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## Curriculum Vitae

*Nikolitsa (Lia) Merminga*

Accelerator Physicist, Senior Staff Scientist  
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### Citizenship

USA

### Education

Ph.D. (Physics)	The University of Michigan, 1989
M.S. (Mathematics)	The University of Michigan, 1987
M.S. (Physics)	The University of Michigan, 1986
B.S. (Physics)	University of Athens, Greece, 1983

### Employment

2002-	Director, CASA, Jefferson Lab
2001 - 2002	Deputy Director, CASA, Jefferson Lab
1999 - 2001	Staff Scientist III, Jefferson Lab
1992 – 1999	Staff Scientist II, Jefferson Lab
1989 – 1992	Visiting Accelerator Physicist, Stanford Linear Accelerator Center

### Honors and Scholarships

APS Fellow, 2006  
National Scholarship Foundation of Greece: 1979, 1980, 1981, 1982

### Professional Activities

EIC Steering Committee, 2007-  
Nuclear Science Advisory Committee (NSAC) Long Range Plan Writing Group, 2007  
University of Chicago Advanced Photon Source Accelerator Review Committee, 2007  
US Particle Accelerator School, Governing Board, 2007-  
Department of Energy Committee of Visitors (Nuclear Physics Review Panel), 2007  
Muon Technical Advisory Committee (MUTAC), 2007-2011  
Physical Review Special Topics, Editorial Board, 2007-2009  
Deutsche Forschungsgemeinschaft (DFG) Physics Review Panel, 2006

NSLS-II, Accelerator Systems Advisory Committee, 2006-  
DPB Nominating Committee, 2005-2006  
Wissenschaftsrat (German Science Council) sub-panel on the assessment of the BESSY  
Soft X-Ray Free Electron Laser Project, 2005  
Plasma 2010 Committee, National Research Council, The National Academies, 2005-  
US Particle Accelerator School Director Search Committee, 2005  
BNL Machine Advisory Committee, 2004-  
DPB Executive Committee, 2003-2004  
DoE Annual Review Committee, Fermi National Laboratory, 2003  
DoE Office of Science SCaLeS (Science Case for Large Computing Simulations)  
Workshop, Accelerator Modeling Panel, 2003  
DPB Doctoral Research Award Committee, 2002

### **Conference Organization**

Scientific Program Committee, Particle Accelerator Conference, 2005, 2007  
Scientific Advisory Board, European Particle Accelerator Conference, 2006, 2008  
Organizing Committee, 41<sup>st</sup> ICFA Advanced Beam Dynamics Workshop on Energy  
Recovery Linacs, ERL07, 2007  
International Program Committee, Free Electron Laser Conference, 2006, 2008  
Organizing Committee, Workshop on Future Prospects in QCD at High Energy, 2006  
Scientific Program Committee, 37<sup>th</sup> ICFA Advanced Beam Dynamics Workshop on  
Future Light Sources, 2006  
Co-Chair, 32<sup>nd</sup> ICFA Advanced Beam Dynamics Workshop, ERL2005, first  
international Workshop on Energy Recovery Linacs, 2005  
Organizing Committee, Electron-Ion Collider Workshop, 2004  
Co-Chair, 1<sup>st</sup> International Workshop on Low Level RF Controls for Superconducting  
Linacs, 2001

### **Teaching**

USPAS Course on “Recirculated and Energy Recovered Linacs,” with G. Krafft and I.  
Bazarov, Cornell University, June 2005 (*Did not deliver lectures*)  
USPAS Course on “Radio Frequency Systems,” with S. Simrock, Los Angeles, CA,  
January 1994

### **Books edited**

“Zero<sup>th</sup>-Order Design Report for the Electron-Light Ion Collider at CEBAF,” edited by  
Ya. Derbenev, L. Merminga, Y. Zhang, 2007  
“Energy Recovering Linacs 2005,” NIM **A557**, edited by S. Chattopadhyay and L.  
Merminga, 2006  
ICFA Beam Dynamics Newsletter, Issue 30, edited by J. Wei and L. Merminga, 2003

## Refereed Journal Publications

1. Lia Merminga, "Recirculating and Energy Recovery Linacs," Handbook of Accelerator Physics and Engineering, Ed. Chao and Tigner, 3<sup>rd</sup> print (2006)
2. D.R. Douglas, K.C. Jordan, L. Merminga, E.G. Pozdeyev, C.D. Tennant, H. Wang, T.I. Smith, S. Simrock, I.V. Bazarov, G.H. Hoffstaetter, "Experimental investigation of multibunch, multipass beam breakup in the Jefferson Laboratory Free Electron Laser Upgrade Driver," *Physical Review Special Topics – Accelerators and Beams* 9, 064403 (2006)
3. I. Ben-Zvi, Ya. Derbenev, V. Litvinenko, L. Merminga, "Energy Recovery Linacs in High-Energy and Nuclear Physics," Nuclear Instruments and Methods in Physics Research **A557**, 28 (2006)
4. G. R. Neil, et al., "The JLab high power ERL light source," Nuclear Instruments and Methods in Physics Research **A557**, 9 (2006)
5. C. Tennant, K. Beard, D. Douglas, K. Jordan, L. Merminga, E. Pozdeyev, T. Smith, "First observations and suppression of multipass, multibunch beam breakup in the Jefferson Laboratory free electron laser upgrade", *Physical Review Special Topics – Accelerators and Beams* 8, 074403 (2005)
6. D. Bilderback, I. Bazarov, K. Finkelstein, S. M. Gruner, H. S. Padamsee, C. K. Sinclair, Q. Shen, R. Talman, M. Tigner, G. A. Krafft and L. Merminga, "Energy-recovery linac project at Cornell University" *J. Synchrotron Radiation* **10**, 346-348 (2003)
7. Kees de Jager, Lia Merminga, Yaroslav Derbenev, "An Electron-Ion Collider at CEBAF," Nuclear Physics **A721**, 1067-1070 (2003)
8. Lia Merminga, David Douglas and Geoffrey Krafft, "High-Current Energy-Recovering Electron Linacs," *Annual Reviews of Nuclear and Particle Science*, 53:387-429 (2003)
9. George R. Neil and Lia Merminga, "Technical Approaches for High-Average-Power Free-Electron Lasers," *Reviews of Modern Physics*, Volume 74, Issue 3 (2002)
10. S.M. Gruner, D. Bilderback, I. Bazarov, K. Finkelstein, G. A. Krafft, L. Merminga, H. Padamsee, Q. Shen, C. Sinclair, M. Tigner, "Energy Recovery Linacs As Synchrotron Radiation Sources," *Review of Scientific Instruments*, Vol.73, no.3, p.1402-6 (2002)
11. Lia Merminga, "RF Stability in Energy Recovering FELs: Theory and Experiment," Nuclear Instruments and Methods in Physics Research **A483**, 107 (2002)
12. D. Jeon, L. Merminga, G. Krafft, B. Yunn, R. Sundelin, J. Delayen, S. Kim, and M. Doleans, "Cumulative Beam Breakup study of the Spallation Neutron Source superconducting linac," Nuclear Instruments and Methods in Physics Research **A495**, 85 (2002)

13. D. Bilderback, I. Bazarov, K. Finkelstein, S. M. Gruner, G. A. Krafft, L. Merminga, H. Padamsee, Q. Shen, C. Sinclair and M. Tigner, "New Energy Recovery Linac Source of Synchrotron X-rays," *Synchrotron Radiation News*, **14**, 12-21 (2001)
14. G. R. Neil, C. L. Bohn, S. V. Benson, G. Biallas, D. Douglas, H. F. Dylla, R. Evans, J. Fugitt, A. Grippo, J. Gubeli, R. Hill, K. Jordan, G. A. Krafft, R. Li, L. Merminga, P. Piot, J. Preble, M. Shinn, T. Siggins, R. Walker, and B. Yunn, "Sustained Kilowatt Lasing in a Free-Electron Laser with Same-Cell Energy Recovery," *Physical Review Letters*, **84**, 662-5 (2000)
15. S.V. Benson, G. Biallas, C.L. Bohn, D. Douglas, H.F. Dylla, R. Evans, J. Fugitt, A. Grippo, J. Gubeli, R. Hill, K. Jordan, G. Krafft, R. Li, L. Merminga, G.R. Neil, P. Piot, J. Preble, M. Shinn, T. Siggins, R. Walker, B. Yunn, "Jefferson Lab Free Electron Laser starts operation with sustained lasing at the kilowatt level," *Synchrotron Radiation News* **13**, 13-17 (2000)
16. G. R. Neil, S.V. Benson, G. Biallas, C.L. Bohn, D. Douglas, H.F. Dylla, R. Evans, J. Fugitt, J. Gubeli, R. Hill, K. Jordan, G. Krafft, R. Li, L. Merminga, D. Oepts, P. Piot, J. Preble, M. Shinn, T. Siggins, R. Walker, B. Yunn, "First Operation of an FEL in the Same-cell Energy Recovery Mode," *Nuclear Instruments and Methods in Physics Research* **A445**, 192 (2000)
17. L. Merminga, P. Alexeev, S. V. Benson, A. Bolshakov, L. Doolittle, G. Neil, "Analysis of the FEL-RF Interaction in Recirculating, Energy-Recovering Linacs with an FEL," *Nuclear Instruments and Methods in Physics Research* **A429**, 58 (1999)
18. S. Benson, G. Biallas, C. Bohn, D. Douglas, H.F. Dylla, R. Evans, J. Fugitt, R. Hill, K. Jordan, G. Krafft, R. Legg, R. Li, L. Merminga, G. Neil, D. Oepts, P. Piot, J. Preble, M. Shinn, T. Siggins, R. Walker, B. Yunn "First lasing of the Jefferson Lab IR Demo FEL," *Nuclear Instruments and Methods in Physics Research* **A429**, 27 (1999)
19. L. Merminga, J. J. Bisognano and J. R. Delayen, "Energy Stability in Recirculating, Energy-Recovering Linacs," *Nuclear Instruments and Methods in Physics Research* **A375**, ABS39 (1996)
20. S.V. Benson, J. Bisognano, C. Bohn, L. Cardman, W. B. Colson, D. Douglas, H.F. Dylla, D. Engwall, J. Fugitt, J. Goldstein, K. Jordan, D. Kehne, Z. Li, H. Liu, L. Merminga, G. Neil, D. Neuffer, M. Shinn, M. Wiseman, R. Wong, M. Xie, "A status report on the development of a high power UV and IR FEL at CEBAF," *Nuclear Instruments and Methods in Physics Research* **A375**, ABS4 (1996)
21. N. Merminga, J. Irwin, R. Helm and R. Ruth, "Collimation Systems for a TeV Linear Collider," *Particle Accelerators* **48**, 85 (1994)

22. A. Chao, D. Johnson, S. Peggs, J. Peterson, C. Saltmarsh, and L. Schachinger (SSC Central Design Group), R. Meller, R. Siemann and R. Talman (Cornell University), P. Morton (SLAC), D. Edwards, D. Finley, R. Gerig, N. Gelfand, M. Harrison, R. Johnson, N. Merminga, and M. Syphers (Fermilab), “Driven Response of a Trapped Particle Beam,” *Physical Review Letters*, **68**, 1838 (1992)
23. A. Chao, D. Johnson, S. Peggs, J. Peterson, C. Saltmarsh, and L. Schachinger (SSC Central Design Group), R. Meller, R. Siemann and R. Talman (Cornell University), P. Morton (SLAC), D. Edwards, D. Finley, R. Gerig, N. Gelfand, M. Harrison, R. Johnson, N. Merminga, and M. Syphers (Fermilab), “Measurements of a Hamiltonian System and their Description by a Diffusive Model,” *Physical Review Letters*, **68**, 33 (1992)
24. A. Chao, D. Johnson, S. Peggs, J. Peterson, C. Saltmarsh, and L. Schachinger (SSC Central Design Group), R. Meller, R. Siemann and R. Talman (Cornell University), P. Morton (SLAC), D. Edwards, D. Finley, R. Gerig, N. Gelfand, M. Harrison, R. Johnson, N. Merminga, and M. Syphers (Fermilab), “Experimental investigation of nonlinear dynamics in the Fermilab Tevatron”, *Physical Review Letters* **61**, 2752-5 (1988)

### Monographs

1. I. Bazarov, S. Belomestnykh, D. Bilderback, K. Finkelstein, E. Fontes, S. Gray, S. M. Gruner, G. A. Krafft, L. Merminga, H. Padamsee, R. Helmke, Q. Shen, J. Rogers, C. Sinclair, R. Talman, and M. Tigner, “Study For A Proposed Phase I Energy Recovery Linac (ERL) Synchrotron Light Source at Cornell University,” CHESSTechnical Memo 01-003 and JLAB-ACT-01-04 (2001)
2. UV Demo FEL Design Team, “Free-Electron Lasers for Industry, Vol. 2: UV Demo Conceptual Design,” (1995)
3. N. Merminga, “A Study of Nonlinear Dynamics in the Fermilab Tevatron,” Ph.D. Thesis, University of Michigan 1989. Also Fermilab Report FN-508 (1989)

### Conference Proceedings

1. Ya. Derbenev, A. Bogacz, G. Krafft, R. Li, L. Merminga, B. Yunn, Y. Zhang, “Concepts for ELIC – A high luminosity CEBAF-based Electron Light Ion Collider,” Proc. 2006 Russian Conference on Charged Particle Accelerators, Novosibirsk, Russia (2006)
2. L. Merminga et al., “Beam Physics for the 12 GeV CEBAF Upgrade Project,” Proc. 2005 Particle Accelerator Conference, Knoxville, TN (2005)
3. C. Tennant, et al., “Experimental Investigation of Beam Breakup in the Jefferson Laboratory 10 kW FEL Upgrade Driver,” Proc. 2005 Particle Accelerator Conference, Knoxville, TN (2005)
4. Ya. Derbenev, et al., “ELIC at CEBAF,” Proc. 2005 Particle Accelerator Conference,

Knoxville, TN (2005)

5. C. Montag, A. Bogacz, Ya. Derbenev, L. Merminga, "Interaction Region Design for the Electron-Light Ion Collider ELIC," Proc. 2005 Particle Accelerator Conference, Knoxville, TN (2005)
6. C. Tennant, D. Douglas, K. Jordan, L. Merminga, E. Pozdeyev, T. Smith, "Suppression of Multi-pass, Multi-Bunch Beam Breakup in Two-Pass Recirculating Accelerators", Proceedings 26<sup>th</sup> International Free Electron Laser Conference, Trieste, Italy, p.590 (2004)
7. C. Hernandez-Garcia, et al., "Longitudinal Space Charge Effects in the JLab IR FEL SRF Linac," Proceedings 26<sup>th</sup> International Free Electron Laser Conference, Trieste, Italy (2004)
8. S. Benson, et al., "High Power Lasing in the IR Upgrade FEL at Jefferson Lab," Proceedings 26<sup>th</sup> International Free Electron Laser Conference, Trieste, Italy (2004)
9. L. Merminga, "Physics Challenges for ERL Light Sources," Proceedings 2004 European Particle Accelerator Conference, Lucerne, Switzerland (2004)
10. A. Freyberger, et al., "The CEBAF Energy Recovery Experiment: Update and Future Plans," Proceedings 2004 European Particle Accelerator Conference, Lucerne, Switzerland (2004)
11. Y. Zhang, et al., "A PARMELA Model of the CEBAF Injector valid over a wide range of parameters," Proceedings 2004 European Particle Accelerator Conference, Lucerne, Switzerland (2004)
12. R. Kazimi, et al., "CEBAF Injector achieved world's best beam quality for three simultaneous beams with a wide range of bunch charges," Proceedings 2004 European Particle Accelerator Conference, Lucerne, Switzerland (2004)
13. Y. Chao, et al., "Achieving beam quality requirements for parity experiments at Jefferson Lab," Proceedings 2004 European Particle Accelerator Conference, Lucerne, Switzerland (2004)
14. A. Hutton, et al., "JLab Hurricane Recovery," Proceedings 2004 European Particle Accelerator Conference, Lucerne, Switzerland (2004)
15. Ya. Derbenev, et al., "Electron-Ion Collider at CEBAF: New Insights and Conceptual Progress," Proceedings 2004 European Particle Accelerator Conference, Lucerne, Switzerland (2004)
16. L. Merminga and Ya. Derbenev, "ELIC: A High Luminosity and Efficient Spin Manipulation Electron-Light Ion Collider Based at CEBAF," AIP Conference

Proceedings, **698**, 811-815 (2004)

17. A. Bogacz, J. Boyce, D. Douglas, A. Hutton, G. Krafft, L. Merminga, G. Neil, G. Williams, "Sub-picosecond X-rays from CEBAF at Jefferson Lab," AIP Conference Proceedings, **705**, 29-32 (2004)
18. K. Beard, L. Merminga, B. Yunn, "Tools to Predict Beam Breakup in Recirculating Linacs," Proc. 2003 Particle Accelerator Conference, Portland, OR (2003)
19. A. Bogacz, et al., "CEBAF-ER: A Large Scale Demonstration of Energy Recovery at CEBAF," Proc. 2003 Particle Accelerator Conference, Portland, OR (2003)
20. G. Hoffstaetter, et al., "The Cornell ERL Prototype," Proc. 2003 Particle Accelerator Conference, Portland, OR (2003)
21. I. Ben-Zvi, L. Merminga, Ya. Derbenev, "Linac-Ring Options," ICFA Beam Dynamics Newsletter 30, 17-25 (2003)
22. L. Merminga, D. Douglas, G. Krafft, "Energy Recovering Linacs," Proceedings of 2002 Linear Accelerator Conference, Gyeongju, Korea (2002)
23. L. Merminga, K. Beard, L. Cardman, Y. Chao, S. Chattopadhyay, K. deJager, J. Delayen, Y. Derbenev, J. Grames, A. Hutton, G. Krafft, R. Li, M. Poelker, B. Yunn, Y. Zhang, "ELIC: An Electron-Light Ion Collider Based at CEBAF," Proc. 2002 European Particle Accelerator Conference, Paris, France (2002)
24. I. Bazarov, S. Belomestnykh, D. Bilderback, S. Gray, S. Gruner, Y. Li, M. Liepe, H. Padamsee, V. Shemelin, C. Sinclair, R. Talman, M. Tigner, J. Welch, G. Krafft, L. Merminga, "Phase I Energy Recovery Linac at Cornell University," Proceedings 2002 European Particle Accelerator Conference, Paris, France (2002)
25. L. Merminga, "Recent Developments in Superconducting RF FELs," Proceedings 2001 RF Superconductivity Workshop, Tsukuba, Japan (2001)
26. L. Merminga and S. Benson, "Design Principles for a Compact High Average Power IR FEL," Proceedings 2001 FEL Conference, Darmstadt, Germany (2001)
27. D. Jeon, L. Merminga, G.A. Krafft, B. Yunn, J. Wei, R. Sundelin, J. Delayen, "Transverse Beam Breakup Study of SNS SC Linac," Proceedings 2001 Particle Accelerator Conference, Chicago, IL (2001)
28. J. Delayen, D. Douglas, L. Harwood, V. Lebedev, C. Leemann, L. Merminga, "Issues in Acceleration of a Muon Beam For a Neutrino Factory," Proceedings 2001 Particle Accelerator Conference, Chicago, IL (2001)
29. L. Merminga, I. E. Campisi, D. R. Douglas, G. A. Krafft, J. Preble, B. C. Yunn, "High Average Current Effects In Energy Recovery Linacs," Proceedings 2001 Particle

Accelerator Conference, Chicago, IL (2001)

30. I.V. Bazarov, D.H. Bilderback, S.M. Gruner, H.S. Padamsee, R. Talman, M. Tigner, G.A. Krafft, L. Merminga, C.K. Sinclair, "The Energy Recovery Linac (ERL) As A driver For X-ray Producing Insertion Devices," Proceedings 2001 Particle Accelerator Conference, Chicago, IL (2001)
31. I.V. Bazarov, G.A. Krafft, L. Merminga, "Linac Optics For Energy Recovery Linac," Proceedings 2001 Particle Accelerator Conference, Chicago, IL (2001)
32. D. Douglas, S.V. Benson, G. Biallas, J. Boyce, H.F. Dylla, R. Evans, A. Grippo, J. Gubeli, K. Jordan, G.A. Krafft, et. al., "A 10 kW IR FEL Design For Jefferson Lab," Proceedings 2001 Particle Accelerator Conference, Chicago, IL (2001)
33. L. Merminga, G. Neil, B.C. Yunn, J. J. Bisognano, "Scaling of Wakefield Effects in Recirculating Linacs," Proceedings 2001 Particle Accelerator Conference, Chicago, IL (2001)
34. L. Merminga, G. Krafft and V. Lebedev, "An Energy Recovery Electron Linac-on-Proton Ring Collider," Proceedings of 2001 HEACC Conference, Tsukuba, Japan (2001)
35. L. Merminga, G. A. Krafft, V.A. Lebedev, I. Ben-Zvi, "An Energy Recovery Electron Linac-on-Ring Collider," AIP Conference Proceedings, **588**, 204-28 (2001)
36. L. Merminga, et al., "Specifying HOM-Power Extraction Efficiency in a High Average Current, Short Bunch Length SRF Environment," Proceedings 2000 Linac Conference, Monterey CA (2000)
37. D. Douglas, S. V. Benson, G. A. Krafft, R. Li, L. Merminga, and B. C. Yunn, "Driver Accelerator Design for the 10kW Upgrade of the Jefferson Lab IRFEL," Proceedings 2000 Linac Conference, Monterey CA (2000)
38. C. Hovater, J. Delayen, L. Merminga, T. Powers and C. Reece, "RF Control Requirements for the CEBAF Energy Upgrade Cavities," Proceedings of 2000 Linac Conference, Monterey CA (2000)
39. M. Shinn et al., "The Jefferson Lab FEL User Facility," Proceedings of 2000 SPIE Conference on Applications of Lasers (2000)
40. L. Merminga et al., "First Experimental Data on the FEL-rf Interaction at the Jefferson Lab IRFEL," NIM A 445, II-3 (2000)
41. I. E. Campisi, D. Douglas, C. Hovater, G. A. Krafft, L. Merminga and B. C. Yunn, "Beam Current Limitations in the Jefferson Lab FEL: Simulations and Analysis of Proposed Beam Breakup Experiments," Proceedings of 1999 Particle Accelerator Conference, New York, NY (1999)

42. I. E. Campisi, D. Douglas, L. Merminga and B. C. Yunn, "Beam Breakup Simulations for the Jefferson Lab FEL Upgrade," Proceedings of 1999 Particle Accelerator Conference, New York, NY (1999)
43. With the Jefferson Lab FEL Team, "First Results on Energy Recovery in the Jefferson Lab IRFEL," Proceedings of 1999 Particle Accelerator Conference, New York, NY (1999)
44. L. R. Doolittle, C. Hovater, L. Merminga, J. Musson and M. Wissmann, "A Low-Cost, NIST-Traceable, High Performance Dielectric Resonator Master Oscillator," Proceedings of 1999 Particle Accelerator Conference, New York, NY (1999)
45. With the Jefferson Lab FEL Team, "Performance of the Accelerator Driver of Jefferson Laboratory's Free-Electron Laser," Proceedings of 1999 Particle Accelerator Conference, New York, NY (1999)
46. L. Merminga and I. E. Campisi, "Higher Order Modes and Beam Breakup Simulations in the Jefferson Lab FEL Recirculating Linac," Proceedings of 1998 Linac Conference, Chicago, IL (1998)
47. B. C. Yunn and L. Merminga, "Beam Breakup in a Microtron," Proceedings of 1997 Particle Accelerator Conference, Vancouver (1997)
48. T. Schilcher, S. N. Simrock, L. Merminga and D. X. Wang, "A Design and Performance Analysis Tool for Superconducting RF Systems," Proceedings of 1997 Particle Accelerator Conference, Vancouver (1997)
49. L. Merminga et al., "Experiments and Simulation of High Current Operation at CEBAF," Proceedings of 1996 European Particle Accelerator Conference, Barcelona (1996)
50. L. Merminga and G. A. Krafft, "Energy Spread from RF Amplitude and Phase Errors," Proceedings of 1996 European Particle Accelerator Conference, Barcelona (1996)
51. L. Merminga, J. J. Bisognano and J. R. Delayen, "Energy Stability in Recirculating, Energy-Recovering Linacs in the Presence of an FEL," Proceedings of 1996 European Particle Accelerator Conference, Barcelona (1996)
52. S. V. Benson et al., "A Proposed High Power UV Industrial Demonstration Laser at CEBAF," Proceedings of 1996 SPIE Conference on Applications of Lasers in Industry, (1996)
53. S. V. Benson et al., "Status Report on the Development of a High Power UV and IR FEL at CEBAF," Proceedings of 17th International FEL Conference, New York (1995)
54. L. Merminga and J. J. Bisognano, "Energy Stability in a High Average Power FEL," Proceedings of 1995 Particle Accelerator Conference, Dallas TX (1995)

55. L. Merminga, J. Fugitt, G. Neil and S. Simrock, "RF System Modeling for the High Average Power FEL at CEBAF," Proceedings of 1995 Particle Accelerator Conference, Dallas TX (1995)
56. F. Dylla et al., "A High--Average--Power FEL for Industrial Applications," Proceedings of 1995 Particle Accelerator Conference, Dallas TX (1995)
57. D. Neuffer et al., "Accelerator Design for the High--Power Industrial FEL," Proceedings of 1995 Particle Accelerator Conference, Dallas TX (1995)
58. L. Merminga, J. Bisognano, C. Hovater, G. Krafft, S. Simrock and K. Kubo, "Operation of the CEBAF Linac with High Beam Loading," Proceedings of 1993 Particle Accelerator Conference, Washington DC (1993)
59. G. Krafft, J. Bisognano, M. Crofford, C. Hovater, L. Merminga, S. Simrock and S. Witherspoon, "Energy Vernier System for CEBAF," Proceedings of 1993 Particle Accelerator Conference, Washington DC (1993)
60. S. Simrock, G. Krafft and L. Merminga, "Phasing Schemes for the CEBAF cavities," Proceedings of 1993 Particle Accelerator Conference, Washington DC (1993)
61. J. Perry, E. Woodworth, L. Merminga, S. Simrock, R. May and G. Stapleton, "The CEBAF Beam Loss Sensors," Proceedings of 1993 Particle Accelerator Conference, Washington DC (1993)
62. N. Merminga, "Transport Matrix Through a Region with Acceleration," Available from the author only (1992)
63. N. Merminga, J. Irwin, R. Helm and R. Ruth, "Optimizing a Nonlinear Collimation System for Future Linear Colliders," Proceedings of 1991 Particle Accelerator Conference, San Francisco. Also SLAC-PUB-5507 (1991)
64. N. Merminga, W. Spence, P. Morton, and J. Seeman, "Transverse Phase Space in the Presence of Dispersion," Proceedings of 1991 Particle Accelerator Conference, San Francisco. Also SLAC-PUB-5514 (1991)
65. J. Seeman, C. Adolphsen, K. Bane, P. Emma, F.-J. Decker, I. Hsu, T. Limberg, N. Merminga, M. Ross, and W. Spence, "Summary of Emittance Control in the SLC Linac," Proceedings of 1991 Particle Accelerator Conference, San Francisco. Also SLAC-PUB-5437 (1991)
66. N. Merminga, J. Irwin, R. Helm, and R. Ruth, "Collimation Systems in the Next Linear Collider," Proceedings of 1990 DPF Summer Study on High Energy Physics, Snowmass, July 1990. Also SLAC-PUB-5436 (1991)

67. N. Merminga and R. Ruth, "Dynamic Collimation for Linear Colliders," Proceedings of 1990 European Particle Accelerator Conference, Nice. Also SLAC-PUB-5265 (1990)
68. J. T. Seeman and N. Merminga, "Mutual Compensation of Wakefield and Chromatic Effects of Intense Linac Bunches," Proceedings of 1990 Linac Conference, Albuquerque, New Mexico. Also SLAC-PUB-5220 (1990)
69. N. Merminga and King-Yuen Ng, "Analytic Expressions for the Smear due to Nonlinear Multipoles," Proceedings of 1989 Particle Accelerator Conference, Chicago. Also Fermilab Report FN-505 and SSC-CDG internal report SSC-N-594 (1989)
70. With the E778 Collaboration (see below), "An Experimental Study of the SSC Magnet Aperture Criterion," Proceedings of 1988 European Particle Accelerator Conference, Rome. Also Fermilab Report Conf 88-94-E (1988)
71. With the E778 Collaboration, "Dynamic Aperture Measurements at the Tevatron," Proceedings of 1988 European Particle Accelerator Conference, Rome (1988)

### **Internal Reports**

1. L. Merminga, "RF Requirements for the IRFEL Upgrade Project," Jefferson Lab Internal Report TN 99-018, October 1999.
2. D. Douglas et al., "FEL Upgrade Scenarios," Jefferson Lab Internal Report TN 99-020, July 1999.
3. L. Merminga and I. E. Campisi, "Beam Breakup Simulations in the Jefferson Lab Free-Electron Laser," Jefferson Lab Internal Report TN 98-031, August 1998.
4. G. Neil and L. Merminga, "A New Collection Mirror for Synchrotron Light," Jefferson Lab Internal Report TN 98-013, April 1998.
5. I. E. Campisi and L. Merminga, "Higher Order-Mode Spectra in the FEL Cavities," Jefferson Lab Internal Report TN 98-011, March 1998.
6. L. Merminga, "Magnetostrictive Tuner Requirements for the IR and UV FEL cavities," Jefferson Lab Internal Report TN 98-005, February 1998.
7. L. Merminga and B. C. Yunn, "Multipass Beam Breakup in Microtrons: Application to break IASA Microtron," IASA Internal Report and Jefferson Lab Internal Report TN 97-032, September 1997.
8. L. Merminga and J. R. Delayen, "On the Optimization of  $Q_{\text{ext}}$  under Heavy Beam Loading and in the Presence of Microphonics," CEBAF Internal Report TN 96-022, May 1996.

9. L. Merminga, "RF Cavity Equations: Steady-State," CEBAF Internal Report TN 95-019, July 1995.
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11. N. Merminga and J. Irwin, "Emittance Growth due to Resistive Wall Wakefield," SLAC Report AAS-Note 65, November 1991.
12. M. Lee, L. Merminga and M. Woodley, "Resolving the Field Errors in the NRTL," SLC Report, October 1990.
13. N. Merminga and R. Ruth, "Emittance Dilution due to Transverse Wakefield Kicks from a Scraper," SLAC Report AAS-Note 51, June 1990.
14. N. Merminga, K. Bane, F.-J. Decker, I. Hsu and P. Krejcik, "Bunch Length Measurements in the Linac," SLAC Report AAS-Note 50, March 1990.
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18. With the E778 Collaboration (see below), "An Experimental Study of the SSC Magnet Aperture Criterion, A Progress Report on Fermilab Experiment E778," Fermilab Report FN-471. Also SSC-CDG Report SSC-156, January 1988.

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E778 Collaboration: A. Chao, D. Johnson, S. Peggs, J. Peterson, C. Saltmarsh, and L. Schachinger (SSC Central Design Group), R. Meller, R. Siemann and R. Talman (Cornell University), P. Morton (SLAC), D. Edwards, D. Finley, R. Gerig, N. Gelfand, M. Harrison, R. Johnson, N. Merminga, and M. Syphers (Fermilab)

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## Invited Talks and Seminars

1. "Technological Challenges of ERLs," Invited talk given at the 4<sup>th</sup> Asian Particle Accelerator Conference, Indore, India, January 2007
2. "e + p/A Facilities," Invited talk given at the DNP 2007 Long Range Plan Town Meeting, Rutgers University, January 2007
3. "Summary of the Accelerator Physics Meeting," Invited talk given at the Workshop on Future Prospects in QCD at High Energy, BNL, July 2006
4. "An Electron-Ion Collider for JLab," Invited talk given at the Users Group Workshop and Annual Meeting, Jefferson lab, June 2006
5. "Energy Recovery Linacs," Nuclear Science Seminar, Michigan State University, October 2005
6. "Energy Recovery Linacs," Invited talk given at the Workshop on Physics and Technology Frontiers of Facilities for Hadron Physics, Milos, Greece, September 2005
7. "Energy Recovery Linacs," Invited talk given at the 27<sup>th</sup> International Free Electron Laser Conference, Stanford, CA, August 2005
8. "Physics Challenges for ERL Light Sources," Invited talk given at the 9<sup>th</sup> European Particle Accelerator Conference, Lucerne, Switzerland, July 2004
9. "ELIC Design," Invited Talk given at the 2<sup>nd</sup> Electron-Ion Collider Workshop, Jefferson Lab, March 2004
10. "Jefferson Lab Accelerators: Present Activities, Future Directions and Technology Development," Colloquium given at the University of Connecticut, Physics Department, October 2003
11. "Energy Recovering Linacs Research and Initiatives at Jefferson Lab," Accelerator Physics Seminar given at Cornell University, October 2003
12. "Energy Recovering Linacs for the Production of Synchrotron Radiation," Invited Talk given at the Eighth International Conference on Synchrotron Radiation Instrumentation, San Francisco, August 2003
13. "ELIC: A High Luminosity, and efficient spin manipulation Electron-Light Ion Collider at CEBAF," Talk given at the CIPANP Conference, New York City, May 2003

14. "Accelerator Physics and Applications of Energy Recovering Linacs," Seminars given at Fermi National Accelerator Laboratory and Argonne National Lab, April 2003
15. "Jefferson Lab Accelerators: Present Activities, Future Directions and Technology Development," Colloquium given at the College of William and Mary, Old Dominion University, and the Jefferson Lab Graduate Student Seminar, March – April 2003
16. "Energy Recovering Linacs," Invited talk given at the XXI International Linear Accelerator Conference, Korea, August 2002
17. "ELIC: An Electron-Light Ion Collider Based at CEBAF," Contributed talk given at the EPAC 2002, Paris, June 2002
18. "Status Report on the Jefferson Lab FEL and the Cornell / JLab ERL Projects," Talk given at the Workshop on Energy Recovery Linacs as Drivers for Advanced Light Sources, University of Erlangen-Nürnberg, May 2002
19. "Accelerator Physics of Energy Recovering Linacs," Invited talk given at the Workshop on Energy Recovery Linacs as Drivers for Advanced Light Sources, University of Erlangen-Nürnberg, May 2002
20. "Luminosity Limitations in Linac-Ring Colliders," Talk given at the EIC Accelerator Workshop, BNL, February 2002
21. "Energy Recovering Linac Issues," Talk given at the EIC Accelerator Workshop, BNL, February 2002
22. "ELIC: An Electron-Light Ion Collider Based At CEBAF," Invited talk given at the EIC Accelerator Workshop, BNL, February 2002
23. "Recent Developments in Superconducting RF FELs," Invited talk given at the 10th Workshop on RF Superconductivity, Tsukuba, Japan, September 2001
24. "RF Stability in Energy Recovering FELs: Theory and Experiment," Invited Talk given at the 23rd International Free Electron Laser Conference, Darmstadt, Germany, August 2001
25. "Linac-Ring Colliders," Invited talk given at Snowmass, July 2001
26. "Accelerator Physics," Jefferson Lab Physics Enrichment for Science Teachers, July 2001, July 2002
27. "High Average Current Effects in Energy Recovery Linacs," Contributed talk given at the 2001 Particle Accelerator Conference, Chicago, June 2001

28. "RF Control Requirements in Energy Recovering Linacs," Talk given at the Low Level RF Workshop, Jefferson Lab, April 2001
29. "Highlights of HEACC Conference," Beam Physics Seminar, Jefferson Lab, April 2001
30. "An Energy Recovery Electron Linac-on-Proton Ring Collider," Invited talk given at the 18th International Conference on High Energy Accelerators, Tsukuba, Japan, March 2001
31. "An Energy Recovery Electron Linac-on-Proton Ring Collider," Jefferson Lab Colloquium, March 2001
32. "An Electron Linac-on-Proton Ring Collider," Talk given at the 2<sup>nd</sup> EPIC Workshop, MIT, September 2000
33. "Energy Recovery," Invited talk given at the Workshop on Energy Recovery Linacs as Drivers for Synchrotron Radiation Sources, Cornell University, August 2000
34. "Energy Recovery," Invited talk given at the 2nd eRHIC Workshop, Yale University, April 2000
35. "FEL-RF Instabilities in Recirculating, Energy-Recovering Linacs with an FEL," Talk given at the 21st International Free Electron Laser Conference, Hamburg Germany, August 1999
36. "Accelerator Physics at Jefferson Lab," CNU Seminar, Newport News VA, October 1998
37. "Recent Achievements of Jefferson Lab's Free Electron Laser," IASA Seminar, Athens Greece, October 1998
38. "Analysis of the FEL-RF Interaction in Recirculating, Energy-Recovering Linacs with an FEL," Talk given at the 20th International Free Electron Laser Conference, Williamsburg VA, August 1998
39. "Beam Breakup in Microtrons," IASA Seminar, Athens Greece, June 1997
40. "Accelerator Design of the Jefferson Lab IRFEL," Fermi National Accelerator Laboratory Seminar, October 1996
41. "Accelerator Physics," Jefferson Lab Summer Science Series, July 1994, July 1995, July 1996
42. "RF Control and Energy Stability in the IR FEL," CEBAF IR FEL Technical Review, April 1996

43. "Steady-State RF Cavity Equations and Phasor Diagrams," CEBAF Acceleration Systems Training Seminar, March 1996
44. "Energy Stability - SRF Control for Energy Recovery," CEBAF UV FEL Technical Review, September 1995
45. "Accelerator Design for the High Average Power FEL at CEBAF," IASA Seminar, Athens Greece, May 1995
46. "FEL Strategic Planning Team Report," CEBAF Town Meeting, July 1994
47. "CEBAF Commissioning: First Results," Brookhaven National Accelerator Laboratory Seminar, June 1994
48. "Collimation systems for the Next Linear Collider," Talk given at the Third International Workshop on Linear Colliders, Protvino USSR, September 1991
49. "Nonlinear Collimation for Future Linear Colliders," University of North Texas at Denton Seminar, April 1991
50. "Dynamic Collimation for the Next Linear Collider," Fermilab Seminar, December 1990
51. "Dynamic Collimation for Linear Colliders," Talk given at the APS Meeting, Washington DC, April 1990
52. "Dynamic Collimation for Linear Colliders," SLAC Seminar, November 1989
53. "Nonlinear Dynamics Experiment in the Tevatron," Talk given at the 1989 Particle Accelerator Conference, Chicago, March 1989
54. "E778: The experiment -- Basic Results," Aperture Workshop, Fermilab, March 1989
55. "Experimental Investigation of Nonlinear Dynamics in the Tevatron," CEBAF Seminar, September 1988; SLAC Seminar, October 1988; Fermilab Seminar, January 1989
56. "An Experimental Study of the SSC Magnet Aperture Criterion," SSC Design Seminar, May 1988
57. "Marylie: A Lie Algebraic Code," Fermilab Accelerator Theory Class, June 1987