COST Action MP0802 Final Conference
Conformational diversity and applications of G-quadruplexes

Saturday, 6 October

12.00 Registration
14.00 Welcome (Organisers, Action Chair, MP0802 Rapporteur)

Session I: Synthesis, characterization and optimization
Chair: Daniela Montesarchio, Lajos Kovacs

14.10 Recent developments in controlling the structure and function of lipophilic G-quadruplexes
Jeffrey T. Davis, University of Maryland (College Park, MD, USA)

14.40 Structural studies on self-assembly and aggregate stability of guanine derivatives in diluted solution by small-angle X-ray scattering
Paolo Mariani, Università Politecnica delle Marche (Ancona, Italy)

15.10 New HIV-1 aptamers with enhanced activity based on tetra-end-linked G-quadruplex-forming oligonucleotides
Nicola Borbone, Università degli studi di Napoli Federico II (Naples, Italy)

15.40 Coffee break

16.00 Aptameric electrochemical biosensors based on guanine quadruplexes
Ana Maria Oliveira-Brett, Universidade de Coimbra (Coimbra, Portugal)

16.30 Effect of GC-termini on the self-assembly of G-quadruplexes
Lea Spindler, University of Maribor (Maribor, Slovenia)

17.00 Short talk: Liponucleoside thin films: the special behaviour of guanosine
Lucija Čoga, University of Ljubljana (Ljubljana, Slovenia)

17.20 Controlling the structure and dynamics of supramolecular G-quadruplex
José M. Rivera, University of Puerto Rico (San Juan, Puerto Rico)

18.00 Poster Session
20.00 Dinner

Sunday, 7 October

Session II: Theoretical modelling, analysis and prediction
Chair: Janez Pivacev

9.00 Recent advances in theoretical studies of structural dynamics of G-DNA
Jiri Sponer, Masaryk University (Brno, Czech Republic)

9.30 Simulating unusual nucleic acids in unusual environments
Modesto Orozco, IRB (Barcelona, Spain)

10.00 Short talk: Intramolecular G-quadruplex structure with propeller, diagonal and edgewise loops
Maja Marusic, National Institute of Chemistry (Ljubljana, Slovenia)

10.20 Dynamics of propeller-type quadruplex on a µsec time scale
Shoeb Haider, Queen’s University Belfast (Belfast, UK)

11.00 Coffee break

Session III: Biochemical and biorecognition properties I
Chair: Mateus Webba da Silva

11.30 Electronic excited states of guanine nanostructures
Dimitra Markovitsi, CRNS, CEA Saclay (Gif-sur-Yvette, France)

12.00 G-quadruplex as a target for drug design and a scaffold for biosensing applications
Bernard Juskowiak, Adam Mickiewicz University (Poznan, Poland)

12.30 Template assisted synthetic quadruplexes
Nicolas Spinelli, Université Joseph Fourier (Grenoble, France)

13.00 Lunch

Session IV: Biochemical and biorecognition properties II
Chair: Carlos González, Antonio Randazzo

15.00 Solution equilibria of two cytosine- and guanine-rich sequences near the promoter region of n-myc gene
Raimundo Gargallo, Universitat de Barcelona (Barcelona, Spain)

15.30 Diffusion NMR studies of DNA structures
Patrick Groves, Institute Tecnologia Quimica e Biologia (Oeiras, Portugal)

16.00 Directed self-assembly of G-quadruplexes
Mateus Webba da Silva, University of Ulster (Coleraine, UK)

16.30 Coffee break

17.00 Short talk: G-quadruplexes and SELEX
Amandine Renaud de la Faverie, INSERM, U869 (Pessac, France)

17.20 Short talk: Discovery of new telomeric RNA ligands by 19F NMR spectroscopy and other biophysical techniques
Miguel Garavis, Instituto de Química Fisica Rocosolano (Madrid, Spain)

17.40 Short talk: First atomic structural characterization of the interaction between a mixed duplex-quadruplex aptamer and its target protein
Irene Russo-Krauss, Università di Napoli Federico II (Naples, Italy)

18.00 Poster session
Monday, 8 October

Session V: Biochemical and biorecognition properties III
Chair: Ramon Eritja

9.00 G-quadruplex in low water, high viscosity solvents
Nicholas V. Hud, Georgia Institute of Technology (Atlanta, GA, USA)

9.30 Shooting for selective drug-like G-quadruplex binders: Evidence for telomeric DNA damage and tumor cell death
Antonio Randazzo, Università degli studi di Napoli Federico II (Naples, Italy)

10.00 Selective G-quadruplex recognition: the ligand and the nucleic acid point of view
Claudia Sissi, University of Padova (Padova, Italy)

10.30 Coffee break

Session VI: Applications in molecular electronics
Chair: Wolfgang Fritzsche

11.00 Self-assembly of π-conjugated systems – DNA: a supramolecular engineering approach
Mathieu Surin, University of Mons (Mons, Belgium)

11.30 DNA origami structures as templates
Antti Pekka Eskelinen, Aalto University (Espoo, Finland)

12.00 Short talk: Nucleobases at the solid-liquid interface: from discrete self-assembly to dynamic supramolecular architectures
Arthur Ciesielski, Institut de Science et d’Ingénierie Supramoléculaires (Strasbourg, France)

12.20 Closing session including short report on all Action activities

Final Management Committee meeting and Final Evaluation Panel
(MC members, COST Senior officer, DC Rapporteur and external Evaluators)

13.00 Lunch

14.30 Final MC meeting with presentation from the COST Office SO, summarizing reports on the activities of Working Groups, Short Term Scientific Missions, web news and the Final Book, discussion on future plans

14.30 Evaluation panel with questions from the DC Rapporteur and the external Evaluators, followed by general discussion