**2020 SINAPSE Annual Scientific Meeting**

**Programme**

| | | | |
|---|---|---|---|
| | **Plenary Session 1** | | |
| | Chair: Dr Jennifer Macfarlane, NHS Tayside | | |
| 09.00 | Welcome | Dr Jennifer Macfarlane, NHS Tayside | |
| 09.05 | *Clinical 7T Neuroimaging – A Pictorial Overview* | Dr Natasha Fullerton, NHS Greater Glasgow & Clyde | Proffered (O1) |
| 09.20 | *The Countryfile effect: Greater seasonal variation in brain volumes in rural compared to urban dwellers* | Mr Naif Ali Majrashi, University of Aberdeen | Proffered (O2) |
| 09.35 | *A framework for revealing retinal biomarkers in Optical Coherence Tomography Angiography (OCTA)* | Miss Ylenia Giarratano, University of Edinburgh | Proffered (O3) |
| 09.50 | *iCAIRD: Seeing is believing?* | Prof David Harrison, University of St Andrews | **Invited** |
| 10.15 | *'Lightning talk' poster pitches – Round 1* | | (A1-A19) |
| 10.35 | **Poster Session 1** and virtual exhibition booths | | |
| | **Parallel Sessions** | | |
| 11.20 | ***TOPIC 1*** – ***Image Analysis*** Proffered (O4-O8) [*see next page*] | ***TOPIC 2*** – ***Methods Development*** Proffered (O9-O13) [*see next page*] | |
| 12.20 | **Lunch break** (visit virtual exhibition booths and try SINAPSE speed networking) | | |
| | **Plenary Session 2** | | |
| | Chair: Dr Magdalena Ietswaart, University of Stirling | | |
| 13.25 | *The cortical activity of graded relevance* | Miss Zuzana Pinkosova, University of Strathclyde | Proffered (O14) |
| 13.40 | *Hierarchical complexity of the macro-scale neonatal brain* | Dr Keith Malcolm Smith, University of Edinburgh | Proffered (O15) |
| 13.55 | *PICTURES programme – enabling petabyte-scale image data research* | Ms Susan Krueger and Dr James Sutherland, University of Dundee | **Invited** |
| 14.20 | *'Lightning talk' poster pitches – Round 2* | | (P1-P19) |
| 14.40 | **Poster Session 2** and virtual exhibition booths | | |
| 15.25 | Guided movement break (optional) | Dr Sydney Williams, University of Glasgow | |
| | **Plenary Session 3** | | |
| | Chair: Dr Justin Ales, University of St Andrews | | |
| 15.30 | *Chest imaging in COVID-19 and implications for pathophysiology and treatment* | Prof Edwin van Beek, University of Edinburgh | **Invited** |
| 15.55 | *How the brain makes sense of the senses* | Prof Uta Noppeney, Radboud University | **Keynote** |
| 16.40 | Announcements and prizes | | |
| 16.50 | Close | | |

**Parallel Sessions (11.20-12.20)**

**TOPIC 1** – ***Image Analysis***

Chair: Dr Gordon Waiter, University of Aberdeen

| | | | |
|---|---|---|---|
| 11.20 | *Neonatal morphometric similarity mapping for predicting brain age and characterizing neuroanatomic variation associated with preterm birth* | Dr Paola Galdi, University of Edinburgh | Proffered (O4) |
| 11.32 | *Improving longitudinal whole brain atrophy quantification in brain magnetic resonance imaging through retrospective intensity standardisation* | Mr Jose Bernal Moyano, University of Edinburgh | Proffered (O5) |
| 11.44 | *Two clinical cases of migraine with aura demonstrating increased delayed Tmax on CT perfusion maps* | Dr Viveka Biswas, University of Glasgow | Proffered (O6) |
| 11.56 | *Identifying patient status using optical coherence tomography angiography (OCTA): A transfer learning approach* | Mr Alessandro Fontanella and Miss Rayna Andreeva, University of Edinburgh | Proffered (O7) |
| 12.08 | *Pathology GAN: Learning deep representations of cancer tissue* | Mr Adalberto Claudio Quiros, University of Glasgow | Proffered (O8) |

**TOPIC 2** – ***Methods Development***

Chair: Prof George Corner, NHS Tayside

| | | | |
|---|---|---|---|
| 11.20 | *Development of a lumbar spine ultrasound training phantom* | Dr Ourania Varsou, University of Glasgow | Proffered (O9) |
| 11.32 | *Multiparameteric quantitative ultrasound measurements for differentiating brain and brain tumour phantoms* | Miss Hannah Thomson, University of Glasgow | Proffered (O10) |
| 11.44 | *Evaluation of resting flexor digitorum superficialis muscle stiffness using ultrasound shear wave elastography in healthy volunteers: A preliminary study* | Miss Phongpan Tantipoon, University of Dundee | Proffered (O11) |
| 11.56 | *Using 4D flow MRI to assess blood flow and pulsatility in the human brain* | Mr Alasdair Morgan, University of Edinburgh | Proffered (O12) |
| 12.08 | *Safety validation of a custom-built head coil for 7T human scanning* | Dr Sarah Allwood-Spiers, NHS Greater Glasgow & Clyde | Proffered (O13) |

**Poster Session 1 (10.35-11.20)**

| Poster No. | Title | Presenting Author |
|---|---|---|
| A1 | | [withdrawn] |
| A2 | *Associations between cardiometabolic comorbidities and brain MRI metrics in UK Biobank* | Rachana Tank |
| A3 | *Phenotypic and genetic associations between anhedonia and brain structure in UK Biobank* | Xingxing Zhu |
| A4 | *Chronotype and Brain Structure in UK Biobank* | Natasha Sangha |
| A5 | *Age and gender related changes in cortical complexity over three decades in middle age healthy population; UKBioBank Imaging study* | Nafeesa Nazlee |
| A6 | *Sexual dimorphism in the relationship between brain complexity and IQ* | Anca Sandu-Giuraniuc |
| A7 | | [withdrawn] |
| A8 | *Cognitive, Functional and Neuroanatomical Correlates of Anxiety and Depression in Alzheimer's Disease* | Apurva Dixit |
| A9 | *Prediction of Alzheimer's dementia using hippocampal to brain volume ratio* | Chris McNeil |
| A10 | *Imaging profiles of Alzheimer's disease and behavioural variant frontotemporal dementia based on cortical structural correlation networks* | Vesna Vuksanović |
| A11 | *Network disruption in Alzheimer's disease and behavioural variant frontotemporal dementia* | Philipp Loske |
| A12 | *Peak width of skeletonized water diffusion MRI in the neonatal brain* | Manuel Blesa |
| A13 | *Dynamic connectivity and current fatigue levels stratify rheumatoid arthritis patients into distinct subgroups* | Kristian Stefanov |
| A14 | *Systematic review and meta-analysis of working memory updating training effects on task performance and neuroimaging measures in adults* | Katerina Pappa |
| A15 | *Spatial attention enhances cortical tracking of quasi-rhythmic visual stimuli* | Christian Keitel |
| A16 | *Neuro-cognitive indices of real-world ambulatory obstacle avoidance* | Magda Mustile |
| A17 | *Using EEG to investigate the effects of football heading on the brain* | Michail Ntikas |
| A18 | *How much sport-related routine head impact is too much for the brain? A practical problem with a SINAPSE answer.* | Liivia-Mari Lember |
| A19 | *Behavioural and neurobiological correlates of hypnotic suggestibility and response to hypnosis* | Iris Ionita |

**Poster Session 2 (14.40-15.25)**

| Poster No. | Title | Presenting Author |
|---|---|---|
| P1 | *Anatomical Patient-Specific Phantom Development for Smart Autonomous Robotic Assistant Surgeon (SARAS)* | Yuting Ling |
| P2 | *Numerical Optimisation of an Open-faced Head Coil Design for MRI at 7-Tesla* | Paul Mcelhinney |
| P3 | *First In Vivo Images from an In-House Parallel Transmit Coil for MRI at 7 Tesla* | Sydney Williams |
| P4 | *7-Tesla imaging of a rare case of familial cerebral cavernous malformation* | Sam Neilson |
| P5 | *Is there a difference in clinical measures and structural magnetic resonance imaging metrics between minor stroke and migraine patients?* | Isabelle Bradshaw |
| P6 | *Associations between white matter hyperintensity burden, cerebral blood flow and arterial transit time in small vessel disease* | Catriona Stewart |
| P7 | *Investigating the Potential Role of 1H-MRS in Mild Cognitive Impairment (MCI): Evaluation of Lithium.* | Ashleigh Duthie |
| P8 | *Fast Field-Cycling MRI of exogenous polyhistidine quadrupolar peak in tissue implant scaffold* | Nicholas Senn |
| P9 | | [withdrawn] |
| P10 | *Accuracy of size and location determination of prostate cancer on imaging: comparison of MRI and Ultrasound Shear Wave Elastography in men undergoing radical prostatectomy.* | Wael Ageeli |
| P11 | *Comparison of different modalities in detecting and calculating the measurements of the prostate cancer* | Faisal Alshomrani |
| P12 | *The prognostic impact of mode of detection of axillary metastases for women with invasive breast cancer* | Kirsty McNeil |
| P13 | *Artificial Intelligence in Breast Cancer Screening. A Scottish survey* | Brian Morrissey |
| P14 | *Proof of concept study about texture analysis of CINE CMR image in healthy population-the preliminary results* | Ping Tie |
| P15 | *The novel TSPO radiotracer, [18F]LW223, identifies cardiac inflammation in a rat myocardial infarction model* | Mark MacAskill |
| P16 | *Preclinical dosimetry models and the prediction of clinical doses of novel Positron Emission Tomography radiotracers* | Adriana Tavares |
| P17 | *Characterising sphingosine-1-phosphate-5 receptors expression in adult murine brain tissue* | Robert Shaw |
| P18 | *Comparing Thermal Imaging and Behavioural Observation for assessing Disturbance in Koalas (Phascolarctos cinereus)* | Georgia Precious |
| P19 | *Enhancing Industry-Academia Networking in Optical Imaging for Life Sciences, Pharma and Medicine* | Alan Miller |