

CURRICULUM VITAE

PERSONAL DATA



Name: Lyubomira Chakalova
Date of birth: February 24, 1972
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EDUCATION

1989-1994 **MSc** in Biochemistry & Microbiology
Faculty of Biology, Sofia University, Sofia, Bulgaria

1994-1999 **PhD** in Molecular Biology
Institute of Molecular Biology, Bulgarian Academy of Sciences, Sofia,
Bulgaria

POSITIONS AND EMPLOYMENT

1999-2000 **Postdoctoral Research Scientist**
Institute of Molecular Biology, Bulgarian Academy of Sciences, Sofia,
Bulgaria

2000-2004 **Postdoctoral Research Scientist**
The Babraham Institute, Cambridge, UK

2004-2009 **Senior Research Associate**
The Babraham Institute, Cambridge, UK

2009-present **Senior Research Scientist**
Research Centre for Genetic Engineering and Biotechnology "Georgi D.
Efremov", Macedonian Academy of Sciences and Arts, Skopje, Republic of
Macedonia

MEMBERSHIP IN PROFESSIONAL ORGANISATIONS

2011-present Member of the Macedonian Society of Biochemistry and Molecular Biology

PUBLICATIONS

1. [Chakalova L](#) and Fraser P (2010) Organization of transcription. *Cold Spring Harb Perspect Biol* **2**, a000729.
2. Schoenfelder S*, Sexton T*, [Chakalova L*](#), Cope N, Horton A, Andrews S, Kurukuti S, Mitchell J, Umlauf D, Dimitrova D, Eskiw C, Luo Y, Wei C-L, Ruan Y, Bieker J, and Fraser P (2010) Preferential associations between co-regulated genes reveal a transcriptional interactome in erythroid cells. *Nature Genet* **42**, 53-61.
3. [Chakalova L](#) and Fraser P (2008) Brushed aside and silenced. *Dev Cell* **14**, 461-462. Citations: 1
4. Mohammad F, Pandey R, Nagano T, [Chakalova L](#), Mondal T, Fraser P, and Kanuri C (2008) *Kcnq1ot1/Lit1* noncoding RNA mediates transcriptional silencing by targeting to the perinucleolar region. *Mol Cell Biol* **28**, 3713-3728.
5. Miles J, Mitchell J, [Chakalova L](#), Goyenechea B, Osborne CS, O'Neill L, Tanimoto K, Engel J, and Fraser P (2007) Intergenic transcription, cell-cycle and the developmentally regulated epigenetic profile of the human β -globin locus. *PLoS ONE* **2**, e630.
6. Osborne CS, [Chakalova L](#), Horton A, Mitchell JA, Bolland D, Wood A, Corcoran AE, and Fraser P (2007) *Myc* is dynamically and preferentially recruited to a transcription factory occupied by its frequent translocation partner gene, *Igh*. *PLoS Biol* **5**, e192.
7. Goren A, Simchen G, Fibach E, Szabo PE, Tanimoto K, [Chakalova L](#), Pfeifer GP, Fraser P, Engel D, and Cedar H (2006) Fine tuning of globin gene expression by DNA methylation. *PLoS ONE* **1**, e46.
8. Parker M, Licence S, Erlandsson L, Galler G, [Chakalova L](#), Osborne CS, Morgan G, Fraser P, Jumaa H, Winkler T, Skok J, and Mårtensson I-L (2005) The pre-B-cell receptor induces silencing of VpreB and $\lambda 5$ transcription. *EMBO J* **24**, 3895-3905.
9. [Chakalova L](#), Debrand E, Mitchell JA, Osborne CS, and Fraser P (2005) Replication and transcription: shaping the landscape of the genome. *Nat Rev Genet* **6**, 669-677.
10. [Chakalova L](#), Carter D, Debrand E, Goyenechea B, Horton A, Miles J, Osborne CS, and Fraser P (2005) Developmental regulation of the human β -globin gene locus. In: *Epigenetics and Chromatin*, Progress in Molecular and Subcellular Biology series (Springer-Verlag Berlin Heidelberg), Jeanteur P (Ed.)
11. [Chakalova L*](#), Osborne CS*, Dai Y-F, Goyenechea B, Metaxotou-Mavromati A, Kattamis A, Kattamis C, and Fraser P (2005) The Corfu $\delta\beta$ -thalassemia mutation disrupts β -globin gene silencing and reveals post-transcriptional regulation of HbF expression. *Blood* **105**, 2154-2160.
12. Osborne CS, [Chakalova L](#), Brown K, Carter D, Horton A, Debrand E, Goyenechea B, Mitchell JA, Lopes S, Reik W, and Fraser P (2004) Active genes dynamically co-localize to shared sites of ongoing transcription. *Nature Genet* **36**, 1065-1071.
13. Bolland D, Wood A, Johnston C, Bunting S, Morgan G, [Chakalova L](#), Fraser P, and Corcoran AE (2004) Antisense intergenic transcription in V(D)J recombination. *Nature Immunol* **5**, 630-637.
14. [Chakalova L](#), Carter D, and Fraser P (2004) RNA fluorescence *in situ* hybridization tagging and recovery of associated proteins to analyze *in vivo* chromatin interactions. *Methods Enzymol* **375**, 479-93.
15. Patent Application No: 0218143.6 Tagging and recovery of elements associated with target molecules. Inventors: Carter D, [Chakalova L](#), and Fraser P. Filed UK patent office March 8, 2002.
16. Carter D, [Chakalova L](#), Osborne CS, Dai Y-F, and Fraser P (2002) Long-range chromatin regulatory interactions *in vivo*. *Nature Genet* **32**, 623-626.
17. Chakarov S, [Chakalova L](#), Tencheva Z, Ganey V, and Angelova A (2000) Morphine treatment affects the regulation of high mobility group I-type chromosomal phosphoproteins in C6 glioma cells. *Life Sci* **66**, 1725-1731.
18. [Chakalova L](#) and Russev G (1999) Transcriptionally active and inactive mouse β -globin gene loci are repaired at similar rates after ultraviolet irradiation. *Eur J Biochem* **261**, 667-673.
19. [Chakalova L](#) and Russev G (1998) Comparison of repair activity in different genomic regions. *Acta Biochim Pol* **45**, 173-181.
20. [Chakalova L](#) and Russev G (1998) Quantitative polymerase chain reaction assay for DNA repair within defined genomic regions. *Mutat Res* **407**, 147-155.

* Equal contribution

RESEARCH SUPPORT

1. Seventh Framework Programme, Theme Research Potential, Coordination and Support Action coordinated by Dijana Plaseska-Karanfilska, 2009-2012. National Reference Centre for Genomics and Proteomics. Participant.
2. MRC Project Grant awarded to Peter Fraser, 2008-2011. 3D organization of the mammalian genome. Participant.
3. BBSRC Project Grant awarded to Peter Fraser, 2007-2010. Identification and characterization of 3D transcription networks *in vivo*. Participant.
4. BBSRC Project Grant awarded to Peter Fraser, 2006-2009. The role of non-coding RNA in epigenetic regulation of gene expression. Participant.
5. MRC Senior Non-Clinical Fellowship awarded to Peter Fraser, 2004-2009. Structural and functional nuclear organization of the beta-globin gene locus *in vivo*. Participant.
6. BBSRC Project grant awarded to Peter Fraser, 2003-2006. Novel technology to identify and study sequence elements involved in long-range gene regulatory interactions *in vivo*. Participant.
7. MRC Senior Non-Clinical Fellowship awarded to Peter Fraser, 1999-2004. The role of intergenic transcription in epigenetic regulation of transcription of the human and murine beta-globin loci. Participant.

SCIENTIFIC INTERESTS

Regulation of gene expression, nuclear architecture and dynamics, cellular differentiation, chromatin structure and function, haemoglobinopathies

TEACHING

2009-present MSc programme course: Modern Methods in Cell Biology
Faculty of Biology, Sofia University, Sofia, Bulgaria

OTHER SKILLS

Language skills Fluent in Bulgarian and English
Proficient in French, Russian and Macedonian

Computer skills Imaging software: expertise in Olympus AnalySIS, Improvison Volocity
Data analysis and presentation: proficiency in Microsoft Excel, SigmaPlot,
Adobe Photoshop, Illustrator, experience in SPSS, Perl programming