, Stevenson D, Das T, Khetani A, Newman T, Zeiler FA, Digby R, Coles JP, Rueckert D, Menon DK, Newcombe VFJ, Glocker B. TBI Lesion Segmentation in Head CT: Impact of Preprocessing and Data Augmentation. *Brainlesion: Glioma, Multiple Sclerosis, Stroke and Traumatic Brain Injuries, BrainLes: International MICCAI Brainlesion Workshop*. Volume 11992, Accepted April 21st, 2020.
- Calviello L, Zeiler FA, Donnelly J, Smielewski P, Czigler A, Lavinio A, Hutchinson PJ, Czosnyka M. Cerebrovascular Consequences of Elevated Intracranial Pressure after Traumatic Brain Injury. *Acta Neurochir (Wien) Suppl*. Accepted April 14th, 2020.
- Liberti A, Beqiri E, Ercole A, Cabeleira M, Tas J, Zeiler FA, Czosnyka M, Smielewski P, Aries MJ. Patient's clinical presentation and CPPopt yield availability: any association? *Acta Neurochir (Wien) Suppl*. Accepted April 14th, 2020.
- Fedriga M, Czigler A, Nasr N, Zeiler FA, Beqiri E, Wolf S, Frisvolf SK, Smielewski P, Czosnyka M. Refractory intracranial hypertension and autonomic nervous system activity. *Acta Neurochir (Wien) Suppl*. Accepted April 14th, 2020.
- Beqiri E, Ercole A, Aries M, Cabeleira M, Czigler A, Liberti A, Tas J, Donnelly J, Xiuyun L, Fedriga M, Chu KH, Zeiler FA, Czosnyka M, Smielewski P. Optimal cerebral perfusion pressure assessed with a multi-window weighted approach adapted for prospective use: a validation study. *Acta Neurochir (Wien) Suppl*. Accepted April 14th, 2020.
- Czigler A, Calviello LA, Zeiler FA, Smielewski P, Czosnyka M. Usability of the non-invasive counterparts of traditional autoregulation indices in traumatic brain injury. *Acta Neurochir Suppl*. Accepted April 14th, 2020.
- Lilja-Cyron A, Zeiler FA, Beqiri E, Cabeleira M, Smielewski P, Czosnyka M. Optimal cerebral perfusion pressure based on intracranial pressure derived indices of cerebrovascular reactivity – which one is better for outcome prediction in severe traumatic brain injury? *Acta Neurochir (Wien) Suppl*. Accepted April 14th, 2020.
- Donnelly J, Zeiler FA, Guiza F, Beqiri E, Mitchell S, Aries M, Czosnyka M, Smielewski P. Visualization of ICP insults after severe TBI: influence of individualized limits of reactivity. *Acta Neurochir (Wien) Suppl*. Accepted April 14th, 2020.
- Van de Wijgert IH, Jansen JFA, Tas J, Zeiler FA, Voorter PHM, Hal van VHJ, Aries MJ. Relationship of Computed Tomography Volumetry with Measures of Intracranial Hypertension. *Acta Neurochir (Wien) Suppl*. Accepted April 14th, 2020.
- Beqiri E, Brady K, Lee J, Donnelly J, Zeiler FA, Czosnyka M, Smielewski P. Lower limit of reactivity assessed on individual basis with PRx in an experimental setting. *Acta Neurochir (Wien) Suppl*. Accepted April 14th, 2020.
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CALLS FOR PAPERS / SPEAKERS

- **ICBMNN 2021 : International Conference on Biomedical Materials, Nanomedicine and Nanobiotechnology**

<https://panel.waset.org/conference/2021/06/toronto/ICBMNN>

- **ABSTRACTS DUE: 27 JULY 2020**

ICBMNN 2021: International Conference on Biomedical Materials, Nanomedicine and Nanobiotechnology aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results on all aspects of Biomedical Materials, Nanomedicine and Nanobiotechnology. It also provides a premier interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the fields of Biomedical Materials, Nanomedicine and Nanobiotechnology.

- **14 - 18 February 2021 -- SPIE Medical Imaging 2021**

<https://spie.org/conferences-and-exhibitions/medical-imaging>

- **ABSTRACTS DUE: 05 AUGUST 2020**

The conference where information is shared by leading researchers in image processing, physics, computer-aided diagnosis, perception, image-guided procedures, biomedical applications, ultrasound, informatics, radiology and digital pathology. This also includes an increased focus on fast emerging areas like Deep Learning, AI, Machine Learning, and information fusion. Review the conference topics and prepare to submit an abstract. Join colleagues in San Diego.

- **6-11 March 2021 – Photonics West 2021**

<https://spie.org/conferences-and-exhibitions/photonics-west>

- **ABSTRACT DUE: 26 AUGUST 2020**

Present your work at Photonics West, the premier laser, photonics, biomedical optics event. SPIE Photonics West covers a wide range of topics: biomedical optics, biophotonics, industrial lasers, optoelectronics, microfabrication, MOEMS-MEMS, displays, and more.

- 25-29 July 2021 -- (International Society of Biomechanics) ISB2021 Abstract Submissions Open!

<https://isb2021.com/submission/>

- **ABSTRACT DUE: 31 January 2021**

After all of the conferences being postponed or cancelled in 2020, it is with pleasure that we can announce the abstract submission is now open for the ISB2021 Conference in Stockholm. Abstract submissions will be open until January 31 2021. So get cracking on those interesting research questions and drum up some abstracts!

CONFERENCES, EVENTS, VIRTUAL WORKSHOPS, WEBINARS

BME SEMINAR

The Role of Use-Dependent Plasticity in Voluntary Movement

SPEAKER: Dr. Abdelbaset Suleiman, PostDoc
Technion Israel Institute of Technology

DATE/TIME: TBA

JUNE 2020

- **Friday, 26 June – BME SEMINAR:**

Magnetic Resonance Spectroscopy and Spectroscopic Imaging (MRS/MRSI) for Non-Invasive Neuroimaging

SPEAKER: Dr. Chathura Kumaragamage, Postdoctoral Assoc., School of Medicine, Yale University

JULY 2020

- 22 July 2020 -- GlycoNet Virtual Workshops (FREE) -- Structures & properties of an effective grant proposal

<https://www.eventbrite.ca/e/glyconet-workshop-writing-an-effective-grant-proposal-july-22-registration-109103130400>

- 27-31 July 2020 -- Alzheimer's Association International Conference 2020 (AAIC)

<https://www.alz.org/aaic/overview.asp>

Now a Virtual Event — At No Cost

- Tues, 28 July @ 1 pm Central -- Alzheimer's Speaks Radio Show (St Paul, MN)

Hosted by Lori La Bey

Guest Speakers:

- Dr. Benedict Albeni, Principal Investigator, St. Boniface Hospital Research
- Ms. Nancy Olson, Clinical Research Coordinator, St. Boniface Hospital Research

AUGUST 2020

- 03 August 2020 (International Society of Biomechanics) -- Virtual Workshop: Integrative Muscle Modelling for Neuromechanics

<https://isbweb.org/>

- 04-07 August 2020 - The American Society of Biomechanics – ASB 2020 Virtual Meeting

<https://asb2020.gatech.edu/>

- 10-11 August 2020 -- Elements and Optimization: Post Traumatic Epilepsy: Models, Common Data Elements and Optimization

<https://www.ilae.org/congresses/post-traumatic-epilepsy-models-common-data-elements-and-optimization>

Bethesda, Maryland

- 24-25 August 2020 -- 4th World Congress: Advances in Stem Cell Research and Regenerative Medicine

<https://stemcell-regenerativemedicine.annualcongress.com/>

- **24-28 August 2020 -- SPIE Optics + Photonics 2020 Digital Forum**

<https://spie.org/conferences-and-exhibitions/optics-and-photonics>

- **NO CHARGE**

Join expert academics, scientists, and engineers sharing research in optical engineering and applications, nanotechnology, quantum science, and organic photonics.

Learn the latest through live plenary presentations and on-demand technical talks, collaborate with exhibiting companies, and enjoy connecting with colleagues through online networking events. Mark your calendar and plan to connect with your community and advance your research.

- **12-15 August 2020 -- Society For Biomaterials -- Advances in Tissue Engineering 28th Annual Short Course**

<https://biomaterials.org/events/advances-tissue-engineering-28th-annual-short-course>

SEPTEMBER 2020

- **13-28 September 2020 -- Alzheimer Society Manitoba -- Running Room's Winnipeg 10 & 10 Run:**

<https://alzheimer.mb.ca/event/running-rooms-winnipeg-10-10-run/>

- **25-27 September 2020 -- ILAE – North American Virtual Epilepsy Meeting 2020**

<https://www.ilae.org/congresses/north-american-virtual-epilepsy-meeting-2020>

OCTOBER 2020

AGEWELL Annual Conference 2020 – POSTPONED

<https://agewell-nce.ca/conference>

NOVEMBER 2020

CSEB --Canadian Society for Epidemiology and Biostatistics -- <https://cseb.ca/>

Call for 2020 CSEB Student-Led Speaker Series Hosts

CSEB will be hosting a series of live streamed lecture series across the country.

DECEMBER 2020

AES ANNUAL MEETING 2020 –American Epilepsy Society --

https://www.aesnet.org/professional_education/calendar_of_events

04-08 December – Seattle, Washington

APRIL 2021

13-16 April 2021 – IEEE SIGNAL PROCESSING SOCIETY -- International Symposium on Biomedical Imaging (ISBI)

<https://biomedicalimaging.org/2021/>

JUNE 2021

15-16 June 2021 -- ICBMNN 2021: 15. International Conference on Biomedical Materials, Nanomedicine and Nanobiotechnology

<https://waset.org/biomedical-materials-nanomedicine-and-nanobiotechnology-conference-in-june-2021-in-toronto>

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