International Society on Oxygen Transport to Tissue (ISOTT) 2023 in Tokyo

Sep. 27th (Wed.) – Oct 1st (Sun.)

University of Electro-Communications, Building B

1-5-1 Chofugaoka, Chofu, Tokyo, Japan

Sep. 27th (Wed.)

11:30 am - Registration desk open

12:30 pm - Opening remarks

Dr. Shunichi Tano (President of the University of Electro-Communications, Tokyo)

❖Session 1: Oxygen Transport: Theory

(Chairs) I. Kanno (Chiba, Japan) and S. Pias (USA)

1:00 pm **KL1**: The cerebral microcirculation: roles in oxygen transport and disease
Dr. Leif Østergaard (Denmark)

1:30 pm **KL2**: A computer simulation approach for understanding whole-brain flow and mass transport based on mechanics
Dr. Shigeo Wada (Osaka, Japan)

2:00 pm **F01**: Key biophysical and physiological properties impacting the oxygenation status of breast cancers during thermo-radiotherapy
Dr. Anne-Marie Lüechtenborg (Germany)

2:15 pm **F02**: Validation of oxygen model for molecular simulations of oxygen buffering
Dr. An Ghysels (Belgium)

2:30 pm Break

❖The 50th Anniversary of ISOTT special session:
～In light of 50 years of ISOTT and possible future directions～

(Chairs) K. Sakatani (Tokyo, Japan) and A. Flood (USA)

3:00 pm Dr. Duane F Bruley [online]: ISOTT – A meaningful idea that is successful
Dr. Peter Vaupel: Master role of hypoxia in cancer progression: Major insights during ISOTT's half-century
Dr. Joseph C. LaManna: Optical methods for the study of brain metabolism *in situ*
Dr. Edwin M. Nemoto: Microvascular shunts and the efficacy of drag-reducing polymers in the pathogenesis of vascular disease
Dr. Ursula Wolf: Tissue oxygenation measured by near-infrared light
Dr. Harold M. Swartz: Measurements of oxygen: How should they be interpreted?
Dr. Sally C. Pias: Modeling for insight into oxygen diffusion, distribution, and measurement
Dr. Eiji Takahashi: Oxygen transport to tissue: more than mass transport

6:00 pm – 8:00 pm Welcome reception (Restaurant Harmonia, University Center 3F)

Sep. 28th (Thu.)

8:30 am Registration desk open

❖Presidential lecture 1

(Chair) K. Sakatani (Tokyo, Japan)

9:00 am 「Imaging and quantification of cerebral microcirculation dynamics」
Dr. Kazuto Masamoto, Univ. of Electro-Communications, Tokyo, Japan

10:00 am Coffee break & Poster viewing

❖Session 2: Oxygen Transport: Cutting-edge Technologies

(Chair) T. Kuchimaru (Tochigi, Japan)

10:30 am KL3: Visualization of ATP dynamics *in vivo*
Dr. Masamichi Yamamoto (Osaka, Japan)

11:00 am KL4: Oxygen imaging of living tissues based on phosphorescence lifetime imaging microscopy
Dr. Toshitada Yoshihara (Gunma, Japan)

11:30 am F03: The effect of capillary endothelial layer modification (Cmah inactivation) on transcapillary PO2 dynamics and gradients in mouse skeletal muscle during contractions
Dr. Ayaka Tabuchi (Tokyo, Japan)

11:45 am F04: Alleviation of post-sepsis ischemia by drag-reducing polymers
Dr. Denis E Bragin (USA)

12:00 pm Lunch Break

12:15 pm Sponsored Luncheon session1 (Room #101)
(a sponsored lunch box will be provided by Toku Corporation)
L01: Aspects of nailfold capillaries in clinical practice
Dr. Ichiro Miura (Hokkaido, Japan)

❖Session 3: *In vivo* Oxygen-Related Measurements

(Chairs) H. Hirata (Hokkaido, Japan) and F. Hyodo (Gifu, Japan)

1:00 pm KL5: Multifunctional EPR-based profiling of tumor microenvironment: focus on tissue oxygenation
Dr. Valery V. Khramtsov (USA)

1:25 pm KL6: Novel effects of ultra-high dose rate FLASH irradiation on the tumor microenvironment
Dr. G-One Ahn (South Korea)

1:50 pm KL7: *In vivo* magnetic resonance spectroscopy of NAD redox and bioenergetics
Dr. Lin Z. Li (USA)

2:15 pm F05: Tissue spectroscopy for assessment of cerebral metabolism during prolonged apnoea in free divers
Dr. Gemma Bale [online] (UK)

2:30 pm Poster flash talk (1 min each) P01-P29

3:00 pm Coffee & Poster session 1 (all posters)

❖Session 4: Artificial Intelligence for Cardiac Imaging

(Chairs) K. Kuronuma (Tokyo, Japan) and Y. Suzuki (Tokyo, Japan)

4:00 pm **KL8**: AI for Cardiac SPECT and PET
Dr. Piotr J. Slomka (USA) [online]

4:30 pm **KL9**: Predictive ability of dementia risk: A comparative study of NIRS, blood test, and periodontal disease test
Dr. Katsunori Oyama (Fukushima, Japan)

5:00 pm **F07**: HyperProbe consortium: transforming tumour neuronavigation with innovative photonic solutions
Dr. Francesco Saverio Pavone (Italy)

5:15 pm Breakup

Mt. Takao dinner (Bus will depart from the campus at 5:45 pm)

Sep. 29th (Fri.)

8:30 am Registration desk open

❖Presidential lecture 2

(Chair) E. Watanabe (Tokyo, Japan)

9:00 am **「Relationship between brain and systemic metabolic status: From deep learning studies in Dementia」**
Dr. Kaoru Sakatani, the University of Tokyo, Tokyo, Japan

10:00 am Coffee break & Poster viewing

❖Session 5: Advances in NIRS

(Chairs) G. Taga (Tokyo, Japan) and K. Sakatani (Tokyo, Japan)

10:30 am **KL10**: Kernel Flow2: Next-generation time-domain near-infrared spectroscopy system
Dr. Ryan M. Field (USA)

10:50 am **KL12**: The need for accuracy in clinical settings: TD-NIRS and reliable tissue oximetry
Dr. Michele Lacerenza (Italy)

11:10 am **F08**: Respiration-entrained hemo-metabolic-glymphatic dynamics of the cortex measured with continuous wave functional near-infrared spectroscopy
Dr. Gentaro Taga (Tokyo, Japan)

11:25 am **F09**: Time-multiplexing approach for improving dynamic range of time-domain multi-distance NIRS/NIROT systems
Dr. Alexander Kalyanov (Switzerland)

11:40 am **F10**: Imaging deep hemorrhage and Ischemia in preterm infants' head with near-infrared optical tomography based on a SPAD camera: phantom measurement
Dr. Jingjing Jiang (Switzerland)

11:55 pm Lunch Break

12:15 pm Sponsored Luncheon session2 (Room #101)
(a sponsored lunch box will be provided by Bio Research Center Co. Ltd.)
L02: Importance of renal medullary hypoxia on pathophysiology and management of septic acute kidney injury
Dr. Naoya Iguchi (Osaka, Japan)

1:00 pm Free afternoon
EC meeting (Room #101)

Sep. 30th (Sat.)

8:30 am Registration desk open

❖Plenary lecture

(Chair) E. Takahashi (Saga, Japan)

9:00 am 「VHL-deficient kidney cells reconstitute inflammatory tumor microenvironment in the progression of renal cell carcinoma」
Dr. Tien Hsu, China Medical University-Taiwan, Taichung, Taiwan, ROC

10:00 am Coffee break & Group photo

❖Session 6: Redox Imaging and Therapy

(Chairs) Y. Hoshi (Shizuoka, Japan) and M. Wolf (Switzerland)

10:30 am KL13: *In-vivo* imaging of the redox state of cytochrome-c-oxidase as a biomarker of brain function and/or brain health
Dr. Ilias Tachtsidis (UK)

10:50 am KL14: Imaging tissue redox status using *in vivo* dynamic nuclear polarization (DNP) MRI
Dr. Fuminori Hyodo (Gifu, Japan)

11:10 am KL15: PET imaging of mitochondrial function in living brain
Dr. Hideo Tsukada (Shizuoka, Japan)

11:30 am F11: Optical redox imaging of tracheal aspirates macrophages from BPD infants
Dr. Nucleus Xu (USA)

11:45 am F12: Gene expression patterns induced by acute or chronic acidosis and hypoxia and their potential functional impact in tumor cells
Dr. Oliver Thews (Germany)

12:00 pm Lunch Break

12:15 pm Sponsored Luncheon session3 (Room #101)
(a sponsored lunch box will be provided by Kinesio Taping)
L03: The usefulness of Kinesio medical taping for radial/distal radial artery access
Dr. Yu Okuma (Tokyo, Japan)

❖Session 7: Muscle Oxygenation

(Chairs) T. Hamaoka (Tokyo, Japan) and K. McCully [online] (USA)

1:00 pm KL16: Using muscle oxygenation to measure mitochondrial capacity
Dr. Kevin K. McCully [online] (USA)

1:30 pm **KL17**: Muscle oxygen dynamics measured by NIRS
Dr. Ryotaro Kime (Tokyo, Japan)

2:00 pm **F13**: Resistance training enhances skeletal muscle mass while preserving brown adipose tissue activity
Dr. Tamao Naito (Tokyo, Japan)

2:15 pm **F22**: Dependence of cerebral oxygenation and task performance on colored light exposure and chronotype: Blue and red do not have the same effects on the prefrontal cortex
Dr. Hamoon Zohdi (Switzerland)

2:30 pm Poster flash talk (1 min each) P30-P57

3:00 pm Coffee & Poster session 2 (all posters)

❖Session 8: Respiratory Failure Up-to-Date
(Chairs) I. Kuwahira (Tokyo, Japan) and Y. Okuma (Tokyo, Japan)

4:00 pm **KL18**: Characteristics of post-cardiac arrest mitochondrial physiology and oxygen energy metabolism
Dr. Koichiro Shinozaki (USA)

4:20 pm **KL19**: COVID pandemic and ICU crowdedness
Dr. Mitsuaki Nishikimi (Hiroshima, Japan)

4:40 pm **KL20**: Secondary respiratory failure following various neurocritical disorders
Dr. Yu Okuma (Tokyo, Japan)

5:00 pm **F15**: Effects of cardiopulmonary bypass on kidney and brain tissue microcirculatory perfusion and oxygenation
Dr. Taku Furukawa (Australia)

5:15 pm **F16**: Personalized early screening and assessment of deep vein thrombosis in clinics using near-infrared spectroscopy technology
Dr. Yang SONGQI (China)

5:30 pm **F17**: Storable and ready-to-use artificial red blood cells (hemoglobin vesicles) as an oxygen carrier for emergency medicine
Dr. Hiromi Sakai (Nara, Japan)

5:45 pm Breakup

7:00 pm Banquet (Chofu Creston Hotel 8F, no dress code)

Oct. 1st (Sun.)

8:30 am Registration desk open

❖Session 9: Rehabilitation
(Chairs) M. Moriya (Tokyo, Japan) and K. Sakatani (Tokyo, Japan)

9:30 am **KL21**: Clinical application of fNIRS in neurorehabilitation area
Dr. Masahito Mihara (Okayama, Japan)

10:00 am **KL22**: Application of near-infrared spectroscopy in exercise rehabilitation
Dr. Atsuhiro Tsubaki (Niigata, Japan)

10:30 am **KL23**: Skeletal muscle O2 transport during extracorporeal membrane oxygenation
Dr. Kazuki Hotta (Kanagawa, Japan)

11:00 am **F18**: Effect of transcranial static magnetic field stimulation (tSMS) on cerebral oxygen hemodynamics in the contralateral primary motor cortex
Dr. Sumiya Shibata (Niigata, Japan)

11:15 am **F19**: The effect of tonsillotomy and adenoidectomy on cerebrovascular oxygenation during sleep in a child with obstructive sleep apnea syndrome: A case report
Dr. Felix Scholkmann (Switzerland)

11:30 am Poster flash talk (1 min each) P58-P85

12:00 pm Lunch Break

12:15 pm Sponsored Luncheon session4 (Room #101)
(a sponsored lunch box will be provided by Brainvision Inc.)
L04: History and prospects of optical functional imaging
Dr. Michinori Ichikawa (Tokyo, Japan)

1:00 pm Coffee & Poster session 3 (all posters)

❖**Session 10: Cerebral Blood Flow and Metabolism**
(Chairs) T. Yagi (Tokyo, Japan) and H. Zohdi (Switzerland)

2:00 pm **KL24**: Yiqifumai injection attenuated blood-brain barrier disruption after thrombolysis with tissue plasminogen activator in mice
Dr. Jing-Yan Han (China)

2:20 pm **KL25**: Effects of cell therapy and rehabilitation on traumatic cerebrospinal injury
Dr. Takao Yasuhara (Okayama, Japan)

2:40 pm **KL26**: Clinical impact of the regional cerebral oxygen saturation assessment for the prediction of clinical outcomes in patients with cardiac arrest
Dr. Ryosuke Takegawa (Osaka, Japan)

3:00 pm **F20**: Cerebrovascular reserve (CVR) and induced cerebrovascular reactivity (iCVRx) and pressure reactivity (iPRx) are not equivalent in the evaluation of the status of the injured brain
Dr. Edwin M Nemoto (USA)

3:15 pm **F21**: Hemodynamic response to spontaneous neural activity on the electroencephalogram in preterm infants
Dr. Anna Shiraki (Nagoya, Japan)

3:30 pm **F14**: Cerebral oxygenation changes in the prefrontal cortex during cardiopulmonary exercise testing in patients following cardiovascular surgery
Dr. Leo Washizawa (Niigata, Japan)

3:45 pm Breakup

❖**4:00 pm - 5:00 pm Annual General Meeting & Closing**

[Poster presentation]

1. Oxygen transport: theory

P01	Samaneh Davoudi	Understanding the mechanism of oxygen “buffering” by caveolae using coarse grained molecular dynamics
P02	Gangmin Ning	A mathematical model to investigate global microcirculation perfusion based on local vascular information

2. Oxygen-related measurements

P03	Edwin Nemoto	Microvascular Shunts and the Efficacy of Drag-Reducing Polymers in the Pathogenesis of Vascular Disease
P04	Meiyun Cao	Observation of pulse propagation dynamics during venous occlusion with a high speed camera
P05	Leah DeVos	Skin colour changes during venous occlusion
P06	Feng Han	Disturbance of biochemical events in vascular endothelial cell following ischemia
P07	Akito Shimouchi	Quantitative consideration on scavenging capabilities of hydrogen molecules against hydroxyl oxygen in the human body
P09	JoonYoung Shin	Anti-depressant Effect of Cannabis extract and Morphological Changes of Primo Vascular System (PVS) in Lipopolysaccharide (LPS)-Induced Depressed Mouse Model

3. Machine-learning based analysis

P10	Lei Ma or Zhaoxin wang	Non-Invasive Deep Learning-Based Method for Automatic Assessment of Cervicocephalic Arterial Stenosis
P11	Zhaoxin Wang	Machine learning-based automated quantitative assessment of traumatic Brain injury
P12	Kenji Karako	Importance of serum albumin in machine learning based prediction of cognitive function data in the aged using a basic blood test

4. Advances in NIRS

P13	Meret Ackermann	Graph Neural Network to derive positions of spatially adapting source and detector NIROT arrangements
P14	Djazia Yacheur	Imaging cerebral blood vessels using near-infrared optical tomography
P15	Ting Li	A novel Near Infrared Spectroscopy Spine Detector And Its Wearable Application in Noninvasive Assessing Low Back Pain
P16	Jingjing Jiang	A tuneable tissue-mimicking phantom for optical methods
P17	Victor Ochoa-Gutierrez	Eumelanin and pheomelanin modelling in optical oximetry using pulse oximetry

P18	Sang-Suk Lee	The enhancement of oxygen saturation and peripherial blood flow velocity measured using clip-type pulsimeter and photoplethysmography while treating hyperbaric oxygen therapy for brain disease patient
P19	Nobutaka Chiba	Significance of Tissue Oxygen Metabolism Measurement Using NIRS in Acute Pancreatitis
P20	Ilias Tachtsidis	The effects of iron deficiency and iron repletion on brain tissue oxygenation and metabolism

5. Redox imaging and therapy

P21	Lin Z. Li	*In Vivo* Measurement of Regional Brain NAD by 31 P Magnetic Resonance Spectroscopy at 1.5 T
P22	Nucleus Xu	*Ex vivo* optical redox imaging of Ant1 deficient muscles
P23	Misa Oba	Partial acquisition of spectral projections accelerates four-dimensional spectral-spatial EPR imaging for mouse tumor models: A feasibility study
P24	Filippo Schiavo	Hyperthermia as radiosensitizer for stereotactic radiotherapy of hypoxic tumours: a virtual clinical trial evaluation
P25	Emely Kjellsson Lindblom	The degree and dynamics of tumour oxygenation could govern the outcome from radioimmunotherapy of hypoxic tumours
P26	Evgeniya Kirichenko	Analysis of Cx43 and Spermin Localization in Glioblastomas as a Releasing Anti-Glycolytic Mechanism

6. Muscle oxygenation

P27	YANG SONGQI	Non-invasive optical monitoring of the lower limb in humans using Monte Carlo modeling analysis of the Visual Chinese Human model
P28	Miho Kijima, Noriya Hirose, Yuko Tomita, Miki Matsui, Takeshi Maeda, Takahiro Suzuki	Changes in blood volume and oxygenation in lower limb tissue in patients maintaining the lithotomy position under general anesthesia
P29	Noriya Hirose, Akira Doshu-Kajiura, Miho Kijima, Miki Matsui, Yuko Tomita, Takeshi Maeda, Takahiro Suzuki	Reversal of rocuronium-induced muscle relaxation with sugammadex enhances oxygen metabolism in skeletal muscle
P30	Shun Takagi	Regional differences in skeletal muscle O 2 dynamics during body weight resistance exercise
P31	Arata Tsutsui	Changes in masseter muscle oxygen dynamics after one month of gum chewing training
P32	Takahiro Sakaue	Gum chewing effects of different gum hardness on masseter muscle activity: A NIRS Oximetry Study

P33	Yasuhiro Endo	Near-infrared spectroscopy analysis of triceps brachii muscle oxygenation during sprinting in wheelchair basketball players - a pilot study
P34	Hajime Tamiya	Prolonged sitting decreases oxygen extraction in the gastrocnemius muscle in healthy young men
P35	Masaru Kanda	Comparison of the Intramuscular Circulation and muscular activity of Lumbar Multifidus in Subjects with and without Low Back Pain in Trunk Extension and Extension Exercise.
P36	Lei Ma	Pupil Dynamics and Prefrontal Hemodynamics in Response to exercise
P37	Daichi Sato	Supine cycling exercise causes hyperoxic changes in the prefrontal cortex in healthy male volunteers: Near-Infrared Spectroscopy Vector Analysis
P38	Weixiang Qin	The relationship between left and right prefrontal cortex differences during 40-minute moderate-intensity exercise and cognitive function

7. Clinical oxygen dynamics and respiratory dysfunction

P39	W. Darlene Reid	Prefrontal neural activity and respiratory muscle coordination during cognitive interference and loaded breathing
P40	Edwin M Nemoto	Comparison of Eye-Tacking Parameters and Brain Oxygen Saturation in Patients with COVID-19 Moderate Pneumonia
P41	Ryota Imai	Relationship between regional cerebral oxygen saturation and percutaneous oxygen saturation at initial mobilization in patients with acute heart failure
P42	Akira Doshu-Kajiura, Noriya Hirose, Miho Kijima, Takahiro Suzuki	Effect of combined oxygen and surgical masks or N95 masks on inspired fraction of oxygen and expired fraction of carbon dioxide
P43	Bowen Zhang	Oxygen uptake efficiency slope (OUES), an effective index to evaluate the effect of sport rehabilitation on cardiovascular diseases without age limitation
P44	Jian Liu	QiShenYiQi Pills Improves Pressure Overload-Induced Cardiac Fibrosis through restoration of mitochondrial function and inhibition of RP S19-TGF-β1 signaling pathway
P45	SangHeon Choi	Cannabis extract ameliorates monocrotalin-induced pulmonary hypertension and oxygen saturation in rats

P46	Fumio Sakamaki	Investigation of the relationship between pulmonary blood flow evaluation method using chest digital X-ray video imaging system and diffusing capacity test (DLco)
P47	Felix Scholkmann	Cerebral hypoxia during intermittent hypoxic-hyperoxic training (IHHT): A case study using cerebral oximetry based on time-domain near-infrared spectroscopy
P48	Kentaro Taniguchi	Correlations between sleep apnea and parasympathetic nervous activity during night sleep in young adults
P49	Yu Takada	Cerebral hemodynamics measured by wearable near-infrared spectroscopy during bedside mobilization in a patient with chronic heart failure hospitalized for acute exacerbation: a case report
P50	Tomoya Takahashi	Utilization of a Wearable Near-infrared Spectroscopy Imaging Device in the Rehabilitation of Patients with Acute Stroke
P51	Hyuga Kojima	Impact of repeated acute blood pressure decreases on mean arterial pressure and cerebral oxygenated hemoglobin
P52	Tarcisi Cantieni	Tissue Oxygenation in Individuals with Spinal Cord Injury: A pilot study
P53	Akitoshi Seiyama	Development of a remote monitoring system of health condition for frail people

8. Oxygen therapy and rehabilitation

P54	Dmitriy N. Atochin	Therapeutic Potentials of Near-Infrared II Photobiomodulation to Treat Cardiovascular and Neurological Diseases via Augmenting Nitric Oxide Bioavailability
P55	Daria Zlatogorskaia	The phototherapy of Alzheimer’s disease: stimulation of drainage and oxygenation of the brain tissues
P56	Terskov Andrey	Smart-sleep technology for therapy of Alzheimer’s disease during sleep
P57	LEE, SEUNG HYUN	Pharmacological effects of Herbal Medicine on Brain Activity in Parkinson’s Disease Patients: An fNIRS Study
P58	Yasuyuki Kakihana	Analysis of changes over time in blood amino acids during online hemodiafiltration dialysis in acute liver failure patients with hepatic encephalopathy.
P59	Takeo Hata	Association of low albumin levels with cognitive impairment in the elderly using a basic blood test
P60	Toshiki Isogai	Augmenting Blood Test Data with Generative Adversarial Networks for Enhanced Dementia Risk Prediction
P61	Arata Tsutsui	Effect of dual tasks including gum chewing on stress relief

9. Brain oxygenation

P62	Akihiko Asao	Mental Workload and Frontal Brain Activities during Silent Reading in University Students with Smartphone Addiction Tendency
P63	Masafumi Kubota	Differences in brain activity during real and virtual reality motor tasks in normal healthy participants
P64	Hikari Otsuka	Neural function desynchronization in left and right dorsolateral prefrontal cortices during virtual-reality earthquake video viewing
P65	Ilias Tachtsidis	The influence of carbon dioxide on cerebral metabolism and oxygen consumption: combining multimodal monitoring with dynamic systems modelling
P66	Alexander Caicedo	Real-time Decomposition of nonlinear influences of physiological variables using kernel-based regression models
P67	Dongyuan Liu	Hyperscanning real-world interactions via functional near-infrared spectroscopy
P68	Bolin Lian	Altered Behavioral Performance in the traumatic Brain injuried mice following Resveratrol injection
P69	DU QIAOHUI	Effects of BaoYuan Capsule and its Active Compound CO1 on Modulating Neural Stem Cells Fate decision via controlling Mitochondrial Metabolism
P70	Jiangang Shen	Hypochlorous acid derived from microglial myeloperoxidase mediates high-mobility group box 1 to amplify brain damage in cerebral ischemia-reperfusion injury
P71	Denis Bragin	Monoacylglycerol Lipase Inhibition Using ABX-1431 Attenuates Cerebral Ischemia Early after Traumatic Brain Injury
P72	Denis Bragin	Rat Model of Decompressive Craniectomy Followed by Defect Reconstruction
P73	Edwin M Nemoto	The Necessity of Physiologically-Derived, Voxel Quantitation of the Ischemic Penumbra, Pericontusional and Core Injury Volumes in Neuroprotection Preclinical and Clinical Trials
P74	Edwin M Nemoto	Cerebral Blood Flow (CBF) Autoregulation and its Progression in the Assessment of Brain Injury
P75	Edwin M Nemoto	Comparison of cerebral saturation and brain net water uptake at moderate traumatic brain injury
P76	Kei Ishii	Cardiac pacing differentially evokes cerebral blood flow responses in the cerebral cortex
P77	Martin Wolf	Cerebral Oximetry in the Neonatal Intensive Care Unit: Discussion of Two Contradicting Study Results (SafeBoosC-II, SafeBoosC-III)

P78	Hiroaki Suzuki	Cerebral oxygen monitoring in extremely low birth weight infants using time-domain near-infrared spectroscopy in transmittance mode
P79	Daniil Aksenov	Brain tissue oxygen dynamics under global and localized hypoxia in awake state and physical neuroprotective effects of general anesthesia
P80	Noriya Hirose, Yuko Tomita, Miho Kijima, Miki Matsui, Takeshi Maeda, Takahiro Suzuki	Changes in regional cortical blood volume and oxygenation during induction of general anesthesia with sevoflurane versus propofol in a pediatric case of moyamoya disease, evaluated by near-infrared spectroscopy
P81	Naoyuki Hashimoto	Changes in Clinical Findings and Cerebral Oxygen Dynamics in Patients after a Subdural Hematoma Removal Surgery
P82	Yukihiro Maekawa	Effects of head elevation on cerebral oxygen dynamics in acute cerebral infarction
P83	Inori Uchiyama	Effects of type 2 diabetes mellitus on prefrontal hemodynamics during the postural alteration in patients with acute cerebral infarction
P84	Denis Bragin	Secondary Ischemia Incidence, Intracranial Pressure and Cerebrovascular Reactivity Dynamics during Intrahospital Transportation of Comatose Patients
P85	Yu Okuma	Toward minimally invasive carotid revascularization with distal radial artery and radial artery approach