

## An Introduction to my Research Interests

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### Introduction

During his PhD thesis Dr. Rossen Donev studied spatial organisation of mitotic and interphase chromosomes and chromatin dynamic throughout the cell cycle with respect to the control of gene expression [1-4]. After obtaining PhD in 1999, he moved to the Imperial Cancer Research Fund in London, UK (renamed after the merger with Cancer Research Campaign to Cancer Research UK, London Research Institute) where Rossen Donev [1] worked as a Research Fellow in the Human Cytogenetics Laboratory. Here Dr. Donev [5] continued his work on the control of gene expression focusing on the Major Histocompatibility Complex (MHC) in humans. Donev [6] developed a novel atomic force microscopy based approach for identifying protein binding sites in nucleic acids. Furthermore, he discovered a mechanism controlling alternative splicing of the Amyloid Precursor Protein (APP) mRNA and secretion of  $\beta$ -amyloid peptide by cultured neurons [7]. In 2003 Dr. Donev moved to the School of Medicine, Cardiff University where he gained extensive experience in innate immunity. In 2007 he was awarded an MRC New Investigator Award to develop his own research laboratory. He combined his expertise in molecular cell biology, tumour biology and immunology to develop a new strategy for sensitisation of tumours to immunoclearance [8, 9]. This new strategy proved to be highly efficient not only *in vitro* but also in an animal model of malignant melanoma giving a great promise in stimulating our immune system to fight cancer.

In 2010 Dr. Donev was appointed Lecturer in the Molecular Psychiatry and Psychopharmacology group at the School of Medicine, Swansea University. Here he applied his expertise in molecular biology, gene expression and cancer therapy to the molecular psychiatry and developed his own translational and multidisciplinary research in behavioural biochemistry [10-13]. In 2012 Dr. Donev founded his company specialised in scientific publishing and consultancy services. He has consulted on a number of topics related to signalling/molecular mechanisms underlying biochemical alterations in neurodevelopmental disorders and identification of suitable targets for drug development.

Dr. Donev's innovative and interdisciplinary research has been internationally recognised resulting in his appointment in 2010 as Editor-in-Chief of the Elsevier's 'Advances in Protein Chemistry and Structural Biology' and Editorial Board Member of several other journals. He has chaired scientific sessions at 13<sup>th</sup> and 14<sup>th</sup> World Congresses on Advances in Oncology in Greece and gave two plenary talks at an international workshop on adult ADHD-Translating Research into Practice in Cluj-Napoca, Romania.

### References

1. Djondjurov LP, Andreeva MM, Markova DZ, Donev RM (1994) Spatial and structural segregation of the transcribed and nontranscribed alleles of c-myc in Namalva-S cells. *Oncol Res* 6: 347-356.
2. Markova D, Donev R, Patriotic C, Djondjurov L (1994) Interphase chromosomes of Friend-S cells are attached to the matrix structures through the centromeric/telomeric regions. *DNA Cell Biol* 13: 941-951.
3. Donev RM, Djondjurov LP (1999) Macromolecular and ultrastructural organisation of the mitotic chromosome scaffold. *DNA Cell Biol* 18: 97-105.
4. Ivanova, Emilia Ch, Donev RM, Djondjurov, Lelio P, et al. (1999) Localisation of DNA topoisomerase IIa in mouse erythroleukemia cells. *Mol Cells* 9: 309-313.

5. Donev R (2003) Recruitment of hnRNP-A1 *in vivo* to the LMP/TAP region of the MHC. *J Biol Chem* 278: 5214-5226.
6. Donev RM, Doneva TA, Bowen WR, Sheer D (2002) HnRNP-A1 binds directly to double-stranded DNA *in vitro* within a 36bp sequence. *Mol Cell Biochem* 233: 181-185.
7. Rossen Donev, Alistair Newall, Denise Sheer (2007) A role for SC35 and hnRNP-A1 in the determination of amyloid precursor protein isoforms. *Mol Psychiatry* 12: 681-690.
8. Tediose T, Kolev M, Sivasankar B, Brennan P, Morgan BP, et al. (2010) Interplay between REST and nucleolin transcription factors-a key mechanism in the overexpression of genes upon increased phosphorylation. *Nucleic Acids Res* 38: 2799-2812.
9. Rossen MD, Lisa CG, Morgan BP (2008) Modulation of CD59 expression by REST-derived peptides in cancer immunotherapy for neuroblastoma. *Cancer Res* 68: 5979-5987.
10. Donev R, Kolev M, Millet B, Thome J (2009) Neuronal death in Alzheimer's disease and therapeutic opportunities. *J Cell Mol Med* 13: 4329-4348.
11. Donev R, Thome J (2010) Inflammation: good or bad for ADHD? *Atten Defic Hyperact Disord* 2: 257-266.
12. Donev R, Koseva N, Petrov P, Kowalczyk A, Thome J (2011) Characterisation of different nanoparticles with a potential use for drug delivery in neuropsychiatric disorders. *World J Biol Psychiatry* 12: 44-51.
13. Baird AL, Coogan AN, Siddiqui A, Donev RM, Thome J (2012) Adult attention-deficit/hyperactivity disorder is associated with alterations in circadian rhythms at the behavioural, endocrine and molecular levels. *Mol Psychiatry* 17: 988-995.

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