James F. Drake

I. Education

Ph.D.	UCLA (Physics), 1975
M.S.	UCLA (Physics), 1972
B.S.	UCLA, 1969

II. Positions Held

2000–2002	University of Maryland, College Park, MD Center for Scientific Computation and Mathematical Modeling Interim Director
1994–1995	Max Planck Institut fur Plasmaphysik Garching, Germany Humboldt Foundation Research Awardee
1990–Present	University of Maryland, College Park, MD Department of Physics and Institute for Physical Science and Technology Professor
1987–1990	University of Maryland, College Park, MD Associate Professor
1985–1987	University of Maryland, College Park, MD Senior Research Scientist
1979–1985	University of Maryland, College Park, MD Senior Research Associate
1978–1979	University of Maryland, College Park, MD Research Associate
1975–1976	UCLA, Adjunct Assistant Professor
1975–1978	UCLA, Assistant Research Physicist
1972–1975	UCLA, Research Assistant
1970–1972	UCLA, Teaching Assistant
1969–1973	UCLA, Chancellor's Teaching Fellow

III. Memberships

Phi Beta Kappa

Sigma Xi
American Physical Society
American Geophysical Union

IV. Honors

E. Lee Kinsey Award, UCLA, 1969 (most outstanding graduating senior)
Chancellor's Teaching Fellowship, UCLA, 1969–1973
Fellow of the American Physical Society, 1986
Humboldt Foundation Research Award, 1994
APS Division of Plasma Physics Distinguished Lecturer, 1999
Chair, Division of Plasma Physics of the American Physical Society (1999-2000).
Associate of the National Academies
Popular Writing Award, Solar Physics Division of the American Astronomical Society, 2010.
APS James Clerk Maxwell Prize for Plasma Physics, 2010
Editor's Citation for Excellence in Refereeing, American Geophysical Union, 2010
Outstanding Referee for Journals of the American Physical Society, 2011.
Chair, Topic Group on Plasma Astrophysics of the American Physical Society, (2011-2012)
Fellow of the American Geophysical Union, 2012

V. Selected Professional Services

Sherwood Theory Executive Committee (1981–1983, 1986–1988).
Gordon Research Conference on Plasma Physics (Chair, 1981–1983).
Executive Committee of the Division of Plasma Physics of the American Physical Society (1985–1987, 1993–1996).
Divisional Associate Editor, Physical Review Letters (1986–1990).
Executive Committee — University Fusion Association (1992–1998, 2005-2008).
President, University Fusion Association (1995–1997).
NASA Review Panel on Space Physics Theory Program (Chair, 1995).
Sherwood Theory Program Committee (Chair, 1997).
DPP APS Centenary Committee (Chair, 1996-1999).
Division of Plasma Physics of the American Physical Society (Chair, 1999-2000).
DPP Fellowship Committee (Chair, 1998).
MST Advisory Committee (2001-2004).
Fachbeirat, Max-Planck-Institut für Plasmaphysik, Germany (2001-2007).
Plasma Science Advanced Computing Initiative Advisory Committee (1999-2008).
NRC Plasma Science Committee (1999-2001)
National Academy of Sciences Review Panel on the Fusion Energy Sciences Program (Chair of Subcommittee on Scientifc Progress and Predictability) (1999-2000)
NRC Committee on Space and Solar Physics (2000-2004)
Member of the Theory, Modeling and Data Exploration Panel of the NRC Decadal Survey of Space and Solar Physics (2000-2002)
Associate Editor Geophysical Research Letters (2001-2004)
Councillor, American Physical Society (2003-2006)

Executive Board, American Physical Society (2005-2006)
Associate Editor Physics of Plasmas (2006-2011)
APS Prizes and Awards Committee (Chair, 2006)
APS Panel on Public Affairs (member, 2008-2010)
Chair Subcommittee on Energy and the Environment
NRC Board on Physics and Astronomy (2009-present)
NRC Decadal Survey on Solar and Space Physics (2010-2012)
Member of the Steering Committee
Chair of Theory, Modeling and Data Exploitation Working Group
APS Topical Group on Plasma Astrophysics (Chair, 2011-2012)

VI. Publications

1. J. F. Drake and Y. C. Lee, Temporally Growing Raman Instabilities in an Inhomogeneous Plasma, Phys. Rev. Lett. **31**, 1197 (1973).

2. J. F. Drake, P. K. Kaw, Y. C. Lee, G. Schmidt, C. S. Liu, and M. N. Rosenbluth, Parametric Instabilities of Electromagnetic Waves in Plasmas, Phys. Fluids **17**, 778 (1974).

3. J. F. Drake, Y. C. Lee, K. Nishikawa, and N. L. Tsintsadze, Breaking of Large Amplitude Waves as a Result of Relativistic Electron-Mass Variation, Phys. Rev. Lett. **36**, 196 (1976).

4. J. F. Drake, Y. C. Lee, and N. L. Tsintsadze, Parametric Instabilities in Strongly Relativistic Plane-Polarized Electromagnetic Waves, Phys. Rev. Lett. **36**, 31 (1976).

5. J. F. Drake and Y. C. Lee, Relativistic Effects in Resonance Absorption, Phys. Fluids **19**, 1997 (1976).

6. J. F. Drake and Y. C. Lee, Kinetic Theory of Tearing Instabilities, Phys. Fluids **20**, 134 (1977).

7. J. F. Drake and Y. C. Lee, Nonlinear Evolution of Collisionless and Semi-collisional Tearing Modes, Phys. Rev. Lett. **39**, 453 (1977).

8. J. F. Drake, Y. C. Lee, L. Chen, P H. Rutherford, P. K. Kaw, J. Y. Hsu, and C. S. Liu, The Internal M=1 Resistive Mode in High-Temperature Plasma, Nucl. Fusion Lett. **18**, 11 (1978).

9. J. F. Drake, Kinetic Theory of M=1 Instabilities, Phys. Fluids **21**, 1777 (1978).

10. J. H. Irby, J. F. Drake, and H. R. Griem, Observation and Interpretation of Magnetic Field Line Reconnection and Tearing in a Theta Pinch, Phys. Rev. Lett. **42**, 228 (1979).

11. D. D'Ippolito, J. F. Drake, and Y. C. Lee, Linear Stability of High-m, Drifting-Tearing Modes, Phys. Fluids **23**, 771 (1980).

12. J. D. Huba, J. F. Drake, and N. T. Gladd, The Lower Hybrid Drift Instability in Field Reversed Plasma, Phys. Fluids **23**, 552 (1980).

13. P. L. Pritchett, J. F. Drake, and Y. C. Lee, Linear Analysis of the Double Tearing Mode, Phys. Fluids **23**, 1368 (1980).

14. Y. C. Lee, J. W. Van-Dam, J. F. Drake, A. T. Lin, P. L. Pritchett, D. A. D'Ippolito, P. D. Liewer, and C. S. Liu, Kinetic Theory of Ballooning Instabilities and Studies of Tearing Instabilities, Plasma Physics and Controlled N uclear Fusion Research, Int'l. Atomic Energy Agency, Vienna, CN–37–W–5 (1978).

15. J. F. Drake, N. T. Gladd, C. S. Liu, and C. L. Chang, Microtearing Modes and Transport in Tokamaks, Phys. Rev. Lett. **44**, 994 (1980).

16. N. T. Gladd, J. F. Drake, C. L. Chang, and C. S. Liu, Electron-Temperature-Gradient-Driven Microtearing Mode, Phys. Fluids **23**, 1182 (1980).

17. C. L. Chang, J. F. Drake, N. T. Gladd, and C. S. Liu, Unstable Drift Waves in a Sheared Magnetic Field, Phys. Fluids **23**, 1998 (1980).

18. J. F. Drake and T. T. Lee, Irreversibility and Transport in the Lower Hybrid Drift Instability, Phys. Fluids **24**, 1115 (1981).

19. K. Molvig, S. P. Hirshman, A. B. Rechester, R. B. White, M. N. Rosenbluth, J. F. Drake, N. T. Gladd, A. B. Hassam, C. S. Liu, and C. L. Chang, Theory of Stochastic Magnetic Fluctuations and Anomalous Electron Thermal Conductivity in Tokamaks, Plasma Physics and Controlled Nuclear Fusion Research, Int'l. Atomic Energy Agency, Vienna, CN–38–C–2 (1980).

20. J. F. Drake, N. T. Gladd, and J. D. Huba, Magnetic Field Diffusion and Dissipation in Reversed Field Plasmas, Phys. Fluids **24**, 78 (1981).

21. J. F. Drake and A. B. Hassam, Collisional Drift Waves in a Plasma with Electron Temperature Inhomogeneity, Phys. Fluids **24**, 1262 (1981).

22. J. D. Huba, J. F. Drake, and N. T. Gladd, On the Role of the Lower Hybrid Drift Instability in Substorm Dynamics, J. Geophys. Res. **86**, 5881 (1981).

23. J. F. Drake and R. J. Kleva, Collisional Shear Alfvén Waves in Sheared Magnetic fields, Phys. Fluids **24**, 1499 (1981).

24. J. D. Huba and J. F. Drake, Physical Mechanism of Wave-Particle Resonance in an Inhomogeneous Magnetic Field: Linear Theory, Phys. Fluids **24**, 1650 (1981).

25. J. F. Drake, T. M. Antonsen, Jr., A. B. Hassam, and N. T. Gladd, Stabilization of the Tearing Mode in High Temperature Plasma, Plasma Physics and Controlled Nuclear Fusion Research, Int'l. Atomic Energy Agency, Vienna, CN–41–P–2 (1982).

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30. J. F. Drake, J. D. Huba, and N. T. Gladd, On the Stabilization of the Lower-Hybrid-Drift Instability in Finite β Plasmas, Phys. Fluids **26**, 2247 (1983).

31. J. F. Drake, P. N. Guzdar, and J. D. Huba, Saturation of the Lower-Hybrid-Drift Instability by Mode Coupling, Phys. Fluids **26**, 601 (1983).

32. J. F. Drake, T. M. Antonsen, Jr., A. B. Hassam, and N. T. Gladd, Stabilization of the Tearing Mode in High Temperature Plasma, Phys. Fluids **26**, 2509 (1983).

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36. J. F. Drake, Reconnection in Sheared Magnetic Fields in Space and Astrophysics, in Unstable Current Systems and Plasma Instabilities in Astrophysics, M. Kundu (ed.) (D. Reidel Pub. Co., Dordrecht, Holland, 1984), p. 61.

37. J. F. Drake, Magnetic Reconnection and Anomalous Transport Processes in Magnetic Reconnection in the Magnetosphere, E. W. Hones, Jr. (ed.) (D. Reidel Pub. Co., Dordrecht, Holland, 1984), p. 61.

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45. J. L. Sperling, J. F. Drake, S. T. Zalesak, and J. D. Huba, The Role of Finite Parallel Length on the Stability of Barium Clouds, J. Geophys. Res. **89**, 10913 (1984).

46. B. D. Scott, J. F. Drake, and A. B. Hassam, Nonlinear Stability of Drift-Tearing Modes, Phys. Rev. Lett. **54**, 1027 (1985).

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51. J. M. Finn and J. F. Drake, Magnetic Curvature Drift Instability, Phys. Fluids **29**, 3672 (1986).

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54. R. E. Denton, J. F. Drake, and R. G. Kleva, Sawteeth and Convection Cells in Tokamaks, Phys. Fluids **30**, 1448 (1987).

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59. J. F. Drake, L. Sparks, and G. Van Hoven, Radiative Instabilities in a Sheared Magnetic Field, Phys. Fluids **31**, 813–822 (1988).

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64. S. T. Zalesak, J. F. Drake, and J. D. Huba, Dynamics of 3-D Ionospheric Plasma Clouds, Radio Science **23**, 591–598 (1988).

65. R. E. Denton, J. F. Drake, and R. G. Kleva, Disruptive Phenomena in Tokamak Plasma, in Plasma Physics and Controlled Nuclear Fusion Research, Int'l. Atomic Energy Agency, Vienna, (1988) pp. 131–144.

66. T. M. Antonsen, A. M. Dimits, J. Q. Dong, J. F. Drake, P. N. Guzdar, A. B. Hassam, and C. S. Liu, Temperature Gradient Modes, Streamers and Anomalous Transport, in Plasma Physics and Controlled Nuclear Fusion Research, Int' l. Atomic Energy Agency, Vienna, CN–50/D–4–7.

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71. G. Burkhart, J. F. Drake, and J. Chen, Magnetic Reconnection in Collisionless Plasma: Prescribed Fields, J. Geophys. Res. **95**, 18, 833 (1990).

72. Y. Mok, J. F. Drake, D. D. Schnack, and G. Van Hoven, Prominence Formation in a Coronal Loop, ApJ **359**, 228 (1990).

73. A. M. Dimits, J. F. Drake, A. B. Hassam, and B. Meerson, Formation of Streamers in Plasma with an Ion Temperature Gradient, Phys. Fluids B **2**, 2591 (1990).

74. D. McCarthy and J. F. Drake, Nonlinear Behavior of the Radiative Condensation Instability, Phys. Fluids B **3**, 22 (1991).

75. A. B. Hassam, J. F. Drake, T. M. Antonsen, and C. S. Liu, Spontaneous Poloidal Spin-Up of Tokamaks and the Transition to H-Mode, Phys. Rev. Lett. **66**, 309 (1991).

76. J. F. Drake and R. G. Kleva, Collisionless Reconnection and the Sawteeth Crash, Phys. Rev. Lett. **66**, 1458 (1991).

77. S. T. Zalesak, J. F. Drake, and J. D. Huba, Three-Dimensional Simulation Study of Ionospheric Plasma Clouds, Geophys. Res. Lett. **17**, 1597 (1990).

78. J. S. Kim, G. Van Hoven, D. D. Schnack, and J. F. Drake, Magnetic Energy Release from a Zero-Net-Current Layer, J. Plasma Phys. **45**, 71 (1991).

79. P. N. Guzdar, J. F. Drake, A. M. Dimits, and A. B. Hassam, Transport Barrier in Ion Temperature Gradient Driven Turbulence, Phys. Fluids B **3**, 1381 (1991).

80. J. F. Drake, P. N. Guzdar, and A. M. Dimits, 3-D Simulation of ∇T_i Driven Turbulence and Transport, Phys. Fluids B **3**, 1937 (1991).

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84. J. F. Drake, J. M. Finn, P. Guzdar, V. Shapiro, V. Shevchenko, F. Waelbroeck, A. B. Hassam, C. S. Liu and R. Sagdeev, Peeling of Convection Cells and the Generation of Sheared Flow, Phys. Fluids B Lett. **4**, 488 (1992).

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89. G. Van Hoven, Y. Mok and J. F. Drake, Prominence Condensation and Magnetic Levitation in a Coronal Loop, Solar Phys. **140**, 269 (1992).

90. G. R. Burkhart, J. F. Drake, A. B. Dusenbery and T. W. Speiser, Simulation Studies of Magnetotail Neutral Sheet Equilibria, submitted to J. Geophys. Res. (1991).

91. D. McCarthy, P. Guzdar, J. Drake, T. Antonsen and A. B. Hassam, Stability of Resistive and Ideal Ballooning Modes in TEXT and DIII–D, Phys. Fluids B **8**, 1846 (1992).

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93. J. F. Drake, T. M. Antonsen, J. M. Finn, P. N. Guzdar, A. B. Hassam, C. S. Liu, D. McCarthy and F. W. Waelbroeck, Tokamak Edge Transport, the L-H Transition and Generation of Velocity Shear Layers, in Plasma Physics and Controlled Nucl. Fusion Res., IAEA, Vienna, CN–56/D–2–5.

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95. J. F. Drake, J. M. Finn, P. N. Guzdar, V. Shapiro, V. Shevchenko, F. Waelbroeck, A. B. Hassam, C. S. Liu and R. Sagdeev, Reply to "Comment on 'Peeling of Convection Cells and the Generation of Sheared Flow' ", Phys. Fluids B **5**, 658 (1993).

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100. A. B. Hassam and J. F. Drake, Spontaneous Poloidal Spin-up of Tokamak Plasmas: Reduced Equations, Physical Mechanism and Sonic Regimes, Phys. Fluids B **5**, 4022 (1993).

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104. D. Biskamp and J. F. Drake, Dynamics of the Sawtooth Collapse in Tokamak Plasmas, Phys. Rev. Lett. **73**, 971 (1994).

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VII. Invited Talks at National and International Meetings

1. J. F. Drake (with Y. C. Lee), Kinetic Theory of Tearing Instabilities, Sherwood Theory Meeting, San Diego, CA, 1977.

2. J. F. Drake, Kinetic Theory of Tearing and M=1 Instabilities, Bull. Am. Phys. Soc. **22**, 1105, 1977.

3. J. F. Drake (with P. Pritchett and Y. C. Lee), Nonlinear Evolution of Tearing Instabilities, Sherwood Theory Meeting, Gatlinburg, TN, 1978.

4. J. F. Drake, The Resistive Tearing Instability, American Astronomical Society — Solar Physics Division, Ann Arbor, MI, 1978.

5. J. F. Drake, Tearing Modes and Magnetic Reconnection in the Reversed Field Theta Pinch, Bull. Am. Phys. Soc. **23**, 782, 1978.

6. J. F. Drake (with C. S. Liu), Energy Cascade in Drift-Tearing Modes, Sherwood Theory Meeting, Mt. Pocono, PA, 1979.

7. J. F. Drake, Magnetic Fluctuations and Transport in Tokamaks, Gordon Research Conf. on Plasma Physics, Ventura, CA, 1980.

8. J. F. Drake, Stochasticity and Transport in the Lower Hybrid Drift Instability, General Meeting of the APS, Phoenix, AZ, March, 1981.

9. J. F. Drake (with T. M. Antonsen and Y. C. Lee), Tearing Modes in Toroidal Geometry, Sherwood Theory Meeting, Santa Fe, NM, 1982.

10. J. F. Drake, Stabilization of the m=2 Tearing Mode in High Temperature Plasma, Bull. Am. Phys. Soc. **27**, 1040, 1982.

11. J. F. Drake (with T. M. Antonsen, Jr.), Nonlinear Reduced Fluid Equations for Toroidal Plasmas, Sherwood Theory Meeting, Arlington, VA, 1983.

12. J. F. Drake, Reconnection in Sheared Magnetic Fields in Space and Solar Plasmas, International Astronomical Union Symposium No. 107, College Park, MD, 1983.

13. J. F. Drake, Tearing Mode and Anomalous Transport Processes, Chapman Conference on Magnetic Reconnection, Los Alamos, NM, 1983.

14. J. F. Drake, Major Disruptions and Tearing and Ballooning Modes, Tenth International Conference on Plasma Physics and Controlled Nuclear Fusion Research, London, U.K., 1984.

15. J. F. Drake, Magnetic Energy Dissipation in Collisionless Plasma, Gordon Research Conf. on Space Plasma Physics, Andover, NH, 1985.

16. J. F. Drake, Sawteeth in Tokamaks, US-USSR Fusion Theory Conference on Edge Physics and Transport in Tokamaks, Moscow, USSR, 1986.

17. J. F. Drake, Sawteeth in Tokamaks, Workshop on Sawtooth Oscillations in CIT, Princeton, NJ, 1986.

18. J. F. Drake, Sawteeth and Temperature Profiles in Tokamaks, Eleventh International Conference on Plasma Physics and Controlled Nuclear Fusion Research, Kyoto, Japan, 1986.

19. J. F. Drake (with P. N. Guzdar), Marfes and Condensation Instabilities in Tokamak Edge Plasma, Sherwood Theory Meeting, San Diego, CA, 1987.

20. J. F. Drake, Sawteeth in Tokamaks, Workshop on Tokamak Ignition Physics, Livermore, CA, 1987.

21. J. F. Drake, Turbulence and Transport by the η_e Instability, U.S.-Japan Workshop and Plasma and Fluid Turbulence, Austin, TX, 1987.

22. J. F. Drake (with R. E. Denton and R. G. Kleva), Disruptive Phenomena in Tokamak Plasma, Twelfth International Conference on Plasma Physics and Controlled Nuclear Fusion Research, Nice, France, 1988.

23. J. F. Drake (with A. Dimits, P. N. Guzdar, and A. B. Hassam), Temperature Gradient Modes, Streamers, and Anomalous Transport, International Conference on Plasma Theory, Lausanne, Switzerland, 1988.

24. J. F. Drake, Critical Comments on Models of Anomalous Transport in Tokamaks, Transport Task Force Meeting, Austin, Texas, 1989.

25. J. F. Drake, Status of the Nonlinear Behavior of the η_i Instability, U.S. Dept. of Energy Review of Anomalous Transport in Tokamaks, Germantown, MD, 1989.

26. J. F. Drake, Basics of Reduced MHD and Tearing Modes, Summer School on Anomalous Transport in Tokamaks, San Diego, CA, 1989.

27. J. F. Drake, Drift-Tearing and Microtearing Modes in Tokamaks, Summer School in Anomalous Transport in Tokamaks, San Diego, CA, 1989.

28. J. F. Drake, Negative Compressibility η_e and η_i Instabilities in Tokamaks, Summer School on Anomalous Transport in Tokamaks, San Diego, CA, 1989.

29. J. F. Drake, Magnetic Reconnection in Collisionless Plasma, Second Huntsville Workshop on Magnetosphere/Ionosphere Plasma Models, Huntsville, AL, 1989.

30. J. F. Drake, Review of Edge Turbulence Theory, Transport Task Force Workshop, San Diego, CA, 1989.

31. J. F. Drake, The Nonlinear Saturation and Transport by the Negative Compressibility η_i Instability, 14th Annual Meeting of the Division of Plasma Physics of the American Physical Society, Anaheim, CA, 1989.

32. J. F. Drake, Density Limit Disruptions in tokamaks, U.S. USSR Workshop on Tearing and Ballooning Modes, Moscow, USSR, 1989.

33. J. F. Drake (with P. N. Guzdar and A. Dimits), 3D ∇T_i Driven Turbulence and Transport, Chaos and Turbulence in Fluids and Plasma, College Park, MD, 1990.

34. J. F. Drake (with R. G. Kleva), Collisionless Reconnection and the Sawtooth Crash, Workshop on Sawteeth in Tokamaks, Boston, MA, 1990.

35. J. F. Drake (with G. Burkhart and J. Chen), Structure of the Dissipation Region during Magnetic Reconnection in Collisionless Plasma, Research Trends in Nonlinear Space Plasma Physics, La Jolla, CA, 1991.

36. J. F. Drake, Convection Cell Peeling and the Generation of Sheared Flow, U.S.-Japan Workshop on Edge Turbulence and the Physics of the H-Mode, Madison, WI, 1991.

37. J. F. Drake, Turbulent Structure of the Magnetopause Current Layer, NSF GEM Workshop, Los Angeles, CA, 1991.

38. J. F. Drake, Turbulence and Sheared Flow Generation in Tokamak Edge Plasma, Transport Task Force Workshop, Oak Ridge, TN, 1992.

39. J. F. Drake, Turbulence, Sheared Flow Generation and the L/H Transition, DOE Field Task Workshop, Germantown, MD, 1992.

40. J. F. Drake, The Formation and Levitation of Prominences in the Solar Corona, Spring AGU Meeting, Montreal, Canada, 1992.

41. J. F. Drake (with J. M. Finn, P. Guzdar, A. B. Hassam, D. McCarthy, T. M. Antonsen and C. S. Liu), Tokamak Edge Transport, Sheared Flow and the L-H Transition, Fourteenth Int. Conf. Plasma Phys. Controlled Nucl. Fusion Res., Wurzburg, Germany, 1992.

42. J. F. Drake, Transport in Magnetospheric Boundary Layers, Fall AGU Meeting, San Francisco, CA, 1992.

43. J. F. Drake, Short Scale Structure and Turbulence in the Magnetopause, NSF GEM Workshop on the Magnetopause, Snowmass, CO, 1993.

44. J. F. Drake, Subgrid Modeling in the Global Geomagnetic Circulation Model, NSF GEM Workshop on the Magnetopause, Snowmass, CO, 1993.

45. J. F. Drake, Collisionless Reconnection, NSF GEM Workshop on the Magnetotail/Substorm Campaign, Snowmass, CO, 1993.

46. J. F. Drake, Tearing Modes and Magnetic Reconnection, Summer School on Plasma Fluctuations and Transport, Madison, WI, 1993.

47. J. F. Drake, Interchange, Ballooning and Resistive Ballooning Instabilities, Summer School on Plasma Fluctuations and Transport, Madison, WI, 1993.

48. J. F. Drake, Basics of Drift Waves, Summer School on Plasma Fluctuations and Transport, Madison, WI, 1993.

49. J. F. Drake, Trapped Particles and Instabilities in a Torus, Summer School on Plasma Fluctuations and Transport, Madison, WI, 1993.

50. J. F. Drake, Magnetic Reconnection: A Kinetic Treatment, Chapman Conference on the Physics of the Magnetopause, San Diego, CA, 1994.

51. J. F. Drake, R. G. Kleva and M. E. Mandt, Whistler Driven Turbulence and Transport in the Magnetopause Current Layer, 1993 Magnetopause Workshop, Fairbanks, Alaska, 1993.

52. J. F. Drake, Whistler Driven Turbulence and Transport at the Magnetopause, NSF GEM Workshop, San Francisco, CA, 1993.

53. J. F. Drake, Two Fluid Treatment of Magnetic Reconnection, Second SNS Workshop on Magnetic Reconnection, IT, 1994.

54. J. F. Drake, Resistive Ballooning Modes and the L-H Transition, European Workshop on Plasma Transport, Goeteborg, Sweden, 1994.

55. J. F. Drake (with P. N. Guzdar, S. Novakovskii, C. S. Liu, A. Zeiler and D. Biskamp), Fifteenth Int. Conf. Plasma Phys. Controlled Nucl. Fusion Res., Seville, Spain, 1994.

56. J. F. Drake, Tokamak Edge Turbulence, Workshop on Tokamak Edge Turbulence, Chicago, Illinois, 1995.

57. J. F. Drake, Nonlinear Self-Sustained Drift-Wave Turbulence, Workshop on Computer Simulation of Plasmas, Institute for Theoretical Physics, Santa Barbara, CA, 1995.

58. J. F. Drake, Structure of the Magnetopause Current Layer, Fall AGU Meeting, San Francisco, CA, 1995.

59. J. F. Drake, Base Science and Technology Program, Fusion Energy Advisory Committee, Washington, DC, 1995.

60. J. F. Drake, Local Negative Shear and the Formation of Transport Barriers, Transport Task Force Workshop, Philadelphia, PA, 1996.

61. J. F. Drake, Local Negative Shear and the Formation of Transport Barriers, International Sherwood Theory Conference, Philadelphia, PA, 1996.

62. J. F. Drake, Collisionless Reconnection at the Magnetopause, Spring AGU Meeting, Baltimore, MD, 1996.

63. J. F. Drake, Magnetic Reconnection in Collisionless Plasma, Gordon Research Conference on Space Plasma Physics, NH, 1996.

64. J. F. Drake, Turbulence and the Formation of Transport Barriers in Finite β Plasmas, Sixteenth Int. Conf. Plasma Phys. Controlled Nucl. Fusion Res., Montreal, Canada, 1996.

65. J. F. Drake, Magnetic Reconnection in Collisionless Plasma, Spring AGU Meeting, Baltimore, MD, 1997.

66. J. F. Drake, Solar Lessons from Magnetospheric Physics, International Workshop on High Resolution Observations of the Solar Atmosphere, Gloucester, MA, 1997.

67. J. F. Drake, Theory and Observations of Collisionless Magnetic Reconnection, 1997 International Conference on the Interrelationship Between Experiments in Laboratory and Space Plasmas, Makeaa, Hawaii, 1997.

68. J. F. Drake, Collisionless magnetic reconnection at the magnetopause, Workshop on the Physics of Magnetic Reconnection, Princeton, NJ, 1998.

69. J. F. Drake, The physics of collisionless magnetic reconnection, Cambridge Symposium on Multiscale Phenomena in Space Plasma, Cascais, Portugal, 1998.

70. J. F. Drake, the Physics of collisionless magnetic reconnection, International Congress on Plasma Physics, Prague, Czech Republic, 1998.

71. J. F. Drake, Tokamak edge turbulence and L-H transition, Edge-Plasma Theory and Simulation Workshop, Innsbruck, Austria, 1998.

72. J. F. Drake, Collisionless magnetic reconnection at the magnetopause, Miniconference on space and astrophysics, New Orleans, LA, 1998.

73. J. F. Drake, Results of the GEM Reconnection Challenge, Fall AGU Meeting, San Francisco, CA, 1998.

74. J. F. Drake, Structure of the outflow region during collisionless magnetic reconnection, Spring ISTP Workshop, NASA Goddard Spaceflight Center, Greenbelt, MD, 1999.

75. J. F. Drake, the Emerging Physics of Magnetic Reconnection, NSF GEM Workshop, Snowmass, CO, 1999.

76. J. F. Drake, The Theory Basis of Anomalous Transport, Snowmass Meeting on the Future of the Fusion Energy Sciences Program, Snowmass, CO, 1999.

77. J. F. Drake, The Emerging Physics of Collisionless Magnetic Reconnection, 1999 International Conference on the Interrelationship Between Experiments in Laboratory and Space Plasmas, Kreuth, Germany, 1999.

78. J. F. Drake, New Developments in the Understanding of 2-D and 3-D Collisionless Magnetic Reconnection, Symposium on Magnetic Reconnection in Space and Laboratory Plasmas, Tokyo, Japan, 2000.

79. J. F. Drake, Structure of the outflow region during collisionless magnetic reconnection, International Solar Terestrial Physics Meeting, Greenbelt, MD, 2000.

80. J. F. Drake, The physics of magnetic reconnection, 33rd COSPAR Scientific Assembly, Warsaw, Poland, 2000.

81. J. F. Drake, The Emerging Physics of Magnetic Reconnection, First S-RAMP Conference, Sapporo, Japan, 2000.

82. J. F. Drake, Turbulence and Transport at the Magnetopause, First S-RAMP Conference, Sapporo, Japan, 2000.

83. J. F. Drake, Magnetic reconnection and the structure of the low latitude boundary layer, Chapman Conference on the Low Latitude Boundary Layer, New Orleans, 2001.

84. J. F. Drake, Magnetic Reconnection: the mechanism for the dissipation of magnetic energy in the universe (invited plenary talk), April APS Meeting, Washington DC, 2001.

85. J. F. Drake, The emerging physics of magnetic reconnection (Plenary Review Talk), International Sherwood Theory Conference, Santa Fe, NM, 2001.

86. J. F. Drake, Magnetic Reconnection and the Structure of the Low Latitude Boundary Layer, Chapman Conference on the Low Latitude Boundary Layer and its Dynamics Interaction with the Solar Wind and Magnetosphere, New Orleans, LA, 2001.

87. J. F. Drake, Kinetic Treatment of Magnetic Reconnection, APS/DPP Mini-Conference on Magnetic Reconnection in Space and Astrophysical Plasma, Long Beach, CA, 2001.

88. J. F. Drake, Magnetic Reconnection: the mechanism for the dissipation of magnetic energy in the universe (plenary review talk), Symposium in honor of the retirement of Dr. Dieter Biskamp, Garching, Germany, 2001.

89. J. F. Drake, Development of turbulence and anomalous resistivity during magnetic reconnection, APS April Meeting, Albequerque, NM, 2002.

90. J. F. Drake, Development of Electron Holes and Anomalous Resistivity in 3-D Magnetic Reconnection, Spring Meeting of the American Geophysical Union, Washington DC, 2002.

91. J. F. Drake, Magnetic Reconnection: the mechanism for the dissipation of magnetic energy in the universe (Plenary Review Talk), "A Celebration of High Temperature Plasma Physics" (a symposium in honor of the 50th Anniversary of the Princeton Plasma Physics Laboratory), Princeton, NJ, 2002.

92. J. F. Drake, Collisionless Reconnection: unsolved issues, 34th Scientific Assembly of COSPAR/World Space Congress, Houston, Texas, 2002.

93. J. F. Drake, Energetic particle production during 3-D magnetic reconnection, Workshop on Astrophysical Particle Acceleration in Geospace and Beyond, Chattanooga, TN, 2002.

94. J. F. Drake, Development of Electron Holes and Anomalous Resistivity in 3-D Magnetic Reconnection, Fall Meeting of the American Geophysical Union, San Francisco, CA, 2002.

95. J. F. Drake, Development of fast magnetic reconnection and associated turbulence and anomalous resistivity, Ringberg Workshop on Plasma Astrophysics, Tegernsee, Germany, 2002.

96. J. F. Drake, Magnetic Reconnection, Committee on Space and Solar Physics of the National Research Council, Irvine, CA, 2003.

97. J. F. Drake, Magnetic Reconnection (Plenary Review Talk), Relaxation in Magnetized Plasma, Aix-en-Provence, France, 2003.

98. J. F. Drake, Collisionless Magnetic Reconnection (Plenary Review Talk), International Workshop on Magnetic Reconnection and the Dynamic Sun, St. Andrews, Scotland, 2003.

99. J. F. Drake, Kinetic Structure and Dynamics of Guide Field Magnetic Reconnection (invited review talk, 40 minutes), workshop on Explosive Phenomena in Magnetized Plasma - New Developments in Reconnection Research, Kyoto, Japan, 2004.

100. J. F. Drake, Kinetic Modeling of Magnetic Field Dynamics in Space and Astrophysical Systems (invited review, 30 minutes), CSCAMM-PICSciE workshop on Numberical Methods for Plasma Astrophysics: from Particle Kinetics to MHD, College Park, MD, 2004.

101. J. F. Drake, Collisionless Magnetic Reconnection (invited review, 60 minutes), workshop on Magnetic Reconnection Theory, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, 2004.

102. J. F. Drake, New Developments in Kinetic Reconnection Modeling: Electron Heating (invited talk, 30 minutes), PICSciE-CSCAMM Workshop on Numerical Methods for Plasma Astrophysics, Princeton, NJ, 2004.

103. J. F. Drake, The structure of parallel electric fields and particle acceleration during magnetic reconnection, workshop on thin current sheets, College Park, Maryland, 2004.

104. J. F. Drake, Kinetic Modeling of Magnetic Reconnection in Space and Astrophysical Systems (invited review, 70 minutes), workshop on Large Scale Computation in Astrophysics, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, 2004.

105. J. F. Drake, Production of Energetic Electrons during Magnetic Reconnection (invited talk, 30 minutes), Mini-Conference on Scattering, Acceleration and Propagation of Energetic Particles in Space and Astrophysics, Savannah, GA, 2004.

106. J. F. Drake, Magnetic Reconnection Theory: the MHD Description (invited tutorial, 60 minutes), Center for Multiscale Plasma Dynamics Winter Workshop, UCLA, 2005.

107. J. F. Drake, Magnetic Reconnection Theory: kinetic models and issues (invited tutorial, 60 minutes), Center for Multiscale Plasma Dynamics Winter Workshop, UCLA, 2005.

108. J. F. Drake, Multiscale Issues in Modeling Magnetic Reconnection (invited review, IPAM Meeting on Multiscale Problems in Fusion Plasmas, UCLA, 2005.

109. J. F. Drake, Production of energetic electrons during magnetic reconnection (invited talk, 25 minutes), US-Japan Workshop on Magnetic Reconnection and Particle Acceleration, Awaji-shima, Japan, 2005.

110. J. F. Drake, A Fermi mechanism for the production of energetic electrons during magnetic reconnection (invited talk, 30 minutes), LANL Workshop on Magnetic Reconnection, Santa Fe, NM, 2005.

111. J. F. Drake, A Fermi mechanism for the production of energetic electrons during magnetic reconnection, 47th Annual Meeting of the Division of Plasma Physics of the APS (invited talk, 30 minutes), Denver, CO, 2005.

112. J. F. Drake, A Fermi mechanism for the production of energetic electrons during magnetic reconnection (invited talk, 22 minutes), Fall 2005 Meeting of the American Geophysical Union, San Francisco, CA, 2005.

113. J. F. Drake, Recent Developments in the Modeling of Magnetic Reconnection in the Local Cosmos (invited review, 25 minutes), Fall 2005 Meeting of the American Geophysical Union, San Francisco, CA, 2005.

114. J. F. Drake, Collisionless Magnetic Reconnection (invited tutorial, two 60 minute lectures), Center for Multiscale Plasma Dynamics Winter School, UCLA, 2006.

115. J. F. Drake, A Fermi mechanism for the production of energetic electrons during magnetic reconnection (invited talk, 30 minutes), Workshop on Earth-Sun System Exploration, Kona, Hawaii, 2006.

116. J. F. Drake, Magnetic Reconnection at the Heliopause: theoretical expectations, IGPP 5th International Astrophysics Conference (Invited Review Talk, 30 minutes), Oahu, Hawaii, 2006.

117. J. F. Drake, A Fermi mechanism for the production of energetic electrons during magnetic reconnection (Topical Review Talk, 30 minutes), International Congress on Plasma Physics, Kiev, Ukraine, 2006.

118. J. F. Drake, The Physics of Magnetic Reconnection (Invited Review, 45 minutes), Workshop on the Challenges of Relativistic Jets, Krakow, Poland, 2006.

119. J. F. Drake, A contracting island mechanism for electron acceleration during magnetic reconnection (invited talk, 30 minutes), Workshop on Magnetic Reconnection Theory, Florence, Italy, 2006.

120. J. F. Drake, A Fermi mechanism for electron acceleration during magnetic reconnection (invited talk, 30 minutes), Center for Magnetic Self-Organization General Meeting, Chicago, 2006.

121. J. F. Drake, Acceleration of cosmic rays by turbulence during magnetic reconnection events (invited talk, 30 minutes), 210th Meeting of the American Astronomical Society, Honolulu, Hawaii, 2007.

122. J. F. Drake, A Fermi mechanism for electron acceleration during magnetic reconnection (invited talk, 50 minutes), Workshop on HelioMagnetism, Stanford University, 2007.

123. J. F. Drake, Reconnection and particle acceleration (invited talk, 30 minutes), Living with a Star Workshop, Boulder, CO, 2007.

124. J. F. Drake, Acceleration of electrons during reconnection events (invited talk, 30 minutes), 2007 RHESSI workshop, U. C. Santa Cruz, Santa Cruz, CA, 2007.

125. J. F. Drake, Magnetic reconnection and particle acceleration (invited talk, 20 minutes), Fall 2007 Meeting of the American Geophysical Union, San Francisco, CA, 2007.

126. J. F. Drake, Magnetic reconnection and particle acceleration (invited talk, 30 minutes), US-Japan Workshop on Magnetic Reconnection 2008, Okinawa, Japan, 2008.

127. J. F. Drake, Magnetic reconnection and particle acceleration (invited talk, 30 minutes), 7th Annual IGPP astrophysics conference, Kauai, Hawaii, 2008.

128. J. F. Drake, Magnetic reconnection: dynamics and particle acceleration (invited talk, 40 minutes), Conference on Kinetic Modeling of Astrophysical Plasma, Krakow, Poland, 2008.

129. J. F. Drake, Bistability of collisionles reconnection and spontaneous initiation of reconnection (invited talk, 35 minutes), Workshop on Reconnection in Turbulent Fluid and its Implications, Krakow, Poland, 2008.

130. J. F. Drake, Models for energy and particle acceleration during magnetic reconnection in solar eruptions (invited talk, 30 minutes), 37th COSPAR Scientific Assembly, Montreal, Canada, 2008.

131. J. F. Drake, Ion pickup and acceleration in magnetic reconnection exhausts (invited talk, 30 minutes), 2008 Shine Workshop, Midway, Utah, 2008.

132. J. F. Drake, The multiscale physics of magnetic reconnection (invited review, 30 minutes), Fall 2008 Meeting of the American Geophysical Union, San Francisco, CA, 2008.

133. J. F. Drake, Ion acceleration during magnetic reconnection (invited talk, 30 minutes), International Conference on Modern Challenges in Nonlinear Plasma Physics, Thessaloniki, Greece, 2009.

134. J. F. Drake, Ion acceleration and abundance enhancements in impulsive flares (invited review talk, 30 minutes), 2009 Shine Workshop, Wolfville, NH, 2009.

135. J. F. Drake, A reconnection mechanism for the generation of anomalous cosmic rays (invited talk, 30 minutes), 2009 US-Japan Workshop on Magnetic Reconnection, Madison, Wisconsin, 2009.

136. J. F. Drake, A reconnection mechanism for the generation of anomalous cosmic rays (invited talk, 30 minutes), Mini-conference on Unsteady Reconnection, Atlanta, GA, 2009.

137. J. F. Drake, Particle heating and acceleration in magnetic reconnection (invited review talk, 40 minutes), Magnetic Reconnection: an interdisciplinary workshop, Yosemite, CA, 2010.

138. J. F. Drake, Heating and particle acceleration during magnetic reconnection (invited review talk, 15 minutes), Workshop on Opportunities in Plasma Astrophysics, Princeton, NJ, 2010.

139. J. F. Drake, Reconnection and particle acceleration in the outer heliosphere (invited talk, 25 minutes), 9th Annual International Astrophysics Conference, Maui, Hawaii, 2010.

140. J. F. Drake, Ion acceleration in the outer heliosphere and streamer belt (invited talk, 50 minutes), ISSI workshop on Observations and Theories of Suprathermal Tails and Anomalous Cosmic Rays in the Heliosphere and Heliosheath, Bern, Switzerland, 2010.

141. J. F. Drake, Particle acceleration during magnetic reconnection (invited review talk, 30 minutes), IAU Symposium 274 Advances in Plasma Astrophysics, Giardini-Naxos, Italy, 2010.

142. J. F. Drake, A Multi-island Mechanism for Particle Acceleration during Magnetic Reconnection in Solar Eruptions (invited talk, 15 minutes), 38th Cospar Scientific Assembly, Bremen, Germany, 2010.

143. J. F. Drake, Particle Acceleration during Magnetic Reconnection (invited review talk, 60 minutes), Workshop on Kinetic Reconnection, Isaac Newton Institute for Mathematical Sciences, Cambridge, U. K., 2010.

144. J. F. Drake, Breaking field lines during reconnection: it's anomalous viscosity not anomalous resistivity (invited talk, 40 minutes), Workshop on Kinetic Reconnection, Isaac Newton Institute for Mathematical Sciences, Cambridge, U. K., 2010.

145. J. F. Drake, The physics of magnetic reconnection and associated particle acceleration (Plenary review talk, 60 minutes), 52nd Annual Meeting of the Division of Plasma Physics, Chicago, Illinois, 2010.

146. J. F. Drake, Breaking field lines during reconnection: it's anomalous viscosity not anomalous resistivity (invited talk, 25 minutes), MMS Science Working Group Meeting, St. Michaels, MD, 2010.

147. J. F. Drake, Magnetic Reconnection and Associated Particle Acceleration (Keynote Invited Talk, 60 minutes), Bay Area Center for Heliosphysics Workshop on Reconnection, Berkeley, CA, 2010.

148. J. F. Drake, A multi-island mechanism for particle acceleration during magnetic reconnection in solar flares (invited talk, 20 minutes), 2010 RHESSI Workshop, Annapolis, MD, 2010.

149. J. F. Drake, Is the magnetic field in the outer heliosphere laminar? (invited talk, 25 minutes), 10th Annual International Astrophysics Conference, Maui, Hawaii, 2011.

150. J. F. Drake, Magnetic Reconnection and Particle Acceleration in the Outer Heliosphere (Invited talk, 30 minutes), ISSI Workshop on particle acceleration in cosmic plasmas, Bern, Switzerland, 2011.

151. J. F. Drake, The physics of magnetic reconnection and particle acceleration (invited review talk, 45 minutes), 11th International Workshop on the Interrelationship between Plasma Experiments in Laboratory and Space (IPELS), Whistler, BC, CA, 2011.

152. J. F. Drake, The scaling of magnetic reconnection in large systems (invited talk, 20 minutes), Bengt U O Sonnerup Symposium, Dartmouth College, Hanover, NH,2011.

153. Ion heating acceleration during reconnection (invited talk, 40 minutes), Center for Magnetic Self-Organization General Meeting, University of New Hampshire, Durham, NH, 2011.

154. J. F. Drake, The role of kinetic Alfven waves on magnetic reconnection (invited talks, 30 minutes), Symposium on Plasma Theory, UC Irvine, Irvine, CA, 2012.

155. J. F. Drake, A magnetic reconnection mechanism for ion acceleration and abundance enhancements in impulsive flares, 11th International Astrophysics Conference, Palm Springs, CA, 2012.

156. J. F. Drake, A magnetic reconnection mechanism for ion acceleration and abundance enhancements in impulsive flares (invited talk, 30 minutes), US-Japan Workshop on Magnetic Reconnection, Princeton, NJ, 2012.

157. J. F. Drake, A magnetic reconnection mechanism for ion acceleration and abundance enhancements in impulsive flares (invited talk, 25 minutes), 39th COSPAR Scientific Assembly, Mysore, India, 2012.

158. J. F. Drake, Magnetic reconnection in the heliosheath and its signatures and consequences (invited talk, 25 minutes), 39th COSPAR Scientific Assembly, Mysore, India, 2012.

159. J. F. Drake, A reconnection mechanism for the generation of anomalous cosmic rays (invited talk, 30 minutes), 39th COSPAR Scientific Assembly, Mysore, India, 2012.

160. J. F. Drake, Magnetic Reconnection and Particle Acceleration – A review (invited review talk, 30 minutes), XXVIII International Astronomical Union General Assembly, Beijing, China, 2012.

161. J. F. Drake, Magnetic reconnection in the heliosheath and its signatures and consequences (invited talk, 30 minutes), XXVIII International Astronomical Union General Assembly, Beijing, China, 2012.