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## 2002 GORDON RESEARCH CONFERENCE

on Mammalian DNA Repair

### FINAL PROGRESS REPORT

DOE  
DE-FG02-03ER63529

The Gordon Research Conference (GRC) on Mammalian DNA Repair was held at Harbortown Resort, Ventura Beach, California, January 19-24, 2003. The conference was well attended with 156 participants. The attendees represented the spectrum of endeavor in this field coming from academia, industry, and government laboratories, both US and foreign scientists, senior researchers, young investigators, and students.

In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field. There was a conscious effort to stimulate lively discussion about the key issues in the field today. Time for formal presentations was limited in the interest of group discussions. In order that more scientists could communicate their most recent results, poster presentation time was scheduled. In addition to these formal interactions, "free time" was scheduled to allow informal discussions. Such discussions are fostering new collaborations and joint efforts in the field (program enclosed).

I want to personally thank you for your support of this Conference. As you know, in the interest of promoting the presentation of unpublished and frontier-breaking research, Gordon Research Conferences does not permit publication of meeting proceedings. If you wish any further details, please feel free to contact me. Thank you.

Richard Wood  
Conference Chair

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## Mammalian DNA Repair

January 19-24, 2003  
Four Points Sheraton  
Ventura, CA

Chair: **Richard D Wood**  
Vice-Chair: **Errol C Friedberg**

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### SUNDAY

2:00 pm - 9:00 pm    Arrival and Check-in  
6:00 pm                Dinner  
7:30 pm - 9:30 pm    **Keynote Presentations**  
7:30 - 7:40 pm        Introductory remarks  
7:40 - 8:30 pm        **Alan Lehmann**, University of Sussex  
                              "Replication of damaged DNA in mammalian cells: new solutions to an old problem"  
8:30 - 9:20 pm        **Alan D'Andrea**, Dana-Farber Cancer Institute  
                              "The Fanconi Anemia/BRCA Pathway in the DNA damage response"  
9:30 - 11:00 pm       Chair's Reception

### MONDAY

7:30 am - 8:30 am    Breakfast  
8:30 am                Group Photo  
9:00 am - 12:30 pm   **RECOGNITION OF DNA DAMAGE**  
9:00 - 9:30 am        **Greg Verdine**, Harvard University  
                              "Structural insights into recognition and repair of lesions in DNA"  
9:30 - 10:00 am       **Deborah Barnes**, Cancer Research UK  
                              "Endogenous DNA damage, repair and the immune system - insights from knockout mice"  
10:00 - 10:40 am      Coffee break  
10:40 - 11:20 am      **Jan Hoeijmakers**, Erasmus University  
                              "The role of HR23 proteins in regulating nucleotide excision repair"  
11:20 - 11:50 am      **Jean Gautier**, Columbia University  
                              "DNA damage and DNA replication"  
11:50 - 12:20 pm      **Sam Wilson**, National Institute of Environmental Health Sciences  
                              Discussion Leader  
12:30 pm                Lunch  
4:00 - 5:30 pm        Poster Session I  
6:00 pm                Dinner  
7:30 pm - 9:30 pm    **REPAIR OF DNA BASE LESIONS**  
7:30 - 8:00 pm        **Jeffrey Miller**, University of California, Los Angeles  
                              "Cancer in knockout mice with combinations of oxidative repair and mismatch repair deficiencies"  
8:00 - 8:30 pm        **Sheila David**, University of Utah  
                              "Functional consequences of inherited MYH variants associated with colorectal cancer"  
8:30 - 9:00 pm        **Murat Saparbaev**, Institut Gustave-Roussy  
                              Characterization of the enzyme involved in nucleotide incision repair pathway"  
9:00 - 9:30 pm        **Tomas Lindahl**, Cancer Research UK  
                              Discussion Leader

### TUESDAY

7:30 am - 8:30 am    Breakfast

9:00 am - 12:30 pm **ENCOUNTER OF DNA & RNA POLYMERASES WITH DAMAGE**

9:00 - 9:30 am **Sue Jinks-Robertson**, Emory University  
"Bypass of spontaneous DNA damage by yeast translesion DNA polymerases"

9:30 - 10:00 am **Jesper Svejstrup**, Cancer Research UK  
"Contending with damage-stalled RNA polymerase II"

10:00 - 10:30 am Coffee break

10:30 - 11:00 am **Kiyoji Tanaka**, Osaka University  
"Composition and function of the CSA and XAB2 protein complexes"

11:00 - 11:40 am Late-breaking developments from poster session

11:40 - 12:20 pm **Graham Walker**, Massachusetts Institute of Technology  
Discussion Leader

12:30 pm Lunch

4:00 - 5:30 pm Poster session I, continued

6:00 pm Dinner

7:30 pm - 9:30 pm **SENSITIVITY TO DNA REPLICATION BLOCKS AND DNA CROSS-LINKS**

7:30 - 8:00 pm **William Kaufmann**, University of North Carolina  
"Mechanisms of inhibition of DNA replication by solar UV irradiation"

8:00 - 8:30 pm **Clare McGowan**, The Scripps Research Institute  
"The role of human Mus81 in DNA repair"

8:30 - 9:00 pm **Steven Brill**, Rutgers University  
"Sgs 1 and overlapping pathways for replication fork restart in yeast"

9:00 - 9:30 pm **Randy Legerski**, M.D. Anderson Cancer Center  
Discussion Leader  
"Toward reconstitution of mammalian interstrand cross-link repair in vitro"

**WEDNESDAY**

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm **RECOMBINATION, DSB, AND MISMATCH REPAIR**

9:00 - 9:30 am **Michael Lieber**, University of Southern California School of Medicine  
"Nonhomologous DNA end-joining in the repair of pathologic and physiologic double-strand breaks"

9:30 - 10:00 am **Cynthia McMurray**, Mayo Clinic  
"Hijacking mismatch repair to cause CAG expansion mutations in Huntington's Disease"

10:00 - 10:30 am Coffee Break

10:30 - 11:00 am **Jim Haber**, Brandeis University  
"Studying DNA repair in yeast to learn about cancer-associated chromosome rearrangements"

11:00 - 11:40 am Late-breaking developments from poster session

11:40 - 12:20 pm **Patrick Sung**, UT Health Science Center, San Antonio  
Discussion Leader  
"Homologous recombination: Mediators and Regulators"

12:30 pm Lunch

3:00 - 3:45 pm Informal, optional presentation - The NIH peer review process and grantsmanship -- **Victor Fung** (SRA, Chemical Pathology Study Section), and **Richard Pelroy** (Program Director)

4:00 - 5:30 pm Poster Session II

6:00 pm Dinner

7:30 pm - 9:30 pm **RECOMBINATION & DSB REPAIR**

7:30 - 8:00 pm **Ed Egelman**, University of Virginia Health Sciences Center  
"Structure/Function relationships in protein-DNA complexes active in DNA recombination, replication and repair"

8:00 - 8:30 pm **Shunichi Takeda**, Kyoto University  
"Functional interactions between homologous DNA recombination and translesion DNA synthesis in postreplicational repair"

8:30 - 9:00 pm **Roland Kanaar**, Erasmus University

*"Mechanisms of mammalian DNA double-strand break repair"*

9:00 - 9:30 pm

**John Tainer**, Scripps Research Institute

Discussion Leader

"Recombination and double-strand break repair: Unifying molecular structures with biology"

**THURSDAY**

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm **REGULATION AND SIGNALING IN DNA REPAIR**

9:00 - 9:30 am **Thomas Begley**, Massachusetts Institute of Technology

"Complex responses to damaging agents"

9:30 - 10:00 am **Daniel Figeys**, MDS-Proteomics

"Application of proteomics to drug discovery"

10:00 - 10:30 am Coffee break

10:30 - 11:00 am **Paul Russell**, The Scripps Research Institute

"DNA damage response mechanisms: Lessons from fission yeast"

11:00 - 11:40 am Late-breaking developments from poster session

11:40 - 12:20 pm **Phil Hanawalt**, Stanford University

Discussion Leader

12:30 pm Lunch

4:00 - 5:15 pm Poster session II, continued

5:15 - 6:00 pm Business meeting for all participants

6:00 pm Dinner

7:30 pm - 9:30 pm **CONTROL OF ACCESS TO CHROMATIN**

7:30 - 8:00 pm **Genevieve Almouzni**, Institut Curie

"From nucleosome to heterochromatin: formation and maintenance in the context of the cell cycle and DNA damage"

8:00 - 8:30 pm **Andre Nussenzweig**, National Institutes of Health

"DNA damage detection and repair: roles in lymphocyte development and genome stability"

8:30 - 9:00 pm **Steve Jackson**, Wellcome/CRC Institute

"Early events in the DNA damage response"

9:00 - 9:30 pm **Michael Smerdon**, Washington State University

Discussion Leader

9:30 - 11:30 pm Closing social gathering, Geoff Stradling quartet in Lobby Bar

**FRIDAY**

7:30 am - 8:30 am Breakfast

9:00 am Depart



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