THE University of Edinburgh SMALL VESSEL DISEASE NETWORK

THE UNIVERSITY *of* EDINBURGH
Row Fogo Centre for Research into Ageing and the Brain

Small Vessel Diseases Research

Newsletter - October 2021

News from the Network:

Recent news

- With the retirement of Prof Ian Marshall, The Row Fogo Centre has welcomed two Scientific Advisory Board Members: Dr Fergus Doubal and Prof Adam Waldman. Read more
- Dr Olivia Hamilton successfully defended her PhD thesis. Congratulations!
- SVD Research scientists presented at ESOC 2021 and MIUA 2021.
- Dr Maria Valdes-Hernandez gave three lectures: "Neuroimaging" (29th June 2021), "Recent advances in Medical Image Analysis" (25th June 2021), and "AI in MRI Quantification" (8th October 2021).
- Laila Kjellström raised over £3466 towards research into vascular dementia climbing Ben Vrackie on her 81st birthday. Read more
- Dr Axel Montagne, who recently joined UK DRI as Chancellor's Fellow and UK DRI Group Leader, has a new MontagneLab website and Twitter: @MontagneLab. Please, follow.
- MSS3 welcomed a new international exchange PhD student Yajun Chen. Read more

Awards and recognitions

- SVD Research scientists Prof Joanna Wardlaw, Dr Axel Montagne, and 3 other Leducq Network Transatlantic Network of Excellence scientists recognised amongst 100 globally-leading research experts on the Blood-Brain Barrier. Read more
- Dr Axel Montagne awarded the SCOR European Young Investigator Award 2021. Read more
- Dr Una Clancy awarded Best Rapid Oral Communication for Cognition & Pathophysiology at the ESO Conference. Read more
- Publication "Probabilistic Deep Learning with Adversarial Training and Volume Interval Estimation - Better Ways to Perform and Evaluate Predictive Models for White Matter Hyperintensities Evolution" selected as the best paper at PRIME-MICCAI 2021. Read more

Congratulations to all!

Network Member Profile

Dr Gaia Brezzo is a Postdoctoral Research Fellow in Dr Barry McColl's UK DRI Group . She has a background in neuroscience and her main research interests are centred around understanding neuro-glial-vascular breakdown and how neuroimmune changes can lead to long-term cognitive dysfunction in cerebrovascular disease. Gaia's most recent work focused on understanding neuro-glia-vascular and extracellular matrix (ECM) alterations in a genetic cSVD mouse model. She also established a cerebrovascular ECM enrichment protocol for mouse and human post-mortem brains, to study the role of cerebrovascular ECM in the context of cSVD. Publication link. In her current role, she will be focusing on understanding how immune alterations, in the acute phase following stroke, shape chronic maladaptive neuroimmune responses that compromise long-term structural and functional brain integrity and how these responses could be manipulated to rescue cognitive function. Outside the lab, Gaia enjoys long walks, cycling, reading a good book, and cuddling up with her ginger cat.

Lecture recordings and press releases

- Interview with Professor Joanna Wardlaw on vascular risk factors and dementia featured in Daily Mail article.
- SVD Network Meeting presentation recordings –from our event held in February 2021 available online (login required)
- "Neuroimaging" lecture recording by Dr Maria Valdes-Hernandez: view lecture
- View interviews with Professor Joanna Wardlaw, as part of ESOC 2021.
- View Dr Sebastian Lewandowski from Karolinska Institute (Sweden) guest talk at NIS Meeting
- Read "The great wall: targeting the blood-brain barrier in dementia" on the UK DRI website.
- Learn about SVD Research international projects applying AI methods to develop advanced methods of medical image analysis. View details

Upcoming events

- SVD Network Meeting – early 2022, in preparation
- 11th UK & Ireland Early Career Blood-Brain Barrier Symposium - 12th November 2021, online event hosted by Nottingham Trent University . Keynote speakers include Prof Berislav Zlokovic from USC, working closely with the Foundation Leducq Network of Research Excellence: Perivascular Spaces in Small Vessel Disease. Programme and registration link

Support SVD Research!

- Raise free funds for SVD Research when shopping online at no additional cost to you with **Easy Fundraising**. More information
- Join SVD Research LinkedIn and Twitter online communities for recent news

Datasets

Morrison & Valdés Hernánandez (2021) Systematic Review and Meta-Analysis on incidence and risk of stroke in individuals with long-term exposure to air pollutants

Castorina et al (2021) Metrics for quality control of results from super-resolution machine-learning algorithms – Data extracted from publications in the period 2017- May 2021

Bernal (2021) Systematic review of signal post-processing methods in blood-brain barrier dysfunction assessments via dynamic-contrast enhanced magnetic resonance imaging

View full list of recently published datasets

Papers of interest

Zhang et al. Relationship between inferior frontal sulcal hyperintensities on brain MRI, ageing and cerebral small vessel disease *Neurobiology of Aging* 2021

Ball et al. Predicting post-stroke cognitive impairment using acute CT neuroimaging: A systematic review and meta-analysis *JNNP* 2021

Hamilton et al. Associations between total MRI-visible small vessel disease burden and domain-specific cognitive abilities in a community-dwelling older-age cohort *Neorobiology of Aging* 2021

Stringer et al. A Review of Translational Magnetic Resonance Imaging in Human and Rodent Experimental Models of Small Vessel Disease *Transl. Stroke Res.2021*

Procter et al. Interplay between brain pericytes and endothelial cells in dementia *AmJPath* 2021

Pokhilko, et al. Global proteomic analysis of extracellular matrix in mouse and human brain highlights relevance to cerebrovascular disease *Journal of Cerebral Blood Flow & Metabolism* 2021

Backhouse et al. Early life predictors of late life cerebral small vessel disease in four prospective cohort studies *Brain* 2021

Jiménez-Sánchez et al. Sex differences in cerebral small vessel disease: a systematic review and meta-analysis *Frontiers in Neurology* 2021

Small Vessel Disease Research – Edinburgh Research Explorer | Leducq Network publications

Volunteers needed!
If you are interested in helping to organise the next SVD network event, please contact:
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Any news of interest?
Got an article to contribute?
Get in touch:
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