

CURRICULUM VITAE

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Date of Birth: April 29, 1952

Place of Birth: Newark, New Jersey, US citizen

Marital Status: Married (gender: male)

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Education and Employment Record (current appointments in bold):

| | | |
|---|--------------------|----------------|
| Rutgers University, New Brunswick, New Jersey | A.B. Microbiology | 1970-74 |
| University of Iowa, Iowa City, Iowa | Ph.D. Microbiology | 1974-79 |
| USPHS Predoctoral Trainee in Cellular and Molecular Biology | | 1975-78 |
| The University of Chicago, Chicago, Illinois | Postdoctoral | 1979-83 |
| USPHS Postdoctoral Trainee in Virology (University of Bologna, Visiting Scientist, 1980) | | 1979-81 |
| Leukemia Society of America Special Fellow | | 1981-83 |
| Stanford University School of Medicine, Stanford, California | | |
| Assistant Professor of Microbiology & Immunology | | 1983-89 |
| Associate Professor of Microbiology & Immunology | | 1989-95 |
| Chairman of the Department of Microbiology & Immunology | | 1995-99 |
| Professor of Microbiology & Immunology | | 1995-06 |
| Professor Emeritus | | 5/2006 |
| Stanford University, Stanford, California | | |
| Associate Dean of Research | | 2000-01 |
| Emory University, Atlanta Georgia | | |
| Robert W. Woodruff Professor of Microbiology & Immunology | | 2006-2021 |
| Emory Vaccine Center | | 2006-2021 |
| Professor Emeritus | | 1/2022 |
| <i>Professional leave:</i> | | |
| SyStemix, Palo Alto, California | | 1990 (6 mo.) |
| Aviron, Mountain View, California | | 1995 (6 mo.) |
| MedImmune-AstraZeneca Distinguished Fellow | | 11/2008-1/2011 |

Honors and Awards:

Closing Keynote - 44th International Herpesvirus Workshop (2019)
 Gertrude and Werner Henle Lectureship, University of Pennsylvania (2018)
 NIH Director's Transformative Award (funded by NIAID 2015-2019)
 Nirit and Michael Shaoul Fellow (two week visiting professor), Tel Aviv (2015)
 Inaugural Weller-Smith Oration, CMV/Betaherpesvirus Workshop, Brisbane (2015)
 Keynote – Second International Herpesvirus Forum, Guangzhou (2014)
 Herpes Liason Award – Virginia Regional Herpes Symposium (2014)
 Emory 1% Award (2012)
 Fellow of the American Academy of Microbiology (2012)
 Keynote Speaker – International Herpesvirus Workshop, Gdansk (2011)
 Keynote Speaker - Nebraska Center for Virology 10th Anniversary (2010)
 Distinguished Fellow, MedImmune (2008 - 2011)
 Belleville Wall of Recognition (2008)
 Maurice Hilleman Lecturer, The University of Chicago (2008)
 Georgia Cancer Coalition Eminent Scholar (2006-2011)
 Robert W. Woodruff Chair Professorship (2006-present)
 Louisiana State University Visiting Faculty (2004)
 Stanford University Fellow (2002-2004)
 Pfizer Visiting Professor in Infectious Diseases, University of Oklahoma (2001)
 Elkin's Lecture, Emory University (1999)
 SmithKline Beecham Fellow (1995-96)
 ASM Foundation for Microbiology Lecturer (1992-94)
 National Institutes of Health Wallace Rowe Lecture (1993)
 American Cancer Society Faculty Research Grant (1984-1993)
 Leukemia Society of America Special Fellow (1981-1983)
 Agnes Axtell Moule Faculty Scholar (1983)
 Andrew Mellon Fellow (1984)

Professional Affiliations:

American Society for Microbiology
 American Society for Virology
 Microbiology Society
 American Society for Biochemists and Molecular Biologists

National/Foreign Review Panel Memberships (current membership in bold):

NIH Reviewers Reserve (ad hoc) reviewer (1994-pres)
UK MRC ad hoc reviewer (2010-pres)
Welcome Foundation ad hoc reviewer (2009-pres)
 ME/CFS Collaborative Research Centers, reissued (2023)
 ME/CFS) Collaborative Research Centers (2022)
 NIAID DMID BAA Development of Medical Countermeasures for Biothreat Agents, Antimicrobial-Resistant Infections and Emerging Infectious Diseases (2021)
 NIH Vaccines Against Microbial Disease Study Section (2014-2015) ad hoc reviewer.
 NIH Special Emphasis Review Study Section RFA "Omics Technologies for Predictive Modeling of Infectious Diseases" (2013)
 NIH Special Emphasis Review Study Section BAA "Targeted Clinical Research to Address Select Viral Infections" (2011)

Topics in Virology Study Section (*ad hoc* 2007-2009)
 UK MRC Virology Focus Strategy Review Group (2006-2008)
 Institute of Medicine (National Academy of Sciences) Consultant, Committee on Review of Priorities in the National Vaccine Plan, 2008
 NIDODC Review Panel on CMV-related Hearing Loss (2004)
 NIH Virology B Study Section (*ad hoc* 2004)
 Advisory Panel to Office of AIDS Res on Opportunistic Infections (1995-96)
 NIH-NIAID Spec Review: Molec. & Struc. Appr. Antiviral Drug Design (1994)
 NIH Experimental Virology Study Section (1990-1994)
 NIH-NIAID Special Review - Animal Models of Human Viral Infections (1990)
 NIH-NIAID Workshop on Opportunistic Infections in AIDS (1989)
 NIH Small Business Administration Study Section (1988)
 USDA Biotechnology Study Section (1986-88)

Editorial Board:

Journal of Virology (1991-present), *Virology* (1991-present), *PeerJ* (2012-present), *PLoS Pathogens* (2014-present), *eLife* (2016-present), *J. Biol. Chem.* (2018 – present)
 (Past) *Intervirology* (1986-1989), *J. Biol. Chem.* (1994-1999, 2001-2004 & 2009-2014)

Panel Member: Wellcome Foundation (2009), United Kingdom MRC reviewer (1999, 2003-2008), NIH Clinical Sciences I Study Section (1985), NIH Site Visit Panels (1986, 1987), NIH Virology Study Section (1988), NIH-NIAID Microbiology and Infectious Disease Research Committee (1989), USDA-Hatch Grant Program Reviewer - University of Nevada (1989), NIH-NIAID Board of Scientific Counselors (1989), USDA Biotechnology Study Section (1989-95).

Reviewer: the USDA Biotechnology Study Section (1989-95) and the NIH-NIAID Board of Scientific Counselors (1989). I have also served as a reviewer or panel member for the Medical Research Council (United Kingdom), the Wellcome Foundation, the Australian Medical Research Council, the Canadian National Institute of Health, the Israel Science Foundation, the Veterans Administration, the National Foundation March of Dimes, the National Science Foundation and the Natural Sciences and Engineering Research Council of Canada.

Invited Reviewer:

Journals: *Science*, *Nature*, *Cell*, *Immunity*, *Nature Immunology*, *Nature Medicine*, *Molecular Cell*, *Cell Host Microbe*, *Journal of General Virology*, *Virus Research*, *Intervirology*, *Archives of Virology*, *Journal of Viral Immunology*, *Proceedings of the National Academy of Sciences*, *Journal of Clinical Microbiology*, *Journal of Infectious Diseases*, *New England Journal of Medicine*, *Journal of Experimental Medicine*, *Blood*, *Journal of Immunology*, *Journal of Interferon and Cytokine Research*, *PLoS Pathogens*, *J. Biol. Chem.*, *Viruses*, *Frontiers*

Consultant/Advisory Board Member:

Current Academic and Nonprofit Programs:

National Institutes of Health, Dale and Betty Bumpers Vaccine Research Center
 Scientific Advisory Working Group (2017 – present)
 Access to Advanced Health Institute Board of Directors (2022 – present),
 CEO: Corey Casper (this institute was formerly known as IDRI)

Current Companies:

Scientific Advisory Boards:

ViroThera (2020 – present)
 Omios Pharma (2021 – present)
 Blue Lake Biotechnology (2022 – present)

Consultant:

Stamford Pharmaceuticals, Inc. (2023 – present; formerly Ascend Biopharma (2016)
 CoCrystal Pharma, Inc (2021 – present)
 GlaxoSmithKline (2022 – present)
 Oxymo Technologies (2023 – present)

Past scientific advisory board member:

Agenovir, Inc. (2015 – 2018; acquired by Vir Biotechnology in 2018); ChemoCentryx, Inc. (1997 – 2018; acquired by Amgen in 2022); International AIDS Vaccine Initiative Scientific Advisory Committee (2014 - 2017); Louisiana Biomedical Research Network (2004 -2017); CoCrystal Pharma, Inc (2007 – 2016); GlobeImmune, Inc (2003 – 2015); Immune Design, Inc. (2012 – 2014; acquired by Merck in 2019); Nebraska Center for Virology (COBRE) (2000 - 2015); HudsonAlpha Institute for Biotechnology R10K (2011-2012); Ribozyme Pharmaceuticals, Inc. (RPI, 1992-2001; renamed SIRNA, acquired by Merck in 2007); Aviron (1992-2002; acquired by MedImmune, LLC, division of AstraZeneca from 2007); Chiron Corporation (1991-92); Schering-Plough (1984-1994); Syntro, Inc. (1985-88)

Previous or occasional consulting:

US Department of Justice (2022-2023); Krog and Partners (2022); DynaVax (2020 – 2022); DNAtrix (2019); Tendel Therapies (2019); Merck (2014 – 2019); Foley Hoag/Selendy & Gay (2018 – 2019); Pfizer (2011, 2014); GlaxoSmithKline (2011, 2012, 2014); Paul Hastings (2012 – 2013); MedImmune/AstraZeneca (employee 2008 – 2011; consultant, 2011 – 2012; 2016 – 2018); Stanford Ovarian SPOR internal review (2012); Boehringer Ingelheim (2011); Western Regional Center of Excellence for Biodefense and Emerging Infectious Diseases Research (2010); Berlex (2005); Genzyme/ILEX (2004-2005); 9th District Court, Judicial Scientific Advisor (2000-2003); ImmunoGen, Inc. (1995-2002); GeneTrol (2001-2002); Parke-Davis (Warner-Lambert) (1998-1999); Glaxo-Wellcome Herpesvirus Consultancy Group (1996-1998); Searle-Monsanto (1994-1995); SyStemix, Inc. (1990)

SPONSORED RESEARCH SUPPORT:

COMPLETED (held in the three years before retirement from Emory University)

Project Number: 5 RO1 AI020211-33 (Mocarski, PI) **Dates of Project:** 12/01/16-10/31/21

Source: NIH/NIAID

Annual Direct Costs: \$250,000

Title: Cytomegalovirus DNA replication and inversion.

Major Goals: (1) Study cell death pathways controlling viral dissemination. (2) Investigate cell death pathways controlling latency and persistence. (3) Elaborate the contribution of cell death to innate and adaptive immunity.

Percent Effort: 2.0 calendar months

Project Number: none (Mocarski, PI; Mandal, PL) **Dates of Project:** 03/01/21-02/28/23

Source: Halle Institute for Global Research; Emory-Tel Aviv Collaborative research Grant.

Title: Programmed Cell Death Pathway in Virus-Triggered Lung Inflammation

Major Goals: Investigate whether (i) death; (ii) death-independent functions; and/or (iii) necroptotic extracellular vesicles, contribute to cytokine/chemokine production from lung epithelial cells and fibroblasts.

Percent Effort: 0 calendar months

Project Number: none (McCarty, PI; Mandal, PL) **Dates of Project:** 12/01/20-11/30/21

Source: Emory funds.

Title: Role of Programmed Cell Death Signaling in Inflammatory Intestinal Injury

Major Goals: Investigate the contribution of programmed cell death (PCD) pathways including apoptosis, necroptosis and pyroptosis, as well as inflammasome-dependent inflammatory cytokine activation, to inflammation and inflammatory injury in a murine model of cystic fibrosis.

Percent Effort: 0 calendar months (Dr. Mandal is an instructor in my group)

Project Number: 1 R21 AI142507-01 (Mocarski, PI) **Dates of Project:** 07/25/19-06/30/21

Source: NIH/NIAID

Annual Direct Costs: \$125,000

Title: 3-D Culture Models.

Major Goals: Develop human and mouse lung tissue models to investigate the contribution of cytomegalovirus to airway disease, with a focus on virus-encoded and induced cytokines.

Percent Effort: 1.4 calendar months

Project Number: 2 R01 AI118853-01 (Mocarski, PI) **Dates of Project:** 6/01/15-5/31/19

Source: NIH/NIAID Director's Transformative Award **Annual Direct Costs:** \$250,000

Title: Innate activation and death signals in health and disease.

Major Goals: (1) Optimize allogeneic engraftment by manipulating cell death pathways by controlling cell death. (2) Enhance nuclear reprogramming by eliminating detrimental innate cell death. (3) Determine the contribution of apoptosis and necroptosis to inflammatory disease in mouse models.

Percent Effort: 20% (2.4 calendar months)

Past Trainees

| | |
|--|---|
| Sabbatical: | Marie Jo Masse, Ph.D. (1991-92) Lawrence Corey, M.D. (1994) Dana Wolfe, M.D. (1998-99) Maria Paola Landini, M.D. (1999) |
| Richard R. Spaete, Ph.D. (1983-86) (retired) Consultant | (Last position) Senior Director, MedImmune/AstraZeneca |
| <u>delta_gee@prodigy.net</u> | |
| Adam Geballe, M.D. (1985-87) Member Professor | Division of Human Biology Fred Hutchinson Cancer Res Center Dept of Medicine, Univ. of Washington 1100 Fairview Avenue North – mailstop C2-023 P.O. Box 19024 Seattle, Washington 98109-1024 |
| <u>ageballe@fhcrc.org</u> Tel: (206) 667-5122 | |
| M. Faraz Nasser, Ph.D. (1986-88) (retired) | (last position) Program Officer, NIH/NIAID |
| Gavin W. G. Wilkinson, Ph.D. (1987-88) Professor Emeritus (retired) | Department of Medical Microbiology University of Wales College of Medicine Heath Park Cardiff CF4 4XN WALES |
| <u>wmdgww@cardiff.ac.uk</u> | |
| Alessandro Ripalti, Ph.D. (1988-90) (retired) | (last position) Institute of Microbiology University of Bologna |
| <u>alessandro.ripalti@unibo.it</u> | |
| Lidia Sambucetti, Ph.D. (1987-92) Senior Director, Cancer Biology | SRI International 333 Ravenswood Avenue Menlo Park, CA 94025 |
| <u>lidia.sambucetti@sri.com</u> | |

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Julie Cherrington, Ph.D. (1987-90; Ph.D. 1990)

Chair of Board

Board of Directors
Venture Partner

Julie.cherrington@sbcglobal.net

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Actym Therapeutics, Inc.
626 Bancroft Way Suite A
Berkeley, CA 94710

Mirati Therapeutics, Syncona Limited
Brandon Capital Partners

George Kemble, Ph.D. (1983-89; Ph.D 1989)

Chief Executive Officer

George.Kemble@3VBio.com

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Sagimet Biosciences
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San Mateo, CA 94402

Jeffrey Vieira, Ph.D. (1988-93)

(retired)

Cell: 206-788-5449

(Last position) Research Scientist
Fred Hutchinson Cancer Res Center

William C. Manning, Ph.D. (1984-1990; Ph.D., 1990)

Vice President, Laboratory Operations

SEER

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Gerardo B. Abenes, D.V.M. Ph.D. (1987-90) (Last position) Senior Research Scientist
(retired) University of California, Berkeley

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Fredrick S. Leach, M.D. Ph.D. (1984-90; M.D. Ph.D. Stanford University, 1990)
Physician

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Dora Y. Ho, M.D. Ph.D. (1984-90; Ph.D. Stanford University, 1990; M.D., 2001)
Clinical Professor
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Richard Greaves, Ph.D. (1991-94)
(retired)
richard.greaves49@gmail.com

(Last position) Investigator
Imperial College, London

Gregory Duke, Ph.D. (1991-94)
(deceased)

(Prior position) Senior Director Virology
3-V Biosciences

Rhonda Cardin, Ph.D. (1989-94)
Executive Director, Anti-Infectives

Pfizer, Inc.
401 N Middletown Rd
Pearl River, NY 10965

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Janice Brown, M.D. (1992-94)
Professor

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Kazuhiro Kondo, M.D./Ph.D. (1992-95)
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Jessica Boname, Ph.D. (1991-95)
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Michael McVoy, Ph.D. (1994-95)
Professor

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Division of Infectious Diseases
Department of Pediatrics
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P.O. Box 163
Richmond, VA 23298-0163

Mark Prichard, Ph.D. (1992-96)
(deceased)

(Last position) Professor
University of Alabama

Yu-Chun Lin, M.D./Ph.D. (1991-97; Ph.D, 1997)
Associate Professor

Institute of Preventative Medicine
National Defense Medical Center
P.O. Box 90048-700 Shanhisia
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Gabriele Hahn, M.D. (1994-97)
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Mark Penfold, Ph.D. (1994-95)

Retired
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(Last position) Senior Scientist
Chemocentryx, Inc.

Darlene Jenkins, Ph.D. (1987-93; Ph.D., 1993)
 consultant
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Jiake Xu, M.D./Ph.D. (1994-98)
 Winthrop Professor

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Molecular Orthopaedics Lab, M504
 Pathology and Laboratory Medicine
 School of Surgery and Pathology
 University of Western Australia (1994)
 Nedlands, WA 6009 Australia

Laurel Lagenaur, Ph.D. (1990-95, Ph.D. 1995)
 Senior Scientist

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Cynthia Bolovan, Ph.D. (1994-1996)
(deceased)

(last position) Senior Research Scientist
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Louise McCormick (1996-2001, postdoc; 2006-2010 Assistant Prof)

(Ph.D., University of Chicago, 1996)

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 Anatomic Pathologist (retired) Pfizer Global Research & Development
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Timothy Sparer (1997-2002) (Ph.D., Emory University, 1997)
 Associate Professor Department of Microbiology
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Ritesh Tandon, Ph.D. (2006-2012) (Ph.D., University of Georgia, 2006)
Program Officer/Health Office of Research Infrastructure Programs
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Devon Livingston-Rosanoff Ph.D. (2007-2013) (Ph.D., 2013; M.D., 2015, Emory University)
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Lisa P. Daley-Bauer, Ph.D. (2008-2013, postdoc; 2014-2018 Assistant Prof.)

(Ph.D. Cornell Univ., 2007)

Assistant Prof

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Shinya Omoto, Ph.D. (2012-2014) (Ph.D. Nagoya University, 2008)

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Hongyan Guo (2013-2019) (Ph.D, Nankai University, 2012)

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Heather S. Koehler (2016-2021) (Ph.D. Arizona State University, 2016)

Assistant Professor

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Pratyusha Mandal (2014 to 2021) (Ph.D. Purdue University, 2013)

Assistant Professor

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Lehman College
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Major Invited and Plenary Presentations:

- 1984 Keystone/UCLA Symposium - Herpesvirus
- 1985 International Herpesvirus Workshop - Ann Arbor
- 1986 International Herpesvirus Workshop - Leeds
- 1987 Animal Cells and Viruses Gordon Conference - Tilton
International Congress of Virology - Edmonton
- 1988 Transfusion-Associated Infections and Immune Response - San Francisco
Banbury Conference on Virus Vectors - Cold Spring Harbor
The Albany Conference - Viral Vectors – Troy NY
International Herpesvirus Workshop - Irvine
- 1989 First US-Japan Biotechnology Meeting - St. Petersburg FL
Second International Cytomegalovirus Workshop - San Diego
- 1990 Pathogenesis of Cytomegalovirus-Associated Diseases - Irvine
Annual Meeting of German Virologists - Ulm
International Congress of Virology - Berlin
International Herpesvirus Workshop - Georgetown
- 1991 3rd International Cytomegalovirus Workshop - Bologna
5th International Conference on Immunobiology and Prophylaxis of Herpesvirus Infections - St Petersberg FL
- 1992 IRBM Meeting on The Molecular Basis of Viral Latency - Rome
NIH Child Health and Human Development Workshop on Congenital CMV - Bethesda
First International Betaherpesvirus Symposium in Japan - Osaka
Banbury Conference on Molecular Mechanisms of Viral Latent Infections - Cold Spring Harbor
- 1993 Wallace Rowe Symposium - NIH, Bethesda
UCLA Symposium: Molecular Biology of Human Pathogenic Viruses - Lake Tahoe
4th International Cytomegalovirus Conference - Paris
6th International Conference on Immunobiology and Prophylaxis of Herpesvirus Infections - Hokkaido
- 1994 International Society for Antiviral Research - Charleston
Collaborative Antiviral Program - NIH, Bethesda
American Society for Microbiology Annual Meeting - Las Vegas
19th International Herpesvirus Workshop - Vancouver
4th International Meeting of the Canadian Bone Marrow Transplantation - Ottawa
- 1995 5th International Cytomegalovirus Workshop - Stockholm
20th International Herpesvirus Workshop - Groningen, Netherlands
7th International Conference on Immunobiology and Prophylaxis of Herpesvirus Infections - St. Petersberg, FL
- 1996 Glasgow Virology Workshop, Scotland
Consensus Symposium on Advances in Diagnosis, Treatment and Prophylaxis of CMV Infection - Sanibel Island, FL
21st International Herpesvirus Workshop - DeKalb, IL

- 1997 136th Society for General Microbiology General Meeting - Reading, United Kingdom
 Animal Viruses Gordon Conference - Tilton, NH
 8th International Conference on Immunobiology and Prophylaxis of Herpesvirus Infections - Mishima, Japan
 Ocular Herpesvirus Research Workshop, Granlibakken, CA
 37th Interscience Conference on Antimicrobial Agents and Chemotherapy - Toronto, Canada
- 1998 National Advisory Allergy and Infectious Diseases Council - Pathogen Genome Sequencing and Beyond, Bethesda, MD.
- 1999 Elkin Lecture, Emory University.
 CMV Retinitis - 2nd Multidisciplinary Research Workshop, Yosemite, CA
 7th International Cytomegalovirus Workshop, Keynote, Brighton, England
 Robert H. Lurie Cancer Center Basic Science Colloquium, Chicago, IL
 9th International Conference on Immunobiology and Prophylaxis of Herpesvirus Infections - Lucca, Italy
 Danish Royal Biology Society lecture, Copenhagen
- 2000 Consensus Conference: Prevention of Post-Transfusion CMV in the Era of Universal Leukoreduction, Toronto
 FASEB Microbial Pathogenesis Summer Conference, Aspen
 3rd Symposium on Cytomegalovirus-related Immunopathology, Bertinoro, Italy
 CDC Cytomegalovirus Vaccine Workshop, Altanta
 University of Oklahoma Pfizer Visiting Professor in Infectious Diseases
- 2001 Keystone Conference: Control of Viral Latency and Persistence Keystone
 Keystone Conference: Molecular Aspects of Viral Immunity
 8th International Cytomegalovirus Workshop, Pacific Grove
 Gordon Conference on Viruses and Cells, Lucca, Italy
 26th International Herpesvirus Workshop, Regensburg, Germany
 39th Infectious Disease Society of America Meeting, San Francisco
 Inauguration Symposium - Virology Institute of Tubingen University
 NIH NIAID Viral Mechanism of Immune Evasion Workshop, Annapolis
 10th International Conference on Immunobiology and Prophylaxis of Herpesvirus Infections, Osaka.
- 2002 American Transplant Congress, Washington, DC
 Foundation Juan March Viral Immunomodulation, Madrid
 Trudeau Institute, Saranac Lake
 International Joint Meeting on Cytokines (Cytokines 2002), Turin
- 2003 9th International Cytomegalovirus Workshop/1st International Betaherpesvirus Workshop - Maastricht
 7th Symposium on Virus-Host Interactions, Mt Sinai School of Medicine
- 2004 Keystone Symposium, The Pathogen: Host Standoff – Taos
 University of Chicago Symposium honoring Bernard Roizman.
- 2005 American Society for Microbiology Viral Evasion Workshop – Acapulco
 10th International Cytomegalovirus Workshop/2nd International Betaherpesvirus Workshop – Williamsburg
 European Society for Clinical Virology – Geneva

- Immune Evasion Strategies of Human Pathogens & Celebration of the 40th Anniversary of the Salk Institute – Annecy
 Banbury Conference on Early Events in Viral Infection - Cold Spring Harbor Immunobiology and Immunoprophylaxis of Human Herpesvirus Infections – Osaka.
- 2006 Pathogen: Host Standoff Keystone Conference - Keystone Society for General Microbiology General Meeting – Warwick
 5th International Conference on HHV-6 & -7 - Barcelona
 American Society for Microbiology General Meeting – Orlando
 Closing Talk, XXXI International Herpesvirus Workshop – Seattle
- 2007 Virology Symposium, Duke University - Durham
 Kaplan Symposium, University of Kentucky - Lexington
 11th International CMV/3rd International Betaherpesvirus Workshop - Toulouse
 XXXII International Herpesvirus Workshop – Asheville
 Jamie McNew Lecture, University of Minnesota – Minneapolis.
 SENS3 – Cambridge UK
- 2008 Hilleman Lecture – The University of Chicago
 ICAAC-IDSA Joint Conference, Washington DC
 University of Tubingen Dean's Research Colloquium
- 2009 Pediatric Infectious Disease Research Conference – St Judes
 12th International Cytomegalovirus/4rd International Betaherpesvirus Workshop - Boston
 Gordon Conference on Viruses & Cells – Il Ciocco
 3rd World Congress Vaccines – Singapore
 14th Immunoprophylaxis and Immunotherapy of Human Herpesvirus Infections – Kobe
- 2010 FASEB Virus Structure and Assembly Summer Research Conference
 18th Euroconference on Apoptosis – Ghent, Belgium
 Keynote - Nebraska Virology Center 10th Anniversary Symposium
- 2011 EBV Vaccine Meeting, NIH Vaccine Center - Bethesda
 Keynote - 13th International Cytomegalovirus/5th International Betaherpesvirus Workshop – Nuremberg, Germany
 Keynote - 36th International Herpesvirus Workshop – Gdansk, Poland
 Keynote – Southeast IDeA Joint Program Meeting – New Orleans
 15th Immunobiology of Herpesviruses Meeting – Venice, Italy
- 2012 Joint FDA-NIH-CDC Congenital CMV Workshop – NIH Bethesda
 4th Australasian Vaccine and Immunotherapeutics Development Congress – Brisbane
 2012 Helmholtz Center Symposium – Braunschweig
 2012 Awaji International Forum on Infection and Immunity - Kobe
 2012 Cell Death Gordon Research Conference – Il Ciocco
 37th International Herpesvirus Workshop – Calgary
 CMV2012 - Combined 14th Cytomegalovirus Workshop and 4th Congenital CMV Conference – San Francisco
- 2013 AACBNC Chair's Meeting – Puerto Rico
 NCI Special Meeting on CMV in Glioblastoma – Bethesda

- Great Lakes Transplant Immunology Forum – Atlanta
- 2014 Keystone Cell Death Meeting – Santa Fe
 Keynote at the Virginia Regional Herpes Symposium – Norfolk
 Keynote at the International Forum for Herpesviruses – Guangzhou
 Waldhausen Symposium on Cytomegaloviruses
- 2015 Weller-Smith Oration at the 15th International Cytomegalovirus/7th International Betaherpesvirus Workshop and 5th Congenital CMV Disease Workshop – Brisbane, Australia
 Nirit and Michael Shaoul Fellow Seminar at the University of Tel Aviv – Israel
 Mechanisms of Microbial-Host Cell Manipulation - Erlangen, Germany
 Cell Symposium on Cell Death and Immunity, Berkeley
- 2016 Keystone Conference on Persistent Virus Infection, Banff, Canada
 VISTRIE Symposium, Braunschweig, Germany
 Novarello Summer Course in Intrinsic and Innate Immunity, Novaro, Italy
 Nebraska INBRE Retreat, Nebraska City
 Nature Conference Innate Host Defense, Wuhan, China
- 2017 64th Society for Reproductive Investigation, Orlando
 16th International Cytomegalovirus/8th International Betaherpesvirus Workshop and 6th Congenital CMV Disease Workshop – Noordwijkerhout, Netherlands; Banbury Necrosis Conference – Cold Spring Harbor Labs
- 2018 Keynote-Henle Lectureship, University of Pennsylvania Herpesvirus Symposium
 Helmholtz Summer School on Infection Research - Wernigerode
 Waldhausen Symposium on Cytomegalovirus in Aging
- 2019 EMBO Workshop on Pathogen Sensing and Innate Immunity – Oxford
 44th International Herpesvirus Workshop – Knoxville (Invited Closing Keynote)
 Italian Congress of Virology - Padua
 European Cell Death Organization Meeting – Dresden
 7th Chinese Herpesvirus Workshop – Shenzhen
- 2020 (Microbiology Society Annual Meeting – Edinburgh, *canceled*)
- 2021 A, B and Z: The Structure, Function and Genetics of Z-DNA and Z-RNA (virtual),
 University of Iowa Mark Stinski Symposium – Iowa City
- 2022 Microbiology Society Annual Meeting – Belfast (postponed from 2020)
 18th International Cytomegalovirus/8th Congenital CMV Disease Workshop – Cambridge (virtual)
 EMBO Workshop on Cell Death in Host Defense – Crete
- 2023 Cologne Spring Meeting

Other Invited Seminars and Presentations:

- 1985 UC Los Angeles, Syntro, UC Irvine, DNAX Research Institute, Animal Cells and Viruses Gordon Conference, American Society of Virology
- 1986 University of Nevada, Dupont Research, Schering Research
- 1987 Chiron Corp., University of Chicago, University of Alabama, University of Kentucky, Scripps Clinic and Research Foundation, DNAX, UC San Francisco

- 1988 University of Rochester, Schering Research, Syntex Corp., University of Washington, University of Minnesota, Louisiana State University, NIH National Cooperative Vaccine Discovery Groups in AIDS Workshop, Gilead Sciences
- 1989 University of Chicago, Miles Laboratories, Schering Research
- 1990 University of British Columbia - Vancouver, SyStemix Corp., US Biochemical Corp., University of North Carolina, Research Triangle Virology Group, University of Ulm, University of Bologna, University of Washington, Genentech
- 1991 University of Missouri Medical Center-Columbia, University of Tennessee - Knoxville, Protein Design Labs, University of Turin, Schering Research, Irwin Memorial Blood Center, University of Ferrara, SmithKline Beecham Corp., BioMega, Jefferson Medical College
- 1992 UpJohn Corp., Louisiana State University – Baton Rouge, Linus Pauling Institute – Palo Alto, ICLAM Forum Lake Tahoe, International Herpesvirus Workshop - Edinburgh, University of Western Australia - Perth, University of Melbourne, Institute for Medical and Veterinary Sciences - Adelaide, Ribozyme Pharmaceuticals Corp.
- 1993 Michigan State University, Palo Alto Medical Foundation, 18th International Herpesvirus Workshop - Pittsburgh, UC San Francisco, University of Osaka, Royal Free Medical School - London, UC Davis, University of Washington
- 1994 University of Pennsylvania Medical School, Aviron Corp - Burlingame, 19th International Herpesvirus Workshop - Vancouver, City of Hope Medical Center - Duarte, University of California - Irvine, Gilead Sciences - Foster City
- 1995 Northwestern University Medical School, McMaster University School of Medicine, University of Southern California School of Medicine, Harvard University School of Medicine, University of Colorado - Boulder, University of Gothenberg, Cambridge University, Smithkline Beecham Pharmaceuticals - Epson, Animal Viruses Gordon Conference - Tilton, 20th International Herpesvirus Workshop - Goningen, Scripps Research Institute, Smithkline Beecham Pharmaceuticals - King of Prussia.
- 1996 University of Glasgow, University of Bologna, Smithkline Beecham Biologicals - Belgium, St. Jude Children Research Hospital, University of Kansas, SmithKline Beecham Pharmaceuticals - King of Prussia.
- 1997 University of Nebraska, CMV Retinitis (A Multidisciplinary Workshop)-San Francisco, University of Tennessee-Knoxville, University of Taiwan, University of Pennsylvania, Oregon State University of the Health Sciences, UCSF Center for AIDS Research, University of British Columbia-Vancouver, University of Rijeka-Croatia, Robarts Research Institute-London, Ontario.
- 1998 St. Jude Children Research Hospital, Children's National Research Hospital, Ribozyme Pharmaceutical, Inc., Cytomegalovirus Latency Discussion Group, Keystone Symposium on Molecular Aspects of Viral Immunity, 23rd International Herpesvirus Workshop, UC Berkeley Program in Microbial Biology, University of Michigan, Parke-Davis Pharmaceuticals, Gladstone Institute for Virology, University of North Carolina.
- 1999 State University of New York at Buffalo, Northwestern University, University of Turin, University of Bologna, Baylor College of Medicine, University of Illinois School of Medicine-Chicago, Fox Chase Cancer Center, University of Munich.

- 2000 University of Massachusetts.
- 2001 University of California, Los Angeles; University of Iowa; Cleveland Clinic and Research Institute; University of Nebraska; University of North Carolina; University of Edmonton; UCSF-Gladstone Research Foundation; International Congress of Immunosuppression, San Diego; Northwestern University School of Medicine, Chicago.
- 2002 Vaccine Research Center of NIAID-NIH, Bethesda; ImmunoGen, Cambridge; Fred Hutchinson Cancer Research Center, Seattle; Ohio State University, Columbus; Ohio University, Athens; University of Sydney School of Medicine; ViroPharma, Exton; University of Padua, Italy.
- 2003 University of Maastricht, Netherlands; Imperial College School of Medicine, London; University of California, San Diego; University of Mainz, Germany; University of Pavia, Italy, Washington University, St. Louis; University of California – Irvine.
- 2004 Duke University Medical School, Louisiana State University Medical School – Shreveport, College of Medicine and Dentistry of NJ – Newark, Emory University – Atlanta, University of Pennsylvania School of Medicine – Philadelphia, Drexel University School of Medicine – Philadelphia, Stanford Symposium for Sam Karlin, University of North Carolina, Roizman 75th Birthday Symposium at the University of Chicago
- 2005 Stanford University Cardiovascular Research Program, Emory University – Atlanta, Berlex/Schering AG – Laguna Beach
- 2006 University of Tennessee – Knoxville, Southeast Regional Virology Conference – Atlanta, University of Tubingen, University of Padua, University of Croatia, Stinski Symposium at the University of Iowa, Harvard University School of Medicine – Boston, Children’s Hospital National Research Center – Washington DC, Novartis Research – Cambridge, University College - London
- 2007 CDC – Atlanta, Georgia State University – Atlanta, Emory University School of Medicine – Atlanta, University of Minnesota school of Medicine – Minneapolis, University of Cambridge School of Medicine – Cambridge UK, University of Nebraska/Nebraska Center for Virology – Lincoln, Baylor College of Medicine – Houston.
- 2008 Louisiana State University – Baton Rouge, La Jolla Institute or Allergy & Immunology, University of California – Berkeley, Southeast Virology Conference – Atlanta, International Herpesvirus Workshop – Estoril, University of Munich, University of California Department of Medicine, Institute of Medicine National Vaccine Planning Meeting, CDC CMV Congenital Disease Conference
- 2009 University of South Florida – St Petersburg, University of Chicago, International Initiative for AIDS Vaccines, Emory Vaccine Center, MedImmune-Cambridge, Institute of Medical Sciences - University of Tokyo, Arizona State University Medical Center – Phoenix
- 2010 University of Washington, Fred Hutchinson Cancer Research Center, Southeast Regional Virology Conference - Atlanta
- 2011 Children’s Hospital of Oakland Research Institute, Univ Pennsylvania – Philadelphia, ID Seminar - Emory University, HudsonAlpha Research Institute – Huntsville, Boehringer-Ingelheim – Laval, Montreal, GSK – Collegeville, PA,

- University of Padova - Italy, University of Rijeka – Croatia, University of Pittsburgh, University of California – Irvine, GlaxoSmithkline – College Park
- 2012 NIH/NIAID Vaccine Research Center, University of Nevada – Reno, Louisiana State University Health Science Center – New Orleans, University of San Francisco, University of Sydney, University of Western Australia, University of Canberra, Institut Pasteur – Paris, NCI meeting on EBV-associated Burkitt's Lymphoma, Heinrich Pette Institute at the University of Hamburg, National Institute of Biomedical Innovation - Osaka
- 2013 University of Kyoto, GRC Conference on Virus and Cells– Il Ciocco, IHW – Grand Rapids, Emory/GA Tech Regenerative Medicine Group – Atlanta, Fox Chase Cancer Center - Philadelphia, University of Pennsylvania School of Medicine – Philadelphia, Jefferson University School of Medicine, Philadelphia
- 2014 Pfizer – Pearl River, NY, University of Massachusetts School of Medicine - Worcester, Tufts University School of Medicine - Boston, Institut Pasteur – Shanghai, SIOC of the Chinese Academy of Sciences – Shanghai, Wuhan University, Xiamen University, Roizman 85th Birthday Symposium at the University of Chicago, SUNY - Stony Brook, Merck – King of Prussia, GlaxoSmithKline – Collegeville, Charite University School of Veterinary Medicine – Berlin.
- 2015 Stanford University School of Medicine, Infectious Disease Research Institute - Seattle, University of Nebraska Virology Retreat, Walter and Eliza Hall Institute - Melbourne, University of Sydney, University of Tel Aviv, Weizmann Institute - Rehovot, Hadassa University School of Medicine - Jerusalem, University of Padua School of Medicine, 3rd European Seminar in Virology-Bertinoro, 39th International Herpesvirus Workshop - Boise, Georgia State University - Atlanta.
- 2016 MedImmune Translational Medicine - Mountain View; University of Mainz; University of Bologna; Harvard University - Cambridge; European Cell Death Organization - Barcelona; University of Croatia – Rijeka.
- 2017 University of Massachusetts Medical School – Worcester; Harvard Medical School – Boston; Beth Israel Deaconess Hospital – Boston; UC Berkeley; Aduro, Inc. – Berkeley; Viruses and Cells GRC – Il Ciocco, Italy.
- 2018 Cambridge University School of Medicine, University of Cardiff Medical School, Georgia State University, UC San Francisco, Tulane University – New Orleans, Northwestern University Medical School – Chicago, 42nd International Herpesvirus Workshop – Vancouver.
- 2019 18th International Cytomegalovirus Workshop – Birmingham, University of Texas, Southwestern – Dallas, National Institute for Biomedical Research – Beijing, Chinese Academy of Sciences – Beijing.
- 2021 Arizona State University, Biodesign Institute – Tempe (virtual), NIH NCI KSHV Vaccine Workshop (virtual); University of Illinois Medical Center – Chicago.
- 2022 University of Padua, University of Rijeka

Principal Organizer:

Major Meetings:

- 1991 XVI International Herpesvirus Workshop - Asilomar
- 2001 8th International Cytomegalovirus Workshop - Asilomar
- 2004 Keystone Symposium, The Pathogen:Host Standoff – Taos
- 2006 Keystone Symposium, The Pathogen:Host Standoff – Keystone
- 2008 Conference on Congenital CMV Disease – CDC
- 2012 Joint FDA-NIH-CDC Congenital CMV Workshop – NIH Bethesda

Workshops:

- 1987 West Coast Herpesvirus Workshop - Asilomar
- 1989 West Coast Herpesvirus Workshop - Asilomar
- 1990 West Coast Herpesvirus Workshop - Asilomar
- 1992 West Coast Herpesvirus Workshop - Asilomar
- 1993 West Coast Herpesvirus Workshop - Asilomar
- 1995 West Coast Herpesvirus Workshop - Reno
- 1998 Cytomegalovirus Latency Discussion Group - Tucson
- 2006 Transplacental Transmission and Control of Cytomegalovirus – Emory
- 2007 Transplacental Transmission and Control of Cytomegalovirus II – Emory
- 2008 Southeastern Regional Virology Conference – Atlanta
- 2012 Integrated FDA-NIH-CDC Congenital CMV Workshop – NIH Bethesda

International Organizing Committee:

- 1992 XVII International Herpesvirus Workshop - Edinburgh
- 1993 XVIII International Herpesvirus Workshop - Pittsburgh
- 1993 4th International Cytomegalovirus Conference - Paris
- 1994 XIX International Herpesvirus Workshop - Vancouver
- 1995 5th International Cytomegalovirus Conference - Stockholm
- 1995 XX International Herpesvirus Workshop - Groningen
- 1997 6th International Cytomegalovirus Conference - Alabama
- 1997 XXII International Herpesvirus Workshop - San Diego
- 2001 XXVI International Herpesvirus Workshop – Regensburg
- 2003 9th International Cytomegalovirus Workshop/1st International Betaherpesvirus Workshop - Maastricht
- 2004 XXIX International Herpesvirus Workshop – Reno
- 2005 10th International Cytomegalovirus Workshop/2nd International Betaherpesvirus Workshop - Williamsburgh
- 2005 XXX International Herpesvirus Workshop – Turku
- 2006 XXXI International Herpesvirus Workshop – Seattle
- 2007 11th International Cytomegalovirus/3rd International Betaherpesvirus Workshop – Toulouse
- 2007 XXXII International Herpesvirus Workshop – Asheville
- 2008 XXXIII International Herpesvirus Workshop – Estoril
- 2008 Congenital CMV Conference – CDC campus Atlanta
- 2009 12th International Cytomegalovirus/4th International Betaherpesvirus Workshop – Boston

- 2011 XXXVI International Herpesvirus Workshop – Gdansk
- 2012 XXXVI International Herpesvirus Workshop – Calgary
- 2012 14th International Cytomegalovirus/6th International Betaherpesvirus Workshop – San Francisco and 4th Congenital CMV Disease Workshop
- 2013 XXXVII International Herpesvirus Workshop – Grand Rapids
- 2014 XXXVIII International Herpesvirus Workshop – Kobe
- 2016 XL International Herpesvirus Workshop – Madison
- 2017 16th International Cytomegalovirus/8th International Betaherpesvirus Workshop and 6th Congenital CMV Disease Workshop - Noordwijkerhout, Netherlands
- 2019 17th International Cytomegalovirus/7th Congenital CMV Disease Workshop – Birmingham
- XLIV International Herpesvirus Workshop – Knoxville
- 2020 (XLV International Herpesvirus Workshop – Berlin – *cancelled*)
- 2022 18th International Cytomegalovirus/8th Congenital CMV Disease Workshop – Cambridge

PUBLICATIONS

Peer Reviewed Journal Articles (BOLD numbers indicate reports with high significance):

1. Mocarski, E.S. and M.F. Stinski (1979). Persistent infection of human fibroblast cells by human cytomegalovirus. *J. Virol.* 31:761-775.
2. Stinski, M.F., E.S. Mocarski, D.R. Thomsen and M. Urbanowski (1979). Membrane glycoproteins and antigens induced by cytomegalovirus. *J. Gen. Virol.* 43:119-129.
3. Stinski, M.F., E.S. Mocarski and D.R. Thomsen (1979). Some properties of cytomegalovirus DNA from standard and defective virions. *J. Virol.* 31:231-239.
4. Post, L.E., A.J. Conley, E.S. Mocarski and B. Roizman (1980). Cloning of reiterated and nonreiterated herpes simplex 1 sequences as BamHI fragments. *Proc. Natl. Acad. Sci. USA* 77:4201-4205.
5. Mocarski, E.S., L.E. Post and B. Roizman (1980). Molecular engineering of herpes simplex virus genome: Insertion of a second L-S junction into the genome causes additional genome inversions. *Cell* 22:243-255. PMID:6253078
6. Mocarski, E.S. and B. Roizman (1981). The site-specific inversion sequence of the herpes simplex virus genome: Domain and structural features. *Proc. Natl. Acad. Sci. USA* 78:7047-7051. PMID:6273905
7. Mocarski, E.S. and B. Roizman (1982). Herpesvirus dependent amplification and inversion of cell-associated viral thymidine kinase gene flanked by viral *a* sequences and linked to an origin of viral DNA replication. *Proc. Natl. Acad. Sci. USA* 79:5626- 5630. PMID:6291055
8. Mocarski, E.S. and B. Roizman (1982). The structure and function of the herpes simplex virus DNA termini: Implications regarding circularization, inversion and generation of virion DNA. *Cell* 31:89-97. PMID:6297756
9. Spaete, R.R. and E.S. Mocarski (1984). Trans-acting functions encoded by herpes simplex virus-1 recognize cis cleavage/packaging signals present on cytomegalovirus DNA. In F. Rapp (ed.) *Herpesvirus, UCLA Symposium (new series)* vol 21, Liss, Inc., New York.
10. Drew, W.L., E. Sweet, R. Minor, and E.S. Mocarski (1984). Multiple infections by cytomegalovirus in patients with acquired immunodeficiency syndrome: Documentation by Southern blot hybridization. *J. Infect. Diseases* 150:952-953. PMID:6094678
11. Mocarski, E.S., L. Deiss, and N. Frenkel (1985). Nucleotide sequence and structural features of a novel Us-*a* junction present in a defective herpes simplex virus genome. *J. Virol.* 55:140-146.
12. Mocarski, E.S., L. Pereira, and N. Michael (1985). Precise localization of genes on large animal virus genomes: Use of λgt11 and monoclonal antibodies to map a gene for a cytomegalovirus protein family. *Proc. Natl. Acad. Sci. USA* 82:1266-1270. PMID:2983334
13. Spaete, R.R. and E. S. Mocarski (1985). The *a* sequence of the cytomegalovirus genome functions as a cleavage/packaging signal for herpes simplex virus defective genomes. *J. Virol.* 54:817-824. PMID:2987533

14. Spaete, R.R., and E.S. Mocarski (1985). Regulation of cytomegalovirus gene expression: α and β promoters are trans-activated by viral functions in permissive human fibroblasts. *J. Virol.* 56:135-143. PMID:2993644
15. Geballe, A.P., F. L. Leach, and E.S. Mocarski (1986). Regulation of cytomegalovirus late gene expression: γ genes are controlled by posttranscriptional events. *J. Virol.* 57:864-874. PMID:3019554
16. Fiala, M.D., L. A. Cone, C-M. Chang, and E.S. Mocarski (1986). Cytomegalovirus viremia increases with progressive immune deficiency in patients infected with HTLV-III. *AIDS Research* 2:175-181.
17. Geballe, A.P., R.R. Spaete, and E.S. Mocarski (1986). A cis-acting element within the 5' leader of a cytomegalovirus β transcript determines kinetic class. *Cell* 46:865-872. PMID:3019554
18. Elias, P., M.E. O'Donnell, E.S. Mocarski and I.R. Lehman (1986). A DNA binding protein specific for an origin of replication of herpes simplex virus type 1. *Proc. Natl. Acad. Sci. USA* 83:6322-6326. PMID:3018724
19. Mocarski, E.S., A.C. Liu, and R.R. Spaete (1987). Structure and variability of the α sequence in the genome of human cytomegalovirus (Towne strain). *J. Gen. Virol.* 68:2223-2230. PMID:3039048
20. Spaete R.R. and E.S. Mocarski (1987). Insertion and deletion mutagenesis of the human cytomegalovirus genome. *Proc. Natl. Acad. Sci. USA* 84:7213-7217. PMID:2823255
21. Kemble, G.W., A.L. McCormick, L. Pereira and E.S. Mocarski (1987). A cytomegalovirus protein with properties of herpes simplex virus ICP8: Partial purification of the polypeptide and map position of the gene. *J. Virol.* 61:3143-3151. PMID:3041036
22. Mocarski, E.S., W.C. Manning and J.M. Cherrington (1988). Recombinant cytomegalovirus-based expression vectors. In: Y. Gluzman and S.H. Hughes (eds.) *Viral Vectors* Cold Spring Harbor Press. pp. 78-84.
23. Ho, D. and E.S. Mocarski (1988). β -galactosidase as a marker in peripheral and neural tissues of the herpes simplex virus infected mouse. *Virology* 167:279-283. PMID:2847416
24. Geballe, A.P. and E.S. Mocarski (1988). Translational control of cytomegalovirus gene expression is mediated by upstream AUG codons. *J. Virol.* 62:3334-3340. PMID:2841486
25. Manning, W.C. and E.S. Mocarski (1988). Insertional mutagenesis of the murine cytomegalovirus genome: One prominent α gene (ie2) is dispensable for growth. *Virology* 167:477-484. PMID:2849236
26. Nasseri, M.F. and E.S. Mocarski (1988). The cleavage recognition signal is contained within sequences surrounding an $a-a$ junction in herpes simplex virus DNA. *Virology* 167:25-30. PMID:2847414
27. Crute, J.J., E.S. Mocarski and I.R. Lehman (1988). A DNA helicase induced by herpes simplex virus type 1. *Nucl. Acids Res.* 16:6585-6596.

28. Mocarski, E.S., L. Pereira and A.L. McCormick (1988). Human cytomegalovirus ICP22, the product of the HWLF1 reading frame, is an early nuclear protein that is released from cells. *J. Gen. Virol.* 69:2613-2621.
29. Cherrington, J.M. and E.S. Mocarski (1989). Human cytomegalovirus ie1 transactivates the α promoter-enhancer via an 18-base-pair repeat element. *J. Virol.* 63:1435-1440. PMID: 2536844
30. Karlin, S., B.E. Blaisdell, E.S. Mocarski and V. Brendel (1989). A method to identify distinctive charge configurations in protein sequences, with application to human herpesvirus polypeptides. *J. Mol. Biol.* 205:164-178. PMID:2538622
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Videos:

(can be downloaded from www.YouTube.com)

Science in the Courtroom Program 1: Core Concepts of Microbiology

Stephen J. Breyer; Edward S. Mocarski Jr. Federal Judicial Television Network (FJTN) Federal Judicial Center January 10, 2001 4046-V/01 (DVD) (40 minutes)

This is the first of six programs in the FJC's Science in the Courtroom series. After Justice Stephen Breyer introduces the series, Professor Edward S. Mocarski, Jr., of Stanford University Medical School, provides an overview of key concepts in basic microbiology. He explains the universality of the genetic code (i.e., how genes are made up of molecules of DNA), how DNA's four bases are common to all organisms, and how the arrangement of those bases dictates the differences in organisms. Professor Mocarski describes the scientific understanding of how DNA can be copied or reproduced by an intermediary, RNA, and "expressed" into proteins that carry out the work of life. This is the basic "molecular dogma" used by scientists to understand how to manipulate genes in processes of gene therapy, genetic engineering, and gene cloning.

Science in the Courtroom Program 2: Recombinant DNA and Gene Cloning

Edward S. Mocarski Jr. Federal Judicial Television Network (FJTN) Federal Judicial Center January 10, 2001 4047-V/01 (DVD) (36 minutes)

This is the second of six programs in the FJC's Science in the Courtroom series. Professor Edward S. Mocarski, Jr., of Stanford University Medical School, builds upon his lecture in Part One of the series (Core Concepts of Microbiology) by explaining the basic recombinant DNA and gene-cloning methods used in the field of biotechnology. Mocarski explains how the universality of the genetic code makes it possible for scientists to recombine DNA, that is, take DNA from one organism and move it into another. He also explains how recombinant DNA concepts are used in the "expression" of human proteins into bacteria, a process in which a human coding sequence is taken and inserted into a bacterial context, allowing the bacteria to produce abundant supplies of a "foreign protein" (foreign to the bacteria) that can be of commercial and therapeutic use.