

**Program of the 4<sup>th</sup> International Meeting on Quadruplex Nucleic Acids**  
1-4 July 2013, Nanyang Technological University, Singapore,

**1 July (Monday)**

**11.30-13.30: Registration**

13.30-13.45: **Welcome**

Session Chair: **Alain Nicolas**

13.45-14.30: **Keynote Lecture 1 - Nancy Maizels** (University of Washington, USA)  
*The G4 genome*

14.30-15.00: **Zheng Tan** (Chinese Academy of Sciences, China)  
*Co-transcriptional formation of DNA:RNA hybrid G-quadruplex: Evolutional selection, mechanism of formation, and regulation on transcription*

15.00-15.30: **Shantanu Chowdhury** (Institute of Genomics and Integrative Biology, India)  
*Guanine-quadruplex-mediated gene regulation controls metastases in lung cancer cells*

15.30-15.45: **Sara N. Richter** (University of Padua, Italy)  
*A dynamic G-quadruplex region regulates the HIV-1 long terminal repeat promoter*

15.45-16.00: **Vladimir Kuznetsov** (Bioinformatics Institute, Singapore)

*The genome wide cartography of the evolutionarily conserved R-loop formation sequences (RLFS) reveals thousands prevalence sites of G-quadruplexes (G4s), and G4-Rloop structures involving in transcriptional regulation*

**16.00-16.30: Coffee Break**

Session Chair: **Vitaly V Kuryavyi**

16.30-17.00: **Janez Plavec** (National Institute of Chemistry, Slovenia)  
*NMR structures of G-quadruplexes with unique features*

17.00-17.30: **Hiroshi Sugiyama** (Kyoto University, Japan)  
*Direct observation of the G-hairpin and G-triplex intermediates*

17.30-18.00: **Antonio Randazzo** (University of Naples Federico II, Italy)  
*Targeting G-quadruplexes, knowing G-triplex*

18.00-18.15: **Kah Wai Lim** (Nanyang Technological University, Singapore)  
*Structural basis of DNA quadruplex-duplex junction formation*

18.15-18.30: **Gary Parkinson** (University College London, UK)  
*Structural investigation into human telomeric quadruplex/duplex interfaces*

**19.00-21.00: Dinner and Poster Session 1**

## 2 July (Tuesday)

Session Chair: **Laurent Lacroix**

8.45-9.15: **Jean-Louis Mergny** (Institut Européen de Chimie et Biologie, France)  
*Quadruplexes are everywhere!*

9.15-9.45: **Hanbin Mao** (Kent State University, USA)  
*Population dynamics in human telomeric RNA sequence is modulated by G-quadruplex binding ligands*

9.45-10.00: **Iztok Prislan** (University of Ljubljana, Slovenia)  
*Kinetics of G-quadruplexes in all its terrible beauty*

10.00-10.15: **Danny Porath** (Hebrew University of Jerusalem, Israel)  
*Charge transport in single DNA-based molecules*

10.15-10.30: **Mahesh Uttamchandani** (National University of Singapore)  
*Visual DNA detection using asymmetric PCR and G-quadruplexes: An integrated workflow*

## 10.30-12.30: Coffee Break and Poster Session 2

## 12.30-14.00: Lunch and Poster Session 3

Session Chair: **Marie-Paule Teulade-Fichou**

14.00-14.30: **Kazuo Nagasawa** (Tokyo University of Agriculture & Technology, Japan)  
*G-quadruplex ligands with macrocyclic polyoxazoles*

14.30-15.00: **Dik-Lung Ma** (Hong Kong Baptist University)  
*Luminescent G-quadruplex-based probes*

15.00-15.30: **Xiaogang Qu** (Chinese Academy of Sciences, China)  
*New insights into ligand-telomeric DNA interactions and their applications*

15.30-15.45: **Huaqiang Zeng** (National University of Singapore)  
*Cationic macrocyclic aromatic pentamers as a new class of highly specific telomere RNA G-quadruplex-binding ligands*

15.45-16.00: **Mauro Freccero** (Università di Pavia, Italy)  
*Covalent targeting of G-quadruplex structures by naphthalene diimide conjugated electrophiles*

## 16.00-16.30: Coffee Break

Session Chair: **Nancy Maizels**

16.30-17.00: **Alain Nicolas** (Institut Curie, France)  
*Biological role of G-quadruplexes in replication and genome instability*

17.00-17.30: **Tracy Bryan** (University of Sydney, Australia)

*Functions of telomeric G-quadruplexes in ciliates and humans*

17.30-17.45: **Herman O. Sintim** (University of Maryland, USA)

*The biological implications of G-quadruplex formation by cyclic dinucleotide, c-di-GMP, at low micromolar concentrations*

17.45-18.00: **Jean-Pierre Perreault** (Universite de Sherbrooke, Canada)

*Sequence specific modulation of G-quadruplex folding*

18.00-18.15: **Wouter Koole** (Leiden University Medical Center, The Netherlands)

*An alternative end-joining pathway prevents genomic instability at G4 DNA sites*

**18.30-20.00: Light Dinner and Poster Session 4**

**3 July (Wednesday)**

Session Chair: **Daniela Rhodes**

8.45-9.30: **Keynote Lecture 2 -ShankarBalasubramanian** (University of Cambridge, UK)

*Studying G-quadruplex formation in the genome*

9.30-10.00: **Jörg Hartig** (University of Konstanz, Germany)

*Properties and potential functions of bacterial quadruplex sequences*

10.00-10.15: **Linda B. McGown** (Rensselaer Polytechnic Institute, USA)

*Capture and identification of genomic G4 DNA binding proteins*

10.00-10.30: **Luigi E. Xodo** (University of Udine, Italy)

*Design of new strategies involving nucleic acid quadruplexes to inhibit the KRAS oncogene in cancer cells*

**10.30-11.00: Coffee Break**

Session Chair: **Antonio Randazzo**

11.00-11.30: **Dipankar Sen** (Simon Fraser University, Canada)

*Catalytic and switching properties of DNA G-quadruplexes*

11.30-12.00: **Valérie Gabelica** (Institut Européen de Chimie et Biologie, France)

*Interplay between cation and ligand binding to G-quadruplexes: Insight from mass spectrometry*

12.00-12.15: **Peter Mojzeš** (Charles University, Czech Republic)

*Raman spectroscopic studies of G-quadruplexes at high DNA concentration*

12.15-12.30: **Daniela Verga** (University of Konstanz, Germany)

*Photocrosslinking Quadruplex DNA*

**12.30-14.00: Lunch and Poster Session 5**

**14.00-18.30: Free Afternoon –Guided tour**

19.00-22.00: Banquet

**4 July (Thursday)**

Session Chair: **Gary Parkinson**

8.45-9.30: **Keynote Lecture 3 - Laurence H. Hurley** (University of Arizona, USA)

*The BCL-2 promoter DNA i-motif exists in a dynamic state that allows for transcriptional regulation and drug targeting to produce chemosensitization*

9.30-10.00: **Danzhou Yang** (University of Arizona, USA)

*Promoter DNA G-quadruplexes and their interactions with small molecules*

10.00-10.15: **Vitaly V Kuryavyi** (Sloan-Kettering Institute for Cancer Research, USA)

*Parallel-stranded quadruplex structures of recombination hotspots from human and prokaryotic genomes*

10.15-10.30: **Brahim Heddi** (Nanyang Technological University, Singapore)

*Insights into molecular recognition of G-quadruplexes*

10.30-11.00: Coffee Break

Session Chair: **Jean-Louis Mergny**

11.00-11.30: **Jean-François Riou** (Muséum National d'Histoire Naturelle, France)

*Replication: RPA to unfold G4 and G4 to direct origins*

11.30-12.00: **Hans J. Lipps** (University Witten/Herdecke, Germany)

*The use of ciliated protozoa to study the regulation of G-quadruplex structures in vivo*

12.00-12.30: **Daniela Rhodes** (Nanyang Technological University, Singapore)

*Structure of active dimeric human telomerase*

12.30-14.00: Lunch

Session Chair: **Anh Tuấn Phan**

14.00-14.30: **Ta-Chau Chang** (Academia Sinica, Taiwan)

*Structural conversion of G-quadruplex, in solution and in cell*

14.30-14.45: **Daisuke Miyoshi** (Konan University, Japan)

*Molecular crowding effects on functions of G-quadruplex ligands*

14.45-15.30: **Keynote Lecture 4 - Stephen Neidle** (University College London, UK)

*Quadruplex nucleic acids as targets for anticancer drug design*

15.30-15.45: Closing