

## Dr Zsuzsanna Nagy MD, MA, DPhil

Senior Lecturer and Lead of the Neurodegeneration and Repair team

Neurobiology

### Contact details

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### About

Zsuzsanna Nagy is a Senior Lecturer and the lead of the Neurodegeneration and Repair team.

Zsuzsanna has published over 50 research papers in scientific journals as well as reviews and book chapters in the fields of Alzheimer's disease and related neurodegenerative diseases. Her grant income is partly from charitable organisations partly from industry.

She is an enthusiastic communicator on different topics relating to dementia and gives frequent talks to various groups at both the local and national level.

### Qualifications

- DPhil 1995
- MD 1989

### Biography

Zsuzsanna Nagy qualified as an MD from the Medical School in Tirgu Mures Romania in 1989. She started research as student research assistant in her third year of medical studies. The main topic of her interest was the development of the central nervous system, with special interest in the teratogenic effect of some hypnotic drugs. Following the completion of her internship in 1991 she has returned to research as a visiting scientist in the Human Anatomy Department of Oxford University. The following year marked a pivotal change in her research career – from CNS development she went on to study neurodegeneration. She has joined the Oxford Project to Investigate Memory and Ageing (OPTIMA) in 1992 and completed her DPhil under the supervision of Professors Margaret Esiri and David Smith on Alzheimer's disease in 1995. Since then she is working on the pathogenic mechanisms of Alzheimer's disease, novel biomarker development and early stage drug discovery for disease-modifying drugs. In 2004 she has moved to Birmingham University Medical School.

Her work on the involvement of the cell cycle in neurodegenerative diseases was groundbreaking and started a new chapter in the history of neurodegeneration research.

She has several patents covering novel biomarkers and therapeutic interventions for Alzheimer's disease.

### Teaching

#### Teaching Programmes

- BMedSci, PA, BASHD, MBChB
- MSc in Psychiatry
- MRCPsych

### Postgraduate supervision

Zsuzsanna is interested in supervising doctoral research students in the following area:

- The role of cell cycle related molecules in the pathogenesis of Alzheimer's disease and related disorders.

If you are interested in studying any of these subject areas please contact Zsuzsanna on the contact details above.

For a full list of available Doctoral Research opportunities, please visit our [Doctoral Research programme listings](http://www.bham.findaphd.com/?es=y&apl=y&aplt=&show). (<http://www.bham.findaphd.com/?es=y&apl=y&aplt=&show>)

### Research

#### RESEARCH THEMES

Neurodegeneration, preclinical drug screening, biomarkers and risk factors for neurodegenerative diseases

#### RESEARCH ACTIVITY

##### The role of cell cycle activation in neurodegenerative diseases

The main emphasis of her work over the last 15 years has been on the role of cell cycle reactivation in the pathogenesis of Alzheimer's disease (AD) and related disorders. This work ranged from the examination of cell cycle related gene expression in neurones of AD patients and controls to functional analysis of mutations of cell

cycle regulatory genes associated with Alzheimer's disease. She was the first to put forward the unified hypothesis for the role of cell cycle related phenomena in neurodegenerative disorders in 1998 and carried on further refining aspects of this working hypothesis.

Her studies on cell cycle related pathways and genes associated with AD led to the development of a functional blood based biomarker for Alzheimer's disease and the identification of novel genetic risk factors.

The identification of the cell cycle as a primary target for therapy was quickly followed by identification and preclinical screening of potentially disease-modifying drugs.

## Other activities

- Non-Executive Director of CytOx Ltd since 2006
- Lead of the Neurodegeneration and Repair team

## Publications

Zs. Nagy. The dysregulation of the cell cycle and the diagnosis of Alzheimer's disease. BBA- Molecular Basis of Disease. 2007, 1772, 4, 402-408.

PS Hubbard, MM Esiri, M Reading, R McShane, Z Nagy. Alpha-Synuclein Pathology in the Olfactory Pathways of Dementia Patients. J. Anatomy 2007, 211, 1, 117-124.

MF Elias, MA Robbins, MM Budge, PK Elias, SL Brennan, C Johnston, Zs Nagy. Homocysteine and cognitive performance: Modification by the ApoE genotype. Neuroscience Letters 2008, 430, 1, 64-69.

C Ghilardi, G Chiorino, R Dossi, Z Nagy, R Giavazzi, MR Bani. Identification of novel vascular markers through gene expression profiling of tumor-derived endothelium. Genome Biology 2008, 9, 201.

GA Dore, MF Elias, MA Robbins, PK Elias, Z Nagy. Presence of the ApoE-ε4 allele modifies the relation between Type 2 diabetes and cognitive performance: The Maine-Syracuse Study. 2009 Diabetologia, 52(12):2551-60.

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