CURRICULUM VITAE

STEPHEN CHARLES KOWALCZYKOWSKI

NAME: Stephen Charles Kowalczykowski

TITLE: Distinguished Professor of Microbiology & Molecular Genetics, and Molecular & Cellular Biology

ADDRESS: University of California
Department of Microbiology & Molecular Genetics
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EDUCATION:

Rensselaer Polytechnic Institute, Troy, New York
B.S., Chemistry, 1972

Georgetown University, Washington, D.C.
Ph. D., Chemistry (Biochemistry), 1976

University of Oregon, Eugene, Oregon
Postdoctoral, Molecular Biology, 1981

RESEARCH EXPERIENCE:

Rensselaer Polytechnic Institute, Troy, New York (1972)
Senior Thesis Research with Dr. Frederick Wedler
Topic: "Substrate Binding Order of Sheep Brain Glutamine Synthetase"

Georgetown University, Washington, D.C. (1972-1976)
Doctoral Thesis Research with Dr. Jacinto Steinhardt
Topic: "Physical-Chemical Studies of Sickle Cell Hemoglobin"

University of Oregon, Eugene, Oregon (1976-1981)
American Cancer Society Postdoctoral Fellow with Dr. Peter von Hippel
Topic: "Interactions of Bacteriophage T4-Coded Gene 32 Protein with Nucleic Acids"

Northwestern University Medical School, Chicago, Illinois (1981-1991)
Assistant Professor of Molecular Biology (1981-1987)
Associate Professor of Molecular Biology (1987-1991)
Topics: "Mechanistic Studies of Genetic Recombination";
"Biochemical Mechanism and Function of DNA Helicases"

University of California, Davis, California (1991- present)
Professor of Microbiology and of Molecular and Cellular Biology (1991-present)
Distinguished Professor of Microbiology and of Molecular and Cellular Biology, (2005-present)
Chairman, Section of Microbiology (1992-1999)
Member, Cancer Center, University of California Davis Medical Center (2000 – present)
Director, Center for Genetics and Development (2000-2006)
Topics: "Mechanistic Studies of Genetic Recombination";
"Biochemical Mechanism and Function of DNA Helicases"
"Recombinational Repair of DNA Damage in Eukaryotes"
"Single-Molecule Assembly of Protein-DNA complexes"
“Molecular Etiology of Cancer”

TEACHING EXPERIENCE:

Georgetown University:
Teaching Assistant, Physical Chemistry Laboratory, (1972-1974)
Instructor, Summer Faculty, General Chemistry II, (1973)

Northwestern University Medical School:
Graduate Biochemistry (nucleic acid structure, protein-nucleic acid interactions, & nucleic acid enzymology), 1982-1991
Advanced Molecular Genetics (biochemical mechanisms of genetic recombination and DNA repair), 1982-1991
Advanced Topics in Molecular Biology: Protein-Nucleic Acid Interactions, 1985

University of California, Davis:
Microbial Physiology, (biochemical mechanisms of DNA replication, genetic recombination, and DNA repair), 1991-present
Molecular Biology, (DNA replication and recombination), 1992-present
Principles of Protein-Nucleic Acid Interactions, 1994-present
Advanced Concepts in DNA Metabolism, 2003-present

HONORS:

Rensselaer Polytechnic Institute Scholarship, 1968-1972
Phi Lambda Upsilon, Chemical Honor Society, 1971
Georgetown University Fellowship, 1972-1976
Sigma Xi, 1974
American Cancer Society Postdoctoral Fellowship, 1977-1980
American Cancer Society Junior Faculty Research Award, 1983-1986
Roll of Honour of Polish Science, 2000
National Institutes of Health MERIT Award, 2000-2010
American Association for the Advancement of Science, Fellow, 2001
American Academy of Microbiology, Fellow, 2003
University of California, Davis, Academic Senate, Distinguished Faculty Research Award, 2005
American Academy of Arts & Sciences, Fellow, 2005
National Academy of Sciences, Member, 2007
University of California, Davis, College of Biological Sciences, Faculty Research Award, 2011
Michael J. Gait Award, Nucleic Acids Group of the Royal Society of Chemistry, 2012

NAMED AND KEYNOTE LECTURES:

University of California, Biochemistry and Molecular Biology Graduate Group, Fall Colloquium Keynote Speaker, Davis, CA,2000
University of California, Berkeley, Department of Molecular and Cell Biology, Marian E. Koshland Seminar, Berkeley, CA, 2001
University of California, San Diego, The Herbert Stern Lecture, San Diego, CA, 2002
Case Western University, Department of Biochemistry, Harland G. Wood Memorial Lecture, Cleveland, OH, 2004
Stanford University, Frontiers in Biology, Palo Alto, CA, 2005
University of California, Academic Senate, Faculty Distinguished Research Lecturer, Davis, CA , 2005
University of California, Biochemistry and Molecular Biology Graduate Group, Fall Colloquium, Keynote Speaker, Davis, CA, 2005
Koshland Symposium, Science@theInterface: Single Molecule Biology & Imaging, Institute for Biophysical Dynamics, University of Chicago, Chicago, IL, 2006
University at Buffalo, SUNY, Distinguished Scientist Seminar, Departments of Microbiology and Immunology and of Biochemistry, Buffalo, NY
University of California, Berkeley, Biophysics Graduate Group, Eran Karmon Memorial Keynote Lecture, Berkeley, CA, 2007
University of California, Biochemistry and Molecular Biology Graduate Group, Fall Colloquium, Keynote Speaker, Davis, CA, 2007

Institute for Complex Adaptive Matter, Annual Conference, “Grand Challenges in Biological Matter”, Santa Fe, NM,2008
Washington State University, School of Molecular Biosciences, Annual Retreat, Keynote Speaker, Pullman, WA, 2008
NCCR Symposium on New Trends in Structural Biology, Zurich, Switzerland, 2008
Annual Dutch Meeting on Molecular and Cellular Biophysics, Keynote Speaker, Veldhoven, The Netherlands, 2008
Joint 5th Structural Biology and Functional Genomics and 1st Biological Physics International Conference, National University of Singapore, Keynote Speaker, Singapore, 2008
St. Jude Children’s Research Hospital, Danny Thomas Lecture, Memphis, TN, 2009
New York Academy of Sciences, Genome Integrity, Keynote Speaker, New York, NY, 2009
FASEB Conference, “Nucleic Acid Enzymes”, Keynote Speaker, Saxton's River, VT, 2010
National Institutes of Health, National Heart, Lung, and Blood Institute, Director’s Seminar, Bethesda, MD, 2010
Keystone Symposium, “DNA Replication and Recombination”, Keynote Speaker, Keystone, Colorado, 2011
FASEB Conference, “Helicases & Nucleic Acid Translocases: Structure, Mechanism, Function, & Roles in Human Diseases”, Keynote Speaker, Steamboat Springs, CO, 2011
COMBIO 2011, Plenary Speaker, Annual Meeting of ASBMB (Australian Society of Biochemistry and Molecular Biology), ASPS, and ANZSCDB, Cairns, Australia, 2011
Harvey Lecture, The Harvey Society, Rockefeller University, New York, NY 2012
New York University School of Medicine, Honors Lecture, New York, NY, 2012
Michael J. Gait Lecture of the Royal Society of Chemistry, “Machines on Genes”, Oxford, UK, 2012
University of California, Davis, Keynote Address, Molecular and Cellular Biology Training Grant, Fallen Leaf Lake, CA
University of Texas MD Anderson Cancer Center, Hogg Distinguished Lecture, Smithville, TX, 2013
Oklahoma Medical Research Foundation, Tom Garrard Endowed Lecture, Oklahoma City, OK
Fourth Microbial Genome Maintenance Meeting: Transformation and DNA Repair, Keynote Speaker, University of Oslo, Norway

PROFESSIONAL SOCIETIES:

American Society for Biochemistry and Molecular Biology, FASEB, 1985
American Chemical Society, Division of Biological Chemistry, 1972
American Society for Microbiology, 1991
American Association for the Advancement of Sciences, 1975
Biophysical Society, 1980

PROFESSIONAL SERVICES:

Associate Editor, *Genes to Cells* (1995-present)
Faculty of 1000 (2001-2005)
Editorial Board, *The Journal of Biological Chemistry* (2003-2008)
Editorial Board, *Journal of Bacteriology* (2004-2006)
Editorial Advisory Board, *ACS Chemical Biology* (2006-2008)
Editorial Board, *Proceedings of the National Academy of Sciences* (2008-2015)
Editorial Board, *DNA Repair* (2009-2012)
Editorial Board, *Journal of Molecular Biology* (2012-2015)

Reviewer for the following journals:

American Journal of Human Genetics
Analytical Biochemistry
Archives of Biochemistry and Biophysics
Biochemistry
Biochimica et Biophysica Acta
Biopolymers
Biophysical Chemistry
Biophysical Journal
BioTechniques
Cancer Research
Cell
Chromasoma
Current Biology
DNA Repair
eLife
EMBO Journal
European Journal of Biochemistry
FEBS Letters
Gene
Genes & Development
Genetics
Journal of Bacteriology
Journal of Biological Chemistry
Journal of Cell Biology
Journal of Molecular Biology
Journal of Molecular Evolution
Journal of Molecular Microbiology and Biotechnology
Microbiology and Molecular Biology Reviews
Molecular and Cellular Biology
Molecular and General Genetics
Molecular Biology of Cancer
Molecular Cell
Molecular Microbiology
Mutation Research
Nature
Nature Cell Biology

Nature Structural & Molecular Biology
Biology
Nucleic Acids Research
Oncogene
PLoS Biology
Proceedings of the National Academy of Sciences
Science
Structure
Structure with Folding & Design
Trends in Biochemical Sciences
Trends in Biotechnology
Trends in Genetics

CONFERENCES AND SESSIONS ORGANIZED:

HFSP Conference "Recombination: Mechanisms and Biological Consequences", 1995, Conference Co-Organizer
FASEB Conference "Genetic Recombination and Chromosome Rearrangements", 1997, Conference Vice-Chair
Keystone Symposium, Molecular Mechanisms in DNA Replication & Recombination, 1999, Conference Co-Organizer
Instituto Juan March de Estudios e Investigaciones Workshop on "Mechanisms of Homologous Recombination and Genetic Rearrangements", 1999, Madrid, Spain, Conference Co-Organizer
FASEB Conference "Genetic Recombination and Chromosome Rearrangements", 1999, Conference Chair
FASEB Conference, “Nucleic Acid Enzymes: Structures, Mechanisms, and Novel Applications”, 2002, Conference Co-Chair
Juan March Foundation Workshop on “Recombinational DNA Repair and its Links with DNA Replication and Chromosome Maintenance, 2004, Madrid, Spain, Conference Co-Organizer
EMBO Workshop, “Helicases and NTP-Driven Nucleic Acid Machines Structure, Function and Roles in Human Disease”, 2005, Conference Co-Organizer, Arolla, Switzerland
Gordon Research Conference, “Nucleic Acids”, Newport, RI, 2005, Conference Vice-Chair
Gordon Research Conference, “Nucleic Acids”, Newport, RI, 2006, Conference Co-Chair
EMBO Workshop, “Helicases and NTP-Driven Nucleic Acid Machines Structure, Function and Roles in Human Disease”, 2009, Conference Co-Organizer, Les Diablerets, Switzerland
American Physical Society, 2012 March Meeting, Division of Biological Physics, "Techniques to Study Dynamic Cellular Processes One Molecule at a Time", Boston, MA, Session Co-Organizer and Co-Chair
American Society for Microbiology, 2012, 12th General Meeting, San Francisco, CA, Session Convener

SESSIONS CHAIRED:

FASEB Conference "Genetic Recombination and Genome Rearrangements", 1991, Session Chair
FASEB Conference "Genetic Recombination and Genome Rearrangements", 1995, Session Chair
Keystone Symposium, Molecular Mechanisms in DNA Replication & Recombination, 2002, Session Chair
FASEB Conference, “Helicases: Structures, Function and Roles in Human Disease”, 2003, Session Chair
EMBO Workshop, “Recombination Mechanisms: 40th Anniversary Meeting of the Holliday Model”, Seillac, France, Session Chair

Gordon Research Conference, “Nucleic Acids”, Newport, RI, Session Chair
Cell Press/Massachusetts General Hospital/Fondation Ipsen Workshop, “Exciting Biologies: Biology in Motion”, Evian-Les-Bains, France, Session Chair
FASEB Conference, “Genetic Recombination and Genome Rearrangements”, Snowmass, CO, 2009, Session Chair
EMBO Workshop, “Recombination and Connections to SUMO and Ubiquitin Modifications”, Il Ciocco, Italy, 2010, Session Chair
FASEB Conference, “Genetic Recombination and Chromosome Rearrangements”, Steamboat Springs, CO, 2011, Session Chair
COMBIO 2011, Annual Meeting of ASBMB, ASPS, and ANZSCDB, Cairns, Australia, Session Chair
EMBO Workshop, “Structure-Specific Nucleases in DNA replication and Repair”, Giens, France

MEMBER OF THE FOLLOWING GRANT REVIEW GROUPS:

Chicago Heart Association, 1987
Special Review Committee (Program Grant), National Cancer Institute, 1990
Molecular and Cellular Biophysics (BBCA), NIH (special reviewer), 1990
Microbial Physiology and Genetics, NIH (special review group), 1990
Physiological Chemistry, NIH (special reviewer), 1990, 1991, declined
Special Review Committee (Program Grant), National Cancer Institute, 1991
Nucleic Acids & Proteins Synthesis Scientific Advisory Panel, American Cancer Society, 1991-1995
Special Review Committee, Training Grants in Molecular Biophysics, NIH, 1992
Microbial Physiology, NIH, (special reviewer), 1995, 1996, 1997
Biochemistry (BIO) IRG, NIH, (special reviewer), 1998
Special Emphasis Panel, Center for Scientific Review, NIH, Chair, 1998
Biophysical Chemistry (BBCB) Study Section, NIH (*ad hoc* member), 2002
Biochemistry Study Section, NIH (member), 2002-2004
Molecular Genetics A Study Section (member), 2004-2006
Board of Scientific Counselors, NIH, NIDDK, ad hoc member, 2007
Howard Hughes Medical Institute, Investigator Review Meeting, 2010
Molecular Genetics A Study Section, NIH, *ad hoc* member, 2010

EXTERNAL REVIEWER FOR THE FOLLOWING GRANTING AGENCIES:

American Chemical Society, Petroleum Research Fund, 1986
Chicago Heart Association, 1987
Down's Syndrome Research Fund
National Science Foundation
    Biochemistry Program
    Biophysics Program
    Cellular Physiology Program
    Genetics Program

Procaryotic Genetics Program
Instrumentation and Instrument Development Program
Research Corporation
Human Frontier Science Program, 1991, 1999
Medical Research Council (United Kingdom), 1995
ATIPE (CNRS) Program (France), 1998
Italian Ministry for University and Research (MIUR), 1999, 2003
The Wellcome Trust, 1999, 2000, 2005, 2009
Association for International Cancer Research, 2000
Fanconi Anemia Research Fund, 2005
Council for Chemical Sciences (CW) of the Netherlands Organisation for Scientific Research (NWO), 2006
Agence Nationale de la Recherche (France), Physics and Chemistry for Life Sciences, 2006
French National Centre for Research, CNRS (France) 2006, 2007

SCIENTIFIC ADVISORY BOARDS:

Pangene, 1994-2001
Kimeragen, 1994-2000
Akkadix, 2000-2001
Nautilus Biotech, 2001-2003
Invitrogen, 2001-2006
University of Vermont NIH Program Project Grant, 2005-2015
Achaogen (consultant), 2007-2009
Mismatch2Model, EU Framework Programme for Research and Technological Development, 2008-2012

PATENTS:

"Spectroscopic Assay for Helicase Activity"
US Patent Number: 5,747,247; May 5, 1998

"Single Stranded DNA Binding Proteins from Archaea"
US Patent Number: 6,852,832; February 8, 2005

"Multimers of *S. solfataricus* Single-stranded DNA-Binding Protein and Methods of Use Thereof"
United States Patent Application No. 10/386,575, filed on March 11, 2003

"Biosensor for Detection and Visualization of Single-Stranded DNA"
Great Britain Patent Application No. 0711328.5 filed on June 12, 2007; PCT Patent Application No. PCT/GB2008/001995 filed on June 11, 2008; United States Patent Application No. 12/451,954 filed on December 9, 2009.

"Expression and Purification of Fusion Protein with Multiple MBP Tags"
United States Provisional Application No. 61/371,503 filed on August 6, 2010.

GRANT SUPPORT (as Principal Investigator):

[Based on an analysis by Graduate School of Business, Columbia University done in February 2005, NIH records place the level of grant support above the 95th percentile of the distribution of (extramural) NIH grants over the last 25 years (along with 2,337 others).]

Past:

National Institutes of Health; #1 R01 AI-18987
"Mechanistic Studies of Genetic Recombination"
4/82 - 3/85; Direct Costs - $252,812; Total Costs - $348,881

American Cancer Society; #ACS JFRA-70
Junior Faculty Research Award
1/83 - 12/86; Total Award - $63,000

National Institutes of Health; #2 R01 AI-18987
"Mechanistic Studies of Genetic Recombination"
4/85 - 3/90; Direct Costs - $618,862; Total Costs - $915,306

National Institutes of Health; #1 RO1 GM-41347;
"Biochemical Mechanism and Function of DNA Helicases"; percentile - 3%
12/88 - 11/93; Direct Costs - $639,464; Total Costs - $935,242

National Institutes of Health; #2 R01 AI-18987
"Mechanistic Studies of Genetic Recombination"; percentile - 7.5%
4/90 - 3/95; Direct Costs - $985,444; Total Costs - $1,507,185

Human Frontiers Science Program Workshop Grant (co-organizer with Marie Dutreix) “Recombination - Mechanisms and Biological Consequences”
10/95; Total Costs - $25,000

United States Civilian and Development Foundation - Proposal Development Travel Grant; #PDP-24; 10/96; Total Costs - $2,500

National Institutes of Health; #1 RO1 GM-41347;
"Biochemical Mechanism and Function of DNA Helicases"; percentile - 4.3%
12/93 - 3/98; Direct Costs - $662,272; Total Costs - $953,672

National Science Foundation; Multi-User Biological Instrumentation Program; DBI-9604805: “An Optical Biosensor Instrument for Analysis of Biomolecular Interactions in Molecular and Cellular Biology” 7/97-6/98; Total Costs - $67,918

University of California, Systemwide Biotechnology Research and Education Program; #98-07 “Biotechnology Approaches to the Study of DNA Damage and Biomacromolecular Interactions” 7/1/98-6/30/99; Total Costs - $45,000

National Science Foundation; Cooperative Science Program - Research with Japan
“*In Vitro* Reconstitution of Homologous DNA Recombination”
4/1/96-3/31/99; Total Costs - $6,400

Human Frontiers Science Program; RG0063; “Recombinational Repair of DNA Damage in Eukaryotes” 7/1/97-6/30/00; Total Costs - $210,000

National Institutes of Health; #2 R01 AI-18987
"Mechanistic Studies of Genetic Recombination"; percentile - 8.9%
4/95 - 3/00; Direct Costs - $832,142; Total Costs - $1,202,445

Los Alamos National Laboratory-University of California, Directed Research and Development, Research Partnership Initiative: “Integrated Structural Biology of Protein-Nucleic Acid Complexes”; 10/1/96-7/31/00; Total Costs - $170,250

National Science Foundation; Division of International Programs - Cooperative Research with France (CNRS): “Molecular Mechanism of Homologous Pairing and DNA Strand Exchange” 3/1/97-2/28/01; Total Costs - $8,000

University of California, Systemwide Biotechnology Research and Education Program; #99-10 “Biotechnology Approaches to the Studies of DNA-Protein Interactions”
7/1/99-6/30/01; Total Costs - $180,000 (Co-Principle Investigator)

University of California, Systemwide Biotechnology Research and Education Program; #99-13 “Modification of Meiotic Recombination in Interspecies Hybrids”
7/1/99-6/30/01; Total Costs - $177,696 (Co-Project Leader)

National Science Foundation/Nanoscale Science & Engineering; MCB-0103556
“Biological Nanomachines: Assembly and Function of Protein-DNA Nanostructures at the Single-Molecule Level”
7/01 – 6/02; Direct Costs - $84,109; Total Costs - $100,000 (Co-PI)

National Institutes of Health; #2 RO1 GM-41347
"Biochemical Mechanism and Function of DNA Helicases"; percentile - 1.0%
4/98 - 3/03; Direct Costs - $818,397; Total Costs - $1,139,963

The Ellison Medical Foundation; Conference & Workshop Award #AG-CW-0214-05
“Helicases in Cancer and Aging”, in Helicases and NTP-Driven Nucleic Acid Machines: Structure, Function, and Roles in Human Disease,
7/2005; Total Costs - $10,000

National Institutes of Health; P01 CA-092584 – Program/Project Grant
“Structural Cell Biology of DNA Repair Machines” percentile – 10%
Total Program: 9/01 – 8/06; Total Costs - $18,871,117 (Tainer/Cooper)
“Multi-component Complexes in Homologous Recombination” (Kowalczykowski)
Project #4: 1/02 – 8/06; Direct Costs - $327,249; Total Costs - $485,679

National Institutes of Health; R01 GM-64745
"Single-Molecule Assembly of Protein-DNA complexes"
6/02 – 7/07; Direct Costs - $524,000; Total Costs - $603,782

The Ellison Medical Foundation; Conference & Workshop Award #AG-CW-0234-06
“Genome Structure and Maintenance”, Gordon Research Conference on Nucleic Acids, 6/2006; Total Costs - $5,000

National Institutes of Health; T32 GM-007377-29 (Erickson)
“Training in Molecular and Cellular Biology”
7/03 – 6/09; Direct Costs - $1,496,561; Total Costs - $1,627,482

National Institutes of Health; R37 GM-62653-25 (AI-18987-25) – MERIT award
"Mechanistic Studies of Genetic Recombination"; percentile – 0.2%
4/00 – 3/10; Direct Costs - $1,342,091; Total Costs - $1,996,134

National Institutes of Health, National Cancer Institute; P30 CA-93373 (de Vere White) "Cancer Center Support Grant"
7/02 – 6/10; Total Annual Costs - $1,850,810

National Institutes of Health; GM078666-03S1 (Campbell)
“Enzyme Interactions at the DNA Replication Fork”
7/09-08/10; sub-award to GM041347-20 Direct costs - $40,850

National Institutes of Health; R01 GM-64745-04
"Single-Molecule Assembly of Protein-DNA complexes"; percentile – 0.9%
7/07 – 6/11; Direct Costs - $760,000; Total Costs - $1,155,200

National Institutes of Health; T32 CA-10052159 (Kung/Erickson/Privalsky)
"Training Program in Oncogenic Signals and Chromosome Biology"
9/06 – 9/11; Total Costs - $1,266,350

Department of Defense; Breast Cancer Research Program; BC085223 (W81XWH-09-1-0098)
"Functions of BRCA2 Protein and Its Domains: Biochemical and Single-Molecule Analysis"; score – 1.8
1/09 – 12/12; Direct Costs - $375,000; Total Costs - $570,000

National Institutes of Health; R01 GM-41347-19
"Biochemical Mechanism and Function of DNA Helicases"; percentile – 0.9%

12/07 – 3/12; Direct Costs - $1,347,926; Total Costs - $1,957,461

In addition, I participated in the following collaborative grant proposals:

1) NIH training grant in molecular and cellular biology
2) MSTP grant
3) Cancer Center Core grant
4) NSF biological instrumentation grant for a 250 liter fermentor
5) NIH shared instrumentation grant for a gas phase protein sequenator
6) NIH training grant in molecular biophysics
7) NSF biological instrumentation grant for an IAsys biosensor
8) NIH research collaboration grant for a 900 MHz NMR spectrometer
9) NIH shared instrumentation grant for a 50 liter fermentor

Active:

(as Principal Investigator or Co- Principal Investigator):

National Institutes of Health; 5R01 GM-62653-33
"Mechanistic Studies of Genetic Recombination"
impact/priority score: 12; percentile – 1.0%
4/10 – 3/14; Direct Costs - $1,460,120; Total Costs - $2,208,842

National Institutes of Health; 5R01 GM064745-09
"Single-Molecule Assembly of Protein-DNA complexes"
impact/priority score: 10; percentile – 2%
7/11 – 6/15; Direct Costs - $820,000; Total Costs - $1,259,725

National Institutes of Health; 1R01 CA154920-02 (co-PI with Heyer)
"Functions of Rad51 Paralogs in Recombinational DNA Repair"
Impact/priority score: 10; percentile – 1.0%
9/11 – 7/16; Direct Costs - $1,771,252; Total Costs - $2,726,181

National Institutes of Health; 5 R01 GM041347-24
"Biochemical Mechanism and Function of DNA Helicases"
Impact/priority score: 20; percentile – 6.0%
4/12 – 1/16; Direct Costs - $1,269,974; Total Costs - $1,885,126

(as Collaborator or Trainer):

National Institutes of Health, National Cancer Institute; P30 CA-93373 (de Vere White) "Cancer Center Support Grant"
08//11 – 6/16; Direct Costs: $2,044,677; Total Costs: $3,138,579.

National Institutes of Health; T32 GM-007377-29 (Erickson)
“Training in Molecular and Cellular Biology”
7/09– 6/14; Direct Costs - $1,878,820; Total Costs - $1,999,067

National Institutes of Health; T32 CA-108459-06 (Heyer) "Training Program in Oncogenic Signals and Chromosome Biology"
9/11 – 8/16; Total Direct Costs: $1,526,412 Total Costs - $1,648,525

SEMINAR PRESENTATIONS (since 1985):

1985 - University of Wisconsin, Department of Biochemistry
Loyola University Medical School, Department of Biochemistry
1986 - University of Chicago, Department of Molecular Genetics and Cell Biology
University of New Mexico, Department of Biology
Midwest Procaryotic Molecular Biology Club, Chicago, IL
European Molecular Biology Organization (EMBO) Workshop on Genetic Recombination, Nethybridge, Scotland
FASEB Meeting on Recombination and Genome Rearrangement, Saxtons River, VT
1987 - University of Illinois at Chicago, Department of Biological Sciences
National Institutes of Health, Genetics and Biochemistry Branch
Johns Hopkins University, Department of Biochemistry
DuPont, Central Research Station
Johns Hopkins University, Department of Chemistry
Cornell University Medical School, Department of Microbiology
Northwestern University, Evanston, Department of Biochemistry, Molecular Biology, and Cell Biology
1988 - Albert Einstein School of Medicine, Department of Biochemistry
National Institutes of Health
American Society for Microbiology Annual Meeting, Miami, FL
Cold Spring Harbor Meeting on Intermediates in Genetic Recombination, Cold Spring Harbor, NY
1989 - Brandeis University, Department of Biochemistry
UCLA Symposium on DNA Replication & Genetic Recombination, Keystone, CO
University of Colorado Health Sciences Center, Department of Biochemistry & Biophysics
University of Colorado, Department of Molecular, Cellular, & Developmental Biology
University of Arizona, Department of Biochemistry
FASEB Meeting: Recombination and Genome Rearrangement, Copper Mountain, CO.
University of Chicago, Department of Biochemistry
University of Utah Medical Center, Department of Biochemistry
University of North Carolina, Department of Biochemistry
National Institutes of Health, Laboratory of Molecular Biology
National Cancer Institute, Frederic Cancer Research Facility
St. Louis University, Department of Biochemistry and Molecular Biology
1990 - University of Iowa, Department of Biochemistry
Indiana University, Department of Chemistry
University of Utah, Department of Biology
Hutchinson Cancer Research Center, Division of Basic Sciences
University of Oregon, Institute of Molecular Biology
University of California, Davis, Department of Microbiology

University of California, Berkeley, Division of Molecular and Cell Biology
Harvard Medical School, Laboratory of Toxicology
EMBO Meeting on Genetic Recombination, Seillac, France
RecA and Related Proteins, Saclay, France
Columbia University, Department of Microbiology

1991 - Stanford University Medical School, Department of Biochemistry
FASEB Meeting on Recombination and Genome Rearrangement, Saxtons River, VT
West Coast Bacterial Physiologists Asilomar Conference, Asilomar, CA

1992 - Keystone Symposium, Molecular Mechanisms in DNA Replication & Recombination Taos, NM
University of California, Davis, Genetics Graduate Group
University of Oregon, Institute of Molecular Biology
EMBO Workshop on "Genetic Recombination", Seillac, France
University of New Mexico, Department of Cell Biology
University of Texas, Austin, Department of Chemistry & Biochemistry
University of Nebraska, Lincoln, Center for Biotechnology

1993 - Arrowhead Genetics Conference, University of California, Los Angeles
Stanford University, Cancer Biology
Oregon State University, Department of Biochemistry & Biophysics
University of Vermont, Department of Biochemistry
University of Rochester Medical School, Department of Biophysics
Steenbock Symposium on Protein-Nucleic Acid Interactions, University of Wisconsin
Gordon Research Conference, “Nucleic Acids”, New Hampton, New Hampshire
FASEB Meeting on Recombination & Genome Rearrangement, Copper Mountain, CO
University of Chicago, Department of Molecular Genetics & Cell Biology

1994 - EMBO Workshop on "Genetic Recombination", Seillac, France
American Society for Microbiology Meeting, Las Vegas, NV
University of Paris-Sud, Institut Curie-Biologie, Orsay, France
University of Tokyo, Institute of Medical Science, Tokyo, Japan
The Institute of Physical and Chemical Research (RIKEN), Saitama, Japan
University of Osaka, Department of Biology, Osaka, Japan
Annual Meeting of the Molecular Biology Society of Japan, Kobe, Japan

1995 - National Institutes of Health
Stanford University, Department of Biology
FASEB Conference "Genetic Recombination and Genome Rearrangements"
Human Frontiers Science Conference "Recombination: Mechanisms and Biological Consequences", Avignon, France (co-organizer)
CSSA Annual Meeting: Symposium on Classical and Molecular Cytogenetics, St. Louis, MO.
Emory University School of Medicine, Department of Microbiology & Immunology
University of Texas Health Sciences Center, Department of Microbiology & Molecular Genetics, Houston, TX

1996 - Keystone Symposium, Molecular Mechanisms in DNA Replication & Recombination Taos, NM
University of North Carolina, Department of Biochemistry & Biophysics
Vanderbilt University, Department of Biochemistry
Northwestern University Medical School, Department of Cell and Molecular Biology
EMBO Workshop on "Genetic Recombination", Seillac, France
Maxygen, Santa Rosa, CA
University of Southern California, Department of Biological Sciences
University of California, Los Angeles, Department of Microbiology and Molecular Genetics
University of Oregon, Institute of Molecular Biology
1997 - Clontech, Palo Alto, CA
Los Alamos National Laboratory, DNA Damage and Repair Group, Life Sciences Division, Los Alamos, NM
FASEB Conference "Genetic Recombination and Chromosome Rearrangements" (vice-chair), Snowmass, CO
St. Petersburg University, Molecular Genetics Center, St. Petersburg, Russia
Russian Academy of Sciences, Institute of Cytology and Genetics, “Modern Concepts in Evolutionary Genetics”, Novosibirsk, Russia
Kimeragen, Philadelphia, PA
3R (Replication, Recombination and Repair) Symposium, Miki City, Japan
Osaka University, Research Institute for Microbial Diseases, Osaka, Japan
University of California, Davis, Division of Biological Sciences
University of Toronto, Dept. of Medical Genetics & Microbiology, Toronto, Canada
University of California, Berkeley, Dept. of Molecular and Cell Biology
1998 - Louisiana State University Medical Center, Department of Microbiology & Immunology
Keystone Symposium, “Bacterial Chromosomes”, Santa Fe, NM
Osaka University, Research Institute for Microbial Diseases, Osaka, Japan
Symposium on Molecular and Cellular Mechanisms of Genetic Recombination, Osaka, Japan
Chang Gung University, Dept. of Molecular and Cellular Biology, Kwei-San, Taiwan
National Yang-Ming University, Institute of Genetics, Taipei, Taiwan
EMBO Workshop, "The Molecular Mechanisms and Consequences of Genetic Recombination", Seillac, France
IBC Conference “Display Technologies” San Francisco, CA
FASEB Conference, “Nucleic Acid Enzymes: Mechanisms and Diseases”, Saxtons River, VT
The Memorial Sloan-Kettering Cancer Center, Molecular Biology Program
Columbia University College of Physicians & Surgeons, Department of Microbiology
Georgia Institute of Technology, Department of Biology

Lawrence Livermore National Laboratory, Biology & Biotechnology Research Program

1999 - University of Arizona, Department of Molecular and Cellular Biology

Keystone Symposium, “Molecular Mechanisms in DNA Replication & Recombination”, Taos, NM

Instituto Juan March de Estudios e Investigaciones Workshop on "Mechanisms of Homologous Recombination and Genetic Rearrangements", Madrid, Spain

Gordon Research Conference, “Enzymes, Coenzymes, and Metabolic Pathways”, Kimball Union Academy, Meriden, NH

University of Washington, Department of Genetics, Werner’s Syndrome Retreat, Seattle, WA

FASEB Conference, "Genetic Recombination and Chromosome Rearrangements", Snowmass, CO

Erasmus University, Department of Cell Biology & Genetics, Rotterdam, The Netherlands

Tenth Conference on DNA topoisomerases, European Cancer Centre, Amsterdam, The Netherlands

University of Tokyo, Institute of Medical Sciences, Tokyo, Japan

National Institute of Genetics, Mishima, Japan

3R (Replication, Recombination and Repair) Symposium, Miki City, Japan

Instituto Juan March de Estudios e Investigaciones Workshop on “Helicases as Molecular Motors in Nucleic Acid Strand Separation”, Madrid, Spain

2000 – Gordon Research Conference, “Reversible Association Structural and Molecular Biology”, Ventura, CA

University of Maryland School of Medicine, Molecular & Cell Biology Program

University of Medicine and Dentistry of New Jersey, Microbiology & Molecular Biology

The Scripps Research Institute, Molecular and Cell Biology Affinity Group

University of California Davis Medical Center, Cancer Center

EMBO Workshop, “The Molecular Mechanisms and Consequences of Genetic Recombination”, Seillac, France

FASEB Conference, “Nucleic Acid Enzymes: Mechanisms and Diseases”, Saxtons River, VT

Institut d’Études Scientifiques de Cargèse, International Summer School, “DNA and Chromosomes: Physical and Biological Consequences”, Corsica, France

Gordon Research Conference, “Mutagenesis”, Oxford, United Kingdom

Imperial Cancer Research Fund, Clare Hall Laboratories, London, United Kingdom

“Workshop on Site-Specific Recombination and Transposition”, Marine Biological Laboratory, Woods Hole, MA

University of California, Davis, Biochemistry and Molecular Biology Graduate Group, Fall Colloquium Keynote Speaker

University of California, Davis, Cancer Center, “Cancer Research Symposium”

National Academy of Sciences Colloquium, “Links Between Recombination and Replication: Vital Roles of Recombination”, Irvine, CA
Institute of Molecular Biology, Academia Sinica, Taipei, Taiwan
2001 – Keystone Symposium, “Bacterial Chromosomes”, Santa Fe, NM
University of Delaware, Department of Chemistry & Biochemistry, Newark, DE
University of Oregon, Institute of Molecular Biology, Eugene, OR
Environmental Mutagen Society Annual Meeting, San Diego, CA
University of California, Berkeley, Department of Molecular and Cell Biology, Marian E. Koshland Seminar, Berkeley, CA
Harvard University, Department of Molecular and Cellular Biology, The Biological Laboratories, Boston, MA
American Society for Microbiology Annual Meeting, Orlando, FL
FASEB Conference, "Helicases: Structure, Function and Roles In Human Disease", Saxtons River, VT
FASEB Conference, "Genetic Recombination and Chromosome Rearrangements", Snowmass, CO
University of Oregon, Institute of Molecular Biology, “Petefest”, Eugene, OR
Invitrogen Corp., Carlsbad, CA
2002 – Keystone Symposium, “Molecular Mechanisms of DNA Replication & Recombination”, Snowbird, Utah
3R (Replication, Recombination and Repair) Symposium, Miki City, Japan
Lawrence Berkeley National Laboratory, Life Sciences Division, Berkeley, CA
Biophysical Society, Annual Meeting, San Francisco, CA
Keystone Symposium, “DNA Helicases, Cancer and Aging”, Tahoe City, CA
International Workshop, “DNA in Chromatin, at the Frontiers of Biology, Biophysics and Genomics”, Arcachon, France
EMBO Workshop, “The Molecular Mechanisms and Consequences of Genetic Recombination”, Seillac, France
Gordon Research Conference, “Nucleic Acids”, Bristol, RI
FASEB Conference, “Nucleic Acid Enzymes: Mechanisms, Structures and Applications”, Saxtons River, VT
Oxford Workshop, “Site-Specific Recombination, Genetic Transposition and DNA Dynamics”, St. Catherine’s College, Oxford, UK
Cancer Research U.K., Clare Hall Laboratories, South Mimms, United Kingdom
Commissariat a l'Energie Atomique, Fontenay-Aux-Roses, France
Institut Curie, Section de Recherche, Paris, France
Invitrogen Corp., Carlsbad, CA
National Institutes of Health, NIDDKD
Banbury Conference, “DNA Recombination and Repair”, Cold Spring Harbor Laboratory, NY
University of California, San Diego, The Herbert Stern Lecture, San Diego, CA
Structural Biology of DNA Repair Workshop, Lawrence Berkeley National Laboratory, Berkeley, CA
University of California, Davis, Genetics Graduate Group, Davis, CA
University of California, Davis, Biophysics Graduate Group, Davis, CA

2003 – American Association for the Advancement of Science, Annual Meeting, Nanotechnology 2003, Denver, CO
University of Miami, Department of Biochemistry and Molecular Biology, Miami, FL
Duke University Medical School, Department of Biochemistry, Durham, NC
Rice University, Dept. of Biochemistry & Cell Biology, Houston, TX
Invitrogen Corp., Carlsbad, CA
University of Utah Medical School, Department of Biochemistry
International Workshop on Werner Syndrome, Lansdowne, VA
FASEB Conference, “Helicases: Structure, Function and Roles in Human Disease”, Saxtons River, VT
FASEB Conference, "Genetic Recombination and Chromosome Rearrangements", Snowmass, CO
Institute of Biotechnology, Vilnius, Lithuania
Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
University of Chicago, Department of Biochemistry and Molecular Biology, Chicago, IL
University of Illinois, Department of Microbiology, Champaign-Urbana, IL
Center for Biomedical Genetics, “Biomolecular Dynamics: From living cells to single molecules”, Amsterdam, The Netherlands
2004 – National Institutes of Health, DNA Repair Interest Group, VideoCast from Lawrence Livermore National Laboratory, Livermore, CA
New England Biolabs, Beverly, MA
University of Massachusetts Medical School, Department of Biochemistry & Molecular Pharmacology, Worcester, MA
Cambridge University, Department of Oncology, MRC Research Centre, Cambridge, England
University of Oxford, Department of Biochemistry, Oxford, England
NACON VI (“Recognition Studies in Nucleic Acids”), University of Sheffield, England
National Cancer Institute, NIH, Think Tank, “Cell Decisions in Response to DNA Damage: Survival *vs*. Programmed Cell Death”, Bethesda, MD
Case Western University, Department of Biochemistry, Harland G. Wood Memorial Lecture, Cleveland, OH
EMBO Workshop, “Recombination Mechanisms: 40th Anniversary Meeting of the Holliday Model”, Seillac, France
Gordon Research Conference, “Nucleic Acids”, Newport, RI
FASEB Conference, “Nucleic Acid Enzymes”, Saxton’s River, VT
American Chemical Society National Meeting, Symposium on Biophysical Chemistry and Novel Imaging of Single Molecules and Single Cells, Philadelphia, PA
“Workshop on Site-Specific Recombination and Transposition”, Marine Biological Laboratory, Woods Hole, MA
Environmental Mutagen Society Annual Meeting, Pittsburgh, PA
Washington University School of Medicine, Department of Biochemistry and Molecular Biophysics, St. Louis, MO

American Society for Microbiology, “DNA Repair and Mutagenesis”, Southampton, Bermuda
University of Toulouse, Laboratory of Microbiology and Molecular Genetics, Toulouse, France
Juan March Foundation, "Recombinational DNA Repair and its Links with DNA Replication and Chromosome Maintenance", Madrid, Spain
2005 – Keystone Symposium, “Mechanisms of DNA Replication and Recombination”, Keystone, Colorado
Harvard Medical School, Department of Cell Biology, Cambridge, MA
Stanford University, Frontiers in Biology, Palo Alto, CA
University of Maryland, Department of Chemistry and Biochemistry, Baltimore, MD
National Institutes of Health, NIDDKD/GBB, Bethesda, MD
American Society of Biochemistry and Molecular Biology, Annual Meeting, “DNA Replication and Associated Processes”, San Diego, CA
University of Texas Medical Branch, Department of Human Biological Chemistry and Genetics, Galveston, TX
University of California, Faculty Research Lecture
Abdus Salam International Center for Theoretical Physics, “Workshop on Biopolymers: Thermodynamics. Kinetics, and Mechanics of DNA, RNA and Proteins”, Trieste, Italy
University of California, Department of Biology, San Diego, CA
EMBO Conference, ““Helicases and NTP-Driven Nucleic Acid Machines Structure, Function and Roles in Human Disease”, Arolla, Switzerland
FASEB Conference, "Genetic Recombination and Genome Rearrangements", Snowmass, CO
University of California, Davis, Biochemistry and Molecular Biology Graduate Group, Fall Colloquium, Keynote Speaker
University of Georgia, Department of Microbiology, Athens, GA
2006 – University of California, Berkeley, Plant and Microbial Biology, Berkeley, CA
Keystone Symposium, “Nucleic Acid Enzymes”, Taos, NM
Biophysical Society, Annual Meeting, Salt Lake City, UT
Oregon Health and Science University, Department of Biochemistry and Molecular Biology, Portland, OR
University of Oregon, Institute of Molecular Biology, Eugene, OR
Frontiers in Chemical Biology: Single Molecules, Royal Society of Chemistry, Churchill College, University of Cambridge
Leading Edge Lecture, City of Hope Graduate School, Duarte, CA
Invitrogen Corp., Carlsbad, CA
Columbia University, College of Physicians and Surgeons, Department of Biochemistry and Molecular Biophysics, New York, NY
Memorial Sloan-Kettering Cancer Center, Molecular Biology Program, New York, NY
Kavli Institute for Theoretical Physics, “New Physical Approaches to Molecular and Cellular Machines”, University of California, Santa Barbara, CA

EMBO Conference, “Recombination Mechanisms and the Maintenance of Genome Stability”, Seillac, France
Koshland Symposium, Science@theInterface: Single Molecule Biology & Imaging, Institute for Biophysical Dynamics, University of Chicago, Chicago, IL
Gordon Research Conference, “Single Molecule Approaches to Biology”, New London, NH
University of California, Davis, School of Medicine, Department of Biochemistry and Molecular Medicine, Davis, CA
Crosstalk in Chromosome Mechanics: Developing an Interdisciplinary Approach”, Cancer Center, University of California, Davis
UK Society for General Microbiology, “DNA Replication, Recombination, Repair and Cell Cycle”, York, UK
University of Nottingham, Queen's Medical Centre, Institute of Genetics, Nottingham, UK
University of Edinburgh, Department of Chemistry and Institute of Cell and Molecular Biology, Edinburgh, UK
Oxford University, Department of Chemistry, Oxford, UK
Oxford Workshop, “Site-Specific Recombination, Transposition and DNA Dynamics”, St. Catherine’s College, Oxford, UK
University at Buffalo, SUNY, Distinguished Scientist Seminar, Departments of Microbiology and Immunology and of Biochemistry, Buffalo, NY
Cornell University, Biophysics Colloquium, Ithaca, NY
University of Wisconsin, Department of Bacteriology, Madison, WI
John Innes Centre, Norwich, UK
International University of Andalusia Workshop, “Mechanisms and Biological Consequences of Recombinational DNA Repair-Mediated Genome Instability”, Baeza, Spain
University of California, Berkeley, Structural and Quantitative Biology seminars, Departments of Chemistry and Molecular & Cell Biology, Berkeley, CA

2007 – Workshop on Single Molecule Fluorescence, PicoQuant and the Center for Biophotonics, University of California, Davis, CA
Gordon Research Conference, “Nucleic Acids”, Newport, RI
FASEB Conference, “Helicases & NTP-Driven Nucleic Acid Motors: Structure, Function, Mechanisms & Roles in Human Disease”, Indian Wells, CA
International Congress on Radiation Research, San Francisco, CA
FASEB Conference, "Genetic Recombination and Chromosome Rearrangements", Snowmass, CO
American Chemical Society National Meeting, Division of Physical Chemistry, Symposium on Single Molecule Spectroscopy, Imaging, and Manipulation of Biomolecular Systems, Boston, MA
University of California, Berkeley, Biophysics Graduate Group, Eran Karmon Memorial Lecture, Berkeley, CA
University of California, Davis, Biochemistry and Molecular Biology Graduate Group, Fall Colloquium, Keynote Speaker, Davis, CA

University of California, San Francisco, Department of Biochemistry & Biophysics, San Francisco, CA
Cell Press/Massachusetts General Hospital/Fondation Ipsen Workshop, "Exciting Biologies: Biology in Motion", Evian-Les-Bains, France
University of Lausanne, Center for Integrative Genomics, Lausanne, Switzerland
Delft University of Technology, Kavli Institute of Nanoscience, Nanoscience Seminar, Delft, The Netherlands
Vrije Universiteit Amsterdam, Department of Physics and Astronomy, Amsterdam, The Netherlands
University of California, Davis, "Probing Life" seminar series, Davis, CA
American Society for Cell Biology, 47th Annual Meeting, "Single Molecule Studies", Washington, DC
National Institutes of Health, NIDDK, Genetics and Biochemistry Branch, Washington, DC

2008 – Institute for Complex Adaptive Matter, Annual Conference, "Grand Challenges in Biological Matter", Santa Fe, NM
National Academy of Sciences, Annual Meeting, Washington, DC
EMBO Conference, "Recombination Mechanisms", Il Ciocco, Italy
Institut Curie, Génétique, Paris, France
London Research Institute Symposium on Chromosome Biology, London, England
Salk, Caltech, USC Meeting on DNA Replication and Genome Integrity, San Diego, CA
Washington State University, School of Molecular Biosciences, Annual Retreat, Pullman, WA
NCCR Symposium on New Trends in Structural Biology, Zurich, Switzerland
Workshop on Site-specific Recombination, Transposition and DNA Dynamics, Woods Hole, MA
Annual Dutch Meeting on Molecular and Cellular Biophysics, Veldhoven, The Netherlands
Erasmus University, Department of Cell Biology & Genetics, Rotterdam, The Netherlands
Joint 5th Structural Biology and Functional Genomics and 1st Biological Physics International Conference, National University of Singapore, Singapore

2009 – Biophysical Society, 53rd Annual Meeting, Boston, MA
St. Jude Children's Research Hospital, Danny Thomas Lecture, Memphis, TN
Cantoblanco Workshop on "Molecular Mechanisms of Genomic Stability", Madrid, Spain
Gordon Research Conference, "Chromosome Dynamics", Il Ciocco, Italy
New York Academy of Sciences, Genome Integrity, New York, NY
EMBO Workshop, "Helicases and NTP-Driven Nucleic Acid Machines Structure, Function and Roles in Human Disease", Les Diablerets, Switzerland
FASEB Conference, "Genetic Recombination and Genome Rearrangements", Snowmass, CO

University of California, Davis, Center for Comparative Medicine, Davis, CA
University of Oregon, 50th Anniversary Symposium of the Institute of Molecular Biology, Eugene, OR
Cancer Research UK, London Research Institute, Clare Hall, UK

2010 – Duke University, Department of Biochemistry, Durham, NC
EMBO Workshop, “Recombination and connections to SUMO and Ubiquitin modifications”, Il Ciocco, Italy
University of Chicago, Department of Biochemistry and Molecular Biology, Chicago, IL
Northwestern University, Department of Biochemistry, Molecular Biology and Cell Biology, Evanston, IL
FASEB Conference, “Nucleic Acid Enzymes”, Saxton's River, VT
CNRS Workshop, “Site-Specific Recombination, Transposition and DNA Dynamics”, Ile d’Oléron, France
University of California, Department of Medical Microbiology and Immunology, Emerging Challenges in Microbiology and Immunology, Davis, CA
University of California, Cancer Center, Annual Cancer Research Symposium, Davis, CA
Zing Conference, “Nucleic Acids”, Puerto Morelos, Mexico
Vanderbilt University, Institute of Chemical Biology, Nashville, TN
National Institutes of Health, National Heart, Lung, and Blood Institute, Director’s Seminar, Bethesda, MD
University of California, Molecular and Cellular Biology Joint Seminars, Davis, CA

2011 – Keystone Symposium, “DNA Replication and Recombination”, Keynote Speaker, Keystone, CO
Keystone Symposium, “AAA and Related ATP-Driven Protein Machines: Structure, Function and Mechanism”, Tahoe City, CA
EMBO Meeting, “Responses to DNA damage: From Molecular Mechanism to Human Disease”, Egmond aan Zee, The Netherlands
St. Louis University School of Medicine, Cancer Center, Department of Biochemistry and Molecular Biology, St. Louis, MO
Gordon Research Conference, “Genetic Toxicology”, Il Ciocco, Italy
FASEB Conference, "Genetic Recombination and Chromosome Rearrangements", Steamboat Springs, CO
FASEB Conference, “Helicases & Nucleic Acid Translocases: Structure, Mechanism, Function, & Roles in Human Diseases”, Steamboat Springs, CO
Peking University, College of Life Sciences, Beijing, China
COMBIO 2011, Plenary Speaker, Annual Meeting of ASBMB (Australian Society of Biochemistry and Molecular Biology), ASPS, and ANZSCDB, Cairns, Australia
Symposium on “Regulatory networks in genome expression and maintenance”, Ludwig-Maximilians-Universität, Gene Center, Munich, Germany
TOPO2011, Academia Sinica, Taipei, Taiwan

2012 – University of California, Ludwig Institute for Cancer Research, Department of Cellular and Molecular Medicine, San Diego, CA
Eötvös University, Department of Biochemistry, Budapest, Budapest
University of California, Department of Microbiology, Davis, CA
Harvey Lecture, The Harvey Society, Rockefeller University, New York, NY
Brandeis University, Rosenstiel Research Center, Waltham, MA
New York University School of Medicine, Honors Lecture, New York, NY
EMBO Workshop, “Recombination Mechanisms and Genome Instability”, Jerez de la Frontera, Spain
Barcelona BioMed Conference, Institute for Research in Biomedicine, "The DNA damage response in human disease", Barcelona, Spain
American Society for Microbiology, 12th General Meeting, San Francisco, CA
Harden Conference, Biochemical Society, “Machines on Genes II”, Oxford, UK
EMBO Workshop, “Structure-Specific Nucleases in DNA replication and Repair”, Giens, France
Institute for Complex Adaptive Matter/FAPERJ Summer School on Emergent Matter: Biological Physics of Protein Folding and Conformational Diseases, Rio de Janeiro, Brazil
University of California, Department of Physics Colloquium, Davis, CA
University of California, Davis, Keynote Address, Molecular and Cellular Biology Training Grant, Fallen Leaf Lake, CA
Harvard Medical School, Department of Biological Chemistry & Molecular Pharmacology, Cambridge, MA
University of California, T32 Oncogenic Signals and Chromosome Biology Retreat, Davis, CA
Lawrence Berkeley National Laboratory, Life Sciences Division, Berkeley, CA
2013 – Single Molecule Biophysics Meeting (SMB 2013), Aspen Center for Physics, Aspen, Colorado USA
University of Texas MD Anderson Cancer Center, Hogg Distinguished Lecture, Smithville, TX
Biophysical Society, Annual Meeting, Philadelphia, PA
Drexel University Medical School, Philadelphia, PA
Oklahoma Medical Research Foundation, Tom Garrard Endowed Lecture, Oklahoma City, OK
University of California, Comprehensive Cancer Center Crosstalk “Cancer Genetics meets DNA Repair”, Davis, CA
American Physical Society, March Meeting, Baltimore, MD
Washington University School of Medicine, Siteman Cancer Center, St. Louis, MO
University of Nebraska Medical Center, Eppley Institute for Research in Cancer, Omaha, NE
University of California, Department of Mathematics, Mathematical Biology, Davis, CA
Fourth Microbial Genome Maintenance Meeting: Transformation and DNA Repair, Keynote Speaker, University of Oslo, Norway

University of California, Inaugural Symposium, Department of Microbiology and Molecular Genetics, Davis, CA

PUBLICATIONS

1. Kowalczykowski, S.C. (1977). Physical-chemical studies of sickle cell hemoglobin: Acid denaturation, viscosity, and solution density. Georgetown University, Ph.D. Thesis.

2. Kowalczykowski, S.C. and Steinhardt, J. (1977). Kinetics of hemoglobin S gelation followed by continuously sensitive low-shear viscosity. ***J. Mol. Biol. 115***, 201-213. PMID: 592363

3. Steinhardt, J., Kowalczykowski, S.C., and Jones, M.M. (1978). Progress in interpreting the phase transitions of sickle-cell hemoglobin. *In*: Biochemical and Clinical Aspects of Hemoglobin Abnormalities, W.S. Caughey, ed. (New York: Academic Press), pp. 251-278.

4. Kowalczykowski, S.C., Lonberg, N., Newport, J.W., Paul, L.S., and von Hippel, P.H. (1980). On the thermodynamics and kinetics of the cooperative binding of bacteriophage T4-coded gene 32 (helix-destabilizing) protein to nucleic acid lattices. ***Biophys. J. 32***, 403-418. PMID: 6264988; PMCID: PMC1327320

5. Newport, J.W., Kowalczykowski, S.C., Lonberg, N., Paul, L.S., and von Hippel, P.H. (1980). Molecular aspects of the interactions of T4-coded gene 32- protein and DNA polymerase (gene 43-protein) with nucleic acids. *In*: Mechanistic Studies of DNA Replication and Genetic Recombination, B. Alberts, eds. (New York: Academic Press), **19**, pp. 485-505.

6. Kowalczykowski, S.C., Lonberg, N., Newport, J.W., and von Hippel, P.H. (1981). Interactions of bacteriophage T4-coded gene 32 protein with nucleic acids. I. Characterization of the binding interactions. ***J. Mol. Biol. 145***, 75- 104. PMID: 7265204

7. Newport, J.W., Lonberg, N., Kowalczykowski, S.C., and von Hippel, P.H. (1981). Interactions of bacteriophage T4-coded gene 32 protein with nucleic acids. II. Specificity of binding to DNA and RNA. ***J. Mol. Biol. 145***, 105-121. PMID: 7265197

8. Lonberg, N., Kowalczykowski, S.C., Paul, L.S., and von Hippel, P.H. (1981). Interactions of bacteriophage T4-coded gene 32 protein with nucleic acids. III. Binding properties of two specific proteolytic digestion products of the protein (G32P*I and G32P*III). ***J. Mol. Biol. 145***, 123-138. PMID: 6455528

9. Kowalczykowski, S.C., Bear, D.G., and von Hippel, P.H. (1981). Single-stranded DNA binding proteins. *In*: The Enzymes, P.D. Boyer, eds. (New York: Academic Press), **14**, pp. 373-442.

10. Lohman, T.M. and Kowalczykowski, S.C. (1981). Kinetics and mechanism of the association of the bacteriophage T4 gene 32 (helix-destabilizing) protein with single-stranded nucleic acids. Evidence for protein translocation. ***J. Mol. Biol. 152***, 67-109. PMID: 6279865

11. von Hippel, P.H., Kowalczykowski, S.C., Lonberg, N., Newport, J.W., Paul, L.S., Stormo, G.D., and Gold, L. (1982). Autoregulation of gene expression. Quantitative evaluation of the expression and function of the bacteriophage T4 gene 32 (single-stranded DNA binding) protein system. ***J. Mol. Biol. 162***, 795-818. PMID: 6984860

12. von Hippel, P.H., Kowalczykowski, S.C., Lonberg, N., Newport, J.W., Paul, L.S., Stormo, G.D., and Gold, L. (1983). Autoregulation of Expression of T4 Gene 32: a Quantitative Analysis. *In*: Bacteriophage T4, C.K. Matthews, E.M. Kutter, G. Mosig and P.B. Berget, eds. (Washington, D.C.: American Society for Microbiology), pp. 202-207.

13. Menetski, J.P. and Kowalczykowski, S.C. (1985). Interaction of recA protein with single-stranded DNA: Quantitative aspects of binding affinity modulation by nucleotide cofactors. ***J. Mol. Biol. 181***, 281-295. PMID: 3981638

14. Kowalczykowski, S.C., Paul, L.S., Lonberg, N., Newport, J.W., McSwiggen, J.A., and von Hippel, P.H. (1986). Cooperative and noncooperative binding of protein ligands to nucleic acid lattices: Experimental approaches to the determination of thermodynamic parameters. ***Biochemistry 25***, 1226-1240. PMID: 3486003

15. Kowalczykowski, S.C. (1986). Interaction of recA protein with a photoaffinity analogue of ATP, 8-azido-ATP: Determination of nucleotide cofactor binding parameters and of the relationship between ATP binding and ATP hydrolysis. ***Biochemistry 25***, 5872-5881. PMID: 3539181

16. Roman, L.J. and Kowalczykowski, S.C. (1986). Relationship of the physical and enzymatic properties of *Escherichia coli* recA protein to its strand exchange activity. ***Biochemistry 25***, 7375-7385. PMID: 2948558

17. Kowalczykowski, S.C., Clow, J.C., Somani, R., and Varghese, A. (1987). Effects of the *Escherichia coli* SSB protein on the binding of *Escherichia coli* RecA protein to single-stranded DNA: Demonstration of competitive binding and the lack of a specific protein-protein interaction. ***J. Mol. Biol. 193***, 81- 95. PMID: 3295259

18. Kowalczykowski, S.C. and Krupp, R.A. (1987). Effects of the *Escherichia coli* SSB protein on the single-stranded DNA-dependent ATPase activity of *Escherichia coli* RecA protein: Evidence that SSB protein facilitates the binding of RecA protein to regions of secondary structure within single-stranded DNA. ***J. Mol. Biol. 193***, 97-113. PMID: 2953903

19. Menetski, J.P. and Kowalczykowski, S.C. (1987). Transfer of recA protein from one polynucleotide to another: Kinetic evidence for a ternary intermediate during the transfer reaction. ***J. Biol. Chem. 262***, 2085-2092. PMID: 3818586

20. Menetski, J.P. and Kowalczykowski, S.C. (1987). Transfer of recA protein from one polynucleotide to another: Effect of ATP and determination of the processivity of ATP hydrolysis during transfer. ***J. Biol. Chem. 262***, 2093- 2100. PMID: 3818587

21. Kowalczykowski, S.C. (1987). Mechanistic aspects of the DNA strand exchange activity of *E. coli* recA protein. ***Trends Biochem. Sci. 12***, 141- 145.

22. Kowalczykowski, S.C., Clow, J., and Krupp, R.A. (1987). Properties of the duplex DNA-dependent ATPase activity of *Escherichia coli* recA protein and its role in branch migration. ***Proc. Natl. Acad. Sci. USA 84***, 3127-3131. PMID: 3033635; PMCID: PMC304821

23. Menetski, J.P., Varghese, A., and Kowalczykowski, S.C. (1988). Properties of the high-affinity single-stranded DNA binding state of the *Escherichia coli* recA protein. ***Biochemistry 27***, 1205-1212. PMID: 3284580

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26. Roman, L.J. and Kowalczykowski, S.C. (1989). Characterization of the helicase activity of the *Escherichia coli* RecBCD enzyme using a novel helicase assay. ***Biochemistry 28***, 2863-2873. PMID: 2545238

27. Roman, L.J. and Kowalczykowski, S.C. (1989). Characterization of the ATPase activity of *Escherichia coli* RecBCD enzyme: Relationship of ATP hydrolysis to the unwinding of duplex DNA. ***Biochemistry 28***, 2873-2881. PMID: 2545239

28. Kowalczykowski, S.C., Burk, D. L., and Krupp, R.A. (1989). Biochemical events essential to the recombinational activity of the *Escherichia coli* recA protein: I. Properties of the mutant recA142 protein. ***J. Mol. Biol. 207***, 719-733. PMID: 2527303

29. Kowalczykowski, S.C. and Krupp, R.A. (1989). Biochemical events essential to the recombinational activity of the *Escherichia coli* recA protein: II. Co-dominant effects of recA142 protein on wild-type recA protein function. ***J. Mol. Biol. 207***, 735-747. PMID: 2527304

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34. Menetski, J.P., Bear, D.G., and Kowalczykowski, S.C. (1990). Stable DNA heteroduplex formation by the *Escherichia coli* recA protein in the absence of ATP hydrolysis. ***Proc. Natl. Acad. Sci. U.S.A. 87***, 21-25. PMID: 2404275; PMCID: PMC53191

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40. Kowalczykowski, S.C. (1991). Biochemistry of genetic recombination: Energetics and mechanism of DNA strand exchange. ***Annu. Rev. Biophys. Biophys. Chem. 20***, 539-575. PMID: 1831022

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