Gordon Research Conference on Mutagenesis
July 20th-25th, 2008
Magdelen College, Oxford, England
Contact: Dr. Roger Woodgate, NICHD, Tel: 301-217-4040

Agenda

SUNDAY
2:00 pm - 11:00 pm Arrival and Check-in
6:00 PM Dinner
7:30 pm - 7:45 pm Welcome / Introductory Comments by GRC Site Staff and GRC Chair
7:45 pm - 9:30 pm **Keynote Presentations: For better or worse**
    Session Chairs / Discussion Leaders: Roger Woodgate (NICHD, NIH, USA) & Nancy Maizels (University of Washington, USA)
    7:45 pm - 8:25 pm Myron Goodman (University of Southern California, USA)
    "Better living through hyper-mutation"
8:25 pm - 8:35 pm Discussion
8:35 pm - 9:15 pm Steve Jackson (University of Cambridge, UK)
    "Detection, signalling and repair of DNA double-strand breaks"
9:15 pm - 9:30 pm Discussion
9:30 PM Chair’s opening reception

MONDAY
8:00 am - 9:00 am Breakfast
9:00 am - 12:30 pm **Mutagenesis Due to Blocked Replication and Transcription**
    Session Chair / Discussion Leader: Sue Jinks-Robertson (Duke University, USA)
    9:00 am - 9:30 am Sue Jinks-Robertson (Duke University, USA)
    "Bypassing roadblocks during DNA replication in yeast"
9:30 am - 9:40 am Discussion
9:40 am - 10:05 am Robert Fuchs (CNRS, Marseille, France)
    "Polymerase trafficking at the transiently blocked replication fork"
10:05 am - 10:15 am Discussion
10:15 am - 10:30 am Julian Sale (MRC Cambridge, UK)
    "The timing and control of translesion synthesis"
10:30 am - 10:35 am Discussion
10:35 am - 11:05 am Graham Walker (MIT, USA)
    "Dealing with DNA problems: Replication Blocks and Template Lesions"
11:05 am - 11:30 am Dmitriy Gordenin (NIEHS, NIH, USA)
    "Damage-induced localized hypermutability"
11:30am - 11:40 am Discussion
11:40 am - 11:55 am Andrés Aguilera (Universidad de Sevilla, Spain)
    "Transcription-associated genomic instability in mRNP biogenesis and export mutants"
11:55 am - 12:00 pm Discussion
12:00 pm - 12:25 pm Lunch
1:30 pm - 4:00 pm Free Time
4:00 pm - 6:00 pm Poster Session I
6:00 PM Dinner
7:30 pm - 9:30 pm  **Consequences of Oxidative Stress**
Session Chair / Discussion Leader: **Greg Verdine** (Harvard University, USA)

7:30 pm - 8:00 pm  **Greg Verdine** (Harvard University, USA)
"Structural and Mechanistic Investigations in DNA Repair"
8:00 pm - 8:10 pm  Discussion
8:10 pm - 8:25 pm  **Grigory Dianov** (University of Oxford, UK)
"Regulation of base excision repair in response to DNA damage"
8:25 pm - 8:30 pm  Discussion
8:30 pm - 8:55 pm  **Ueli Hübscher** (University of Zurich, Switzerland)
"Faithful translesion synthesis by human DNA polymerases over 8-oxo-guanine"

8:55 pm - 9:00 pm  Discussion
9:00 pm - 9:25 pm  **Bruce Demple** (Harvard University, USA)
"Preventing Genetic Decay via BER of Oxidative Damage"
9:25 pm - 9:30 pm  Discussion

**TUESDAY**

8:00 am - 9:00 am  Breakfast

**Recombination Induced Genomic Instability**
Session Chair / Discussion Leader: **Penny Jeggo** (University of Sussex, UK)

9:00 am - 9:30 am  **Penny Jeggo** (University of Sussex, UK)
"The impact of chromatin structure on double strand break repair and signalling"
9:30 am - 9:40 am  Discussion
9:40 am - 10:05 am  **Shunichi Takeda** (Kyoto University, Japan)
"Collaboration of BRCA1 and CtIP in cellular tolerance to topoisomerase poisons"

10:05 am - 10:15 am  Discussion
10:15 am - 10:30 am  **Kyungjae Myung** (NIHGR, NIH, USA)
"Suppression of genomic instability by RAD5-dependent PCNA polyubiquitination in mammalian cells"
10:30 am - 10:35 am  Discussion
10:35 am - 11:05 am  **John Tainer** (The Scripps Institute, USA)
"Core Structures and Functions of the Mre1/Rad50/Nbs1 Complex in dsDNA End Binding and dsDNA Break Signaling and Repair"
11:05 am - 11:30 am  Coffee Break
11:30 am - 11:40 am  Discussion
11:40 am - 11:55 am  **Dale Ramsden** (University of North Carolina, USA)
"End joining, for better or diverse"
11:55 am - 12:00 pm  Discussion
12:00 pm - 12:25 pm  **Simon Boulton** (London Research Institute, UK)
"SPAR1 maintains genome stability through suppression of aberrant recombination events"

12:25 pm - 12:30 pm  Discussion
12:30 PM  Lunch
1:30 pm - 4:00 pm  Free Time
4:00 pm - 6:00 pm  Poster Session II
6:00 PM  Dinner
7:30 pm - 9:30 pm  **Physiological Mutagenesis in the Immune Response**
Session Chair / Discussion Leader: **Nancy Maizels** (University of Washington, USA)

7:30 pm - 8:00 pm  **Nancy Maizels** (University of Washington, USA)
"Targeting immunoglobulin gene diversification"

8:00 pm - 8:10 pm  Discussion

8:10 pm - 8:25 pm  **Heinz Jacobs** (Netherlands Cancer Institute, The Netherlands)
"Role of PCNA modification in somatic hypermutation"

8:25 pm - 8:30 pm  Discussion

8:30 pm - 8:55 pm  **Pat Gearhart** (NIA, NIH, USA)
"Hypermutation in immunoglobulin variable and switch regions"

8:55 pm - 9:00 pm  Discussion

9:00 pm - 9:25 pm  **Michael Neuberger** (MRC Cambridge, USA)
"Antibody gene diversification through DNA deamination"

9:25 pm - 9:30 pm  Discussion

**WEDNESDAY**

8:00 am - 12:30 pm  **Rare Human Diseases Associated with Genomic Instability, Neurodegeneration and Premature Aging**
Session Chair / Discussion Leader: **Keith Caldecott** (University of Sussex, UK)

9:00 am - 9:30 am  **Keith Caldecott** (University of Sussex, UK)
"Mammalian single-strand break repair and human disease"

9:30 am - 9:40 am  Discussion

9:40 am - 10:05 am  **Björn Schumacher** (Erasmus University, The Netherlands)
"DNA damage and the paradoxical link with longevity"

10:05 am - 10:15 am  Discussion

10:15 am - 10:30 am  **Sergei Mirkin** (Tufts University, USA)
"Large-scale expansions of triplet repeats: mechanisms and implications"

10:35 am - 10:35 am  Discussion

10:35 am - 11:05 am  Coffee Break

11:05 am - 11:30 am  **Cynthia McMurray** (Mayo Clinic, USA)
"MSH2/MSH3: a damage sensor"

11:30 am - 11:40 am  Discussion

11:40 am - 11:55 am  **Kevin Hiom** (MRC Cambridge, UK)
"BRCA1, its interactions and the maintenance of genome stability"

11:55 am - 12:00 pm  Discussion

12:00 pm - 12:25 pm  **Wim Vermeulen** (Erasmus University, The Netherlands)
"Mouse models of mutant transcription/repair factor TFIH"

12:25 pm - 12:30 pm  Discussion

12:30 PM  Lunch

1:30 pm - 6:00 pm  Free Time / Optional Excursion: Broughton Castle

6:00 PM  Dinner

7:00 pm - 7:30 pm  Business Meeting
(Nominations for the next Vice Chair; Fill out Conference Evaluation Forms; Discuss future Site & Scheduling preferences; Election of the next Vice Chair)

7:30 pm - 9:30 pm  **Low-fidelity Replication and Cancer**
Session Chair / Discussion Leader: Larry Loeb (University of Washington, USA)

7:30 pm - 8:00 pm Larry Loeb (University of Washington, USA)
"The presence and significance of random mutations in human cancers"

8:00 pm - 8:10 pm Discussion

8:10 pm - 8:25 pm Zvi Livneh (Weizmann Institute, Israel)
"Cancer risk assessment using DNA repair enzymatic activity assays: A tool for lung cancer prevention"

8:25 pm - 8:30 pm Discussion

8:30 pm - 8:55 pm Fumio Hanaoka (Gakushuin University, Japan)
"In vivo and in vitro studies on DNA polymerase η"

8:55 pm - 9:00 pm Discussion

9:00 pm - 9:25 pm Errol Friedberg (University of Southwestern Texas, USA)
"Lessons Learned From the Polk Mouse"

9:25 pm - 9:30 pm Discussion

THURSDAY

8:00 am - 9:00 am Breakfast

9:00 am - 12:30 pm Mechanisms of Mutagenesis
Session Chair / Discussion Leader: Tom Kunkel (NIEHS, NIH, USA)

9:00 am - 9:30 am Tom Kunkel (NIEHS, NIH, USA)
"Dissecting the fidelity of leading and lagging strand replication fidelity in yeast"

9:30 am - 9:40 am Discussion

9:40 am - 10:05 am Floyd Romesberg (The Scripps Institute, USA)
"Mechanisms of induced mutation in E. coli and S. cerevisiae"

10:05 am - 10:15 am Discussion

10:15 am - 10:30 am Pat Foster (Indiana University, USA)
"Stress-induced mutagenesis in E. coli"

10:30 am - 10:35 pm Coffee Break

10:35 am - 11:05 am Alan Lehmann (University of Sussex, UK)
"The role of polk in nucleotide excision repair"

11:05 am - 11:15 am Discussion

11:15 am - 11:30 am Iwona Fijalkowska (Polish Academy of Sciences, Poland)
"Dpb2p, a non catalytic subunit of DNA polymerase epsilon contributes to the fidelity of DNA replication in S. cerevisiae"

11:30 am - 12:00 pm Discussion

12:00 pm - 12:25 pm Wei Yang (NIDDK, NIH, USA)
"Translesion DNA synthesis by E. coli pol II"

12:25 pm - 12:30 pm Discussion

12:30 PM Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 5:30 pm Poster Session III

5:30 PM Reception on the Cloisters Lawn

6:00 PM Formal Conference Dinner

7:30 pm - 9:30 pm Signaling for repair: avoiding excessive mutagenesis
Session Chair / Discussion Leader: Joe Jiricny (University of Zurich, Switzerland)

7:30 pm - 8:00 pm Joe Jiricny (University of Zurich, Switzerland)
8:00 pm - 8:10 pm Discussion
8:10 pm - 8:25 pm **Joyce Lebbink** (Erasmus University, The Netherlands)
"DNA loop formation by the MutS MutL protein complex during early steps of DNA mismatch repair"
8:25 pm - 8:30 pm Discussion
8:30 pm - 8:55 pm **Wei Xiao** (University of Saskatchewan, Canada)
"Ubiquitination of DNA clamps: a central signaling for repair and tolerance?"
8:55 pm - 9:00 pm Discussion
9:00 pm - 9:25 pm **Tom Ellenberger** (Washington University, USA)
"Specialization of Mammalian DNA Ligases"
9:25 pm - 9:30 pm Discussion
9:30 PM Chair’s closing reception

**FRIDAY**
8:00 am - 9:00 am Breakfast
9:00 AM Departure