# DANIEL S. WEILE

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## Education:

- Ph.D., Electrical Engineering, University of Illinois at Urbana-Champaign (5/99), GPA: 4.0/4.0. Thesis: "The application of advanced-operator genetic algorithms to electromagnetic optimization problems." Advisor: Eric Michielssen.
- M.S., Electrical Engineering, University of Illinois at Urbana-Champaign (8/95), GPA: 4.0/4.0. Thesis: "Genetic algorithm applications in electromagnetics." Advisor: Eric Michielssen.
- B.S.E.E., Electrical Engineering, University of Maryland at College Park, (5/94), GPA: 4.0/4.0.
- B.S., Mathematics, University of Maryland at College Park, (5/94), GPA: 4.0/4.0.

## Experience:

- **Assistant Professor** (August 2000-present) University of Delaware.
- **Visiting Assistant Professor** (May 1999-August 2000) Center for Computational Electromagnetics and Electromagnetics Lab, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign
- **Instructor** (1998) Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign
- **Laboratory Teaching Assistant** (1995-1998) Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign
- **Research Assistant** (1994) Institute for Plasma Research, University of Maryland at College Park
- **Engineering Aide** (summers 1990-1993) Army Space Technology and Research Office, Fort Belvoir, VA

## Awards/Society Involvement:

- Appointed Outstanding Junior Faculty of Engineering, Sept. 2005-Aug. 2006.
- Appointed associate editor of *IEEE Transactions on Antennas and Propagation*, Nov. 2004.
- Appointed co-membership chair (with B. Shanker) of IEEE Antennas and Propagation Society, 2003.
- College of Engineering Excellence in Teaching Award, 2002.
- Slocomb Excellence in Teaching Award, 2002.
- Chair of IEEE Antennas and Propagation International Symposium Time-Domain Session, 2002.
- Elected to URSI Commission B, 2001.
- Chair of Applied Computational Electromagnetics Symposium optimization session, 1997-2000.
- E. A. Reid Fellowship for the student in the Department of Electrical and Computer Engineering who has shown the most promise for a future academic career through research and teaching accomplishments, 1998.
- Best Student Paper Award for "Rational Krylov reduced order modeling of multiscreen frequency selective surfaces", Applied Computational Electromagnetics Symposium, Monterey, CA 1998.
- Incomplete List of Teachers Rated Excellent by Their Students, Fall 1996, Spring 1996, Fall 1997.
- Nominated for Olesson Teaching Award, Spring 1996, Fall 1997.

- Koehler Fellowship for incoming students of Electrical and Computer Engineering, University of Illinois, 1994.
- National Science Foundation Graduate Fellowship, 1994.
- Outstanding Senior (in the Department of Electrical Engineering) Award, 1994.
- Outstanding Junior (in the Department of Electrical Engineering) Award, 1993.
- Tretter Fellowship for the Outstanding Junior in the Electrical Engineering Department.
- Official Commendation, United States Department of the Army, 1991, 1992, 1993.
- Francis Scott Key Scholarship (from the University of Maryland), 1990.
- National Merit Scholar, 1990.
- Honor Society Membership in **ΦΒΚ, ΤΒΠ, ΗΚΝ, ΦΚΦ, ΑΛΔ**.
- Senior member of IEEE.

## Research Funding:

1. Co-PI (subcontract), "STTR Phase I: Compact Antenna Development," $30,000, Missile Defense Agency (through San Diego Composites), 11/05-4/06.
2. PI (subcontract), "STTR Phase I: Non-planar GPS Anti-Jam Array," $21,000, Office of Naval Research through JEM Engineering, 11/05-5/06.
3. PI, "A time domain integral equation approach to electromagnetic interference simulation," (Young investigator program), $300,000, Office of Naval Research, 7/04-6/07.
4. PI, "CAREER: Accurate marching by bandlimited extrapolation: The missing link of computational electromagnetics," $400,000, National Science Foundation, 7/04-6/09.
5. PI (subcontract), "SBIR Phase II: Computer simulation for the design of radar absorbing material," $150,000, Army Research Laboratory through Applied EM, Inc., 11/03-11/05.
6. PI (subcontract), "SBIR Phase I option: Computer simulation for the design of radar absorbing material," $10,000, Army Research Laboratory through Applied EM, Inc., 6/03-12/03.
7. PI (subcontract), "SBIR Phase I: Computer simulation for the design of radar absorbing material," $21,000, Army Research Laboratory through Applied EM, Inc. 1/03-6/03.
8. PI (subcontract), "SBIR Phase I Option: Highly effective shielding technique for ship composite structures," $10,000, Office of Naval Research through Touchstone Research Labs, 8/03-9/03.
9. PI (subcontract), "SBIR Phase I: Highly effective shielding technique for ship composite structures," $15,000, Office of Naval Research through Touchstone Research Labs, 2/03-7/03.
10. Co-PI (with S. Advani, PI, and many others), "Advanced materials intelligent processing center," $40,000/year for Weile, Office of Naval Research, 7/01-7/06.
11. Co-PI (with J. Gillespie, PI, and many others) "Composite materials technology for transformation of the Army," $7,435,000, Army Research Laboratory, 6/01-6/06.
12. Co-PI (with B. Panchepakesan, PI, and T.-W. Chou) "NER: Carbon nanotube bases electromechanical resonators," National Science Foundation, $100,000, 7/03-6/05.
13. PI (transfer from Phillip Christie 7/13/02), "Statistical analysis of interconnect limited systems II," National Science Foundation, $150,000, 2/99-1/03.
14. PI, "A study of electromagnetic interference on shielded printed circuit boards", W. L. Gore and Associates, $60,000, 07/01-09/02.
15. PI, "Time domain method of moments using signal processing techniques," University of Delaware Research Foundation, $33,000, 6/2001-9/2002.

## Pending Proposals:

16. Co-PI (subcontract), "SBIR Phase I: Improved Omnidirectional Multiband Antenna for Miniature Munitions," Office of Naval Research (through San Diego Composites) $21,000, 6-06-12/06.

17. PI (subcontract), "SBIR Phase I: Innovative Fuze Technology Research," Office of Naval Research (through JEM Engineering), $21,000, 6/06-12/06.
18. PI, "Genetic Geometry for Inverse Scattering and Design," National Science Foundation, $244,229, 6/06-5/09.
19. Co-PI, "NIRT: Electroactive Organic and Hybrid Organic/Inorganic Nanostructures through Biomolecular Design and Self-Assembly," $1,523,851, 6/06-5/09.

## Publications/Conference Presentations:

### Book Chapters

1. E. Michielssen, Y. Rahmat-Samii, and **D. S. Weile**, "Electromagnetic system design using genetic algorithms," in *Modern Radio Science 1999*, M. A. Stuchly, Ed., Oxford, UK: Oxford University press, 1999, pp. 91-123.
2. **D. S. Weile** and E. Michielssen, "Genetic algorithms: theory and advanced techniques", in *Electromagnetic Optimization by: Genetic Algorithms*, Y. Rahmat-Samii and E. Michielssen, Eds. New York: John Wiley and Sons, 1999, pp. 29-66.
3. **D. S. Weile** and E. Michielssen, "The application of domain decomposition genetic algorithms to pseudo-stratified electromagnetic filtering structures", in *Electromagnetic Optimization by: Genetic Algorithms*, Y. Rahmat-Samii and E. Michielssen, Eds. New York: John Wiley and Sons, 1999, pp. 321-366.
4. E. Michielssen and **D. S. Weile**, "Electromagnetic system design using genetic algorithms," in *Genetic Algorithms in Engineering*, J. Périaux, G. Winter, M. Galán, and P. Cuesta, Eds. New York: John Wiley and Sons, 1995, pp. 345-369.
5. **D. S. Weile**, R. A. Wildman, G. Pisharody, and A. Mohan, "Galerkin method (Rayleigh-Ritz method)" *Encyclopedia of RF and Microwave Engineering*, vol. 2, New York: John Wiley and Sons, 2005.

### Journal Articles

6. G. A. Gazonas, **D. S. Weile**, R. A. Wildman, and A. Mohan, "Genetic algorithm optimization of phononic bandgap structures," accepted for publication in *International Journal of Solids and Structures*.
7. S. Cui, **D. S. Weile**, and J. L. Volakis, "Novel planar absorber designs using genetic algorithms," accepted for publication in *IEEE Transactions on Antennas and Propagation*.
8. G. Pisharody and **D. S. Weile**, "Electromagnetic scattering from homogeneous dielectric bodies using tim-domain integral equations," *IEEE Transactions on Antennas and Propagation*, vol. 54, no. 2, pp. 687-697, 2006.
9. S. Cui and **D. S. Weile**, "Application of a parallel particle swarm optimization scheme to the design of electromagnetic absorbers," *IEEE Transactions on Antennas and Propagation*, vol. 53, no. 11, pp. 3616-3624, 2005.
10. R. A. Wildman and **D. S. Weile** "Two-dimensional transverse-magnetic time-domin scattering using the Nystrom method and bandlimited extrapolation," *IEEE Transactions on Antennas and Propagation*, vol. 53, no. 7, pp. 2259-2266, 2005.
11. S. Cui, A. Mohan, and **D. S. Weile**, "Pareto optimal design of absorbers using a parallel elitist nondominated sorting genetic algorithm and the finite element boundary integral method," *IEEE Transactions on Antennas and Propagation*, vol. 53, no.6, pp. 2099-2107, 2005.
12. G. Pisharody and **D. S. Weile**, "Robust Solution of Time-Domain Integral Equations using Loop-Tree Decomposition and Bandlimited Extrapolation," *IEEE Transactions on Antennas and Propagation*, vol. 53, no.6, pp. 2089-2098, 2005.
13. A. Mohan and **D. S. Weile**, "A hybrid method of moments marching on in time method for the solution of electromagnetic scattering problems," *IEEE Transactions on Antennas and Propagation*, vol. 53, no. 3, pp. 1237-1242, 2005.

14. G. Pisharody and **D. S. Weile**, "Electromagnetic scattering from perfect conductors using augemented time-domain integral equation technique," *Microwave and Optical Technology Letters*, vol. 45, no. 1, pp. 26-31, 2005.
15. S. Ali, **D. S. Weile**, and T. Clupper, "Effect of near field radiators on the radiation leakage through perforated shields," *IEEE Transactions on Electromagnetic Compatibility*, vol. 47, no. 2, pp. 367-373.
16. R. A. Wildman and **D. S. Weile**, "Two-dimensional transverse-magnetic time-domain scattering using a predictor/corrector based Nyström method," *Microwave and Optical Technology Letters*, vol. 44, no. 3, pp. 231-236, 2005.
17. R. A. Wildman, G. Pisharody, **D. S. Weile**, B. Shanker, and E. Michielssen, "An accurate scheme for the solution of the time-domain integral equations of electromagnetics using higher order vector bases and bandlimited extrapolation," *IEEE Transactions on Antennas and Propagation*, vol. 52, no. 11, pp. 2973-2984, 2004.
18. R. A. Wildman and **D. S. Weile**, "An accurate broad-band method of moments using higher order basis functions and tree-loop decomposition," *IEEE Transactions on Antennas and Propagation*, vol. 52, no. 11, pp. 3005-3011, 2004.
19. **D. S. Weile**, G. Pisharody, N.-W. Chen, B. Shanker, and E. Michielssen, "A novel scheme for the solution of the time-domain integral equations of electromagnetics," *IEEE Transactions on Antennas and Propagation*, vol. 52, no. 1, pp. 283-295, 2004.
20. S. Cui and **D. S. Weile**, "Robust design of absorbers using genetic algorithms and the finite element-boundary integral method," *IEEE Transactions on Antennas and Propagation*, vol. 51, no. 12, pp. 3249-3258, 2004.
21. R. A. Wildman, J. I. Kramer, **D. S. Weile**, and P. Christie, "Multiobjective optimization of interconnect geometry," *IEEE Transactions on VLSI Systems*, vol. 11, no. 1, pp. 15-23.
22. A. E. Yilmaz, **D. S. Weile**, J. Jin, and E. Michielssen "Fast analysis of transient scattering in lossy media," *IEEE Antennas and Wireless Propagation Letters*, vol. 1, no. 1, pp. 14-17, 2002.
23. S. M. Cui and **D. S. Weile**, "Analysis of electromagnetic scattering form periodic structures by FEM truncated by anisotropic PML boundary condtion," *Microwave and Optical Technology Letters*, vol. 35, no. 2, pp. 106-110, 2002.
24. Y. X. Yu, **D. S. Weile**, M. Y. Lu, E. Michielssen, "Time-domain integral equation-based analysis of scattering from conducting surfaces including the singular edge behavior," *Microwave and Optical Technology Letters*, vol. 34, no. 5, pp. 327-332, 2002.
25. A. Yilmaz, **D. S. Weile**, E. Michielssen, and J. Jin, "A hierarchical FFT algorithm (HIL-FFT) for the fast analysis of transient electromagnetic scattering phenomena," *IEEE Transactions on Antennas and Propagation*, vol. 50, no 7, pp. 971-982, 2002.
26. **D. S. Weile** and E. Michielssen, "Analysis of frequency selective surfaces using two-parameter generalized rational Krylov model order reduction," *IEEE Transactions on Antennas and Propagation*, vol.49, no. 11, pp. 1539-1549, 2001.
27. **D. S. Weile** and E. Michielssen, "Rational Krylov model order reduction through the blazing onset using rational Krylov model-order reduction and Woodbury singularity extraction," *IEEE Transactions on Antennas and Propagation*, vol. 49, no. 10, pp. 1470-1478, 2001.
28. **D. S. Weile** and E. Michielssen, "The control of adaptive antenna arrays using digital phase shifters and diploid genetic algorithms," *IEEE Transactions on Antennas and Propagation*, vol. 49, no. 10, pp. 1424-1433, 2001.
29. **D. S. Weile**, E. Michielssen, and K. Gallivan, "Reduced-order modeling of frequency-selective surfaces using Krylov-based rational interpolation," *IEEE Transactions on Antennas and Propagation*, vol.49, no. 5, pp. 801-813, 2001.
30. A. Yilmaz, **D. S. Weile**, E. Michielssen, and J. Jin, "A fast Fourier transform accelerated marching-on-in-time algorithm for electromagnetic analysis," *Electromagnetics*, vol. 21, no. 3, pp. 181-197, 2001.
31. **D. S. Weile** and E. Michielssen, "The use of domain decomposition genetic algorithms and model reduction in the design of frequency selective surfaces," *Computer Methods in Applied Mechanics and Engineering*, vol. 186, pp. 439-456, 2000. (invited)

32. **D. S. Weile** and E. Michielssen, "The design of E-plane microwave filters using a community genetic algorithm," *Microwave and Optical Technology Letters*, vol. 21, no. 1, pp. 28-35, 1999.
33. **D. S. Weile** and E. Michielssen, "Design of doubly periodic filter and polarizer structures using a hybridized genetic algorithm," *Radio Science*, vol. 34, no. 1, pp. 51-63, 1999.
34. S. E. Fisher, **D. S. Weile**, E. Michielssen, and W. Woody, "Pareto genetic algorithm design of log-periodic monopole arrays mounted on realistic platforms," *Journal of Electromagnetic Waves and Applications*, vol. 13, no. 5, pp. 571-598, 1999.
35. **D. S. Weile**, E. Michielssen, E. Grimme, and K. Gallivan, "A method for generating rational interpolant reduced order models of two parameter linear systems," *Applied Mathematics Letters*, vol. 12, no. 5, pp. 93-102, 1999.
36. A. Singh, **D. S. Weile**, S. Rajapatirana, and V. Granatstein, "Integrated design of depressed collectors for gyrotrons," *IEEE Transactions on Plasma Science*, vol. 25. no. 3, pp. 480-491, 1997.
37. **D. S. Weile** and E. Michielssen, "Genetic algorithm optimization applied to electromagnetics: A review," *IEEE Transactions on Antennas and Propagation,* vol. 45, no. 3, pp. 343-353, 1997. (invited)
38. K. Aygün, **D. S. Weile** and E. Michielssen, "Design of multilayered strip gratings by genetic algorithms," *Microwave and Optical Technology Letters,* vol. 42, Feb. 1997, pp. 81-85.
39. **D. S. Weile** and E. Michielssen, "Integer coded Pareto genetic algorithm design of antenna arrays," *Electronics Letters,* vol. 32, no. 19, pp. 1744-1745, 1196.
40. **D. S. Weile**, E. Michielssen, and D. E. Goldberg, "Genetic algorithm design of Pareto optimal broad band microwave absorbers," *IEEE Transactions on Electromagnetic Compatibility*, vol. 38, no. 4, pp. 518-524, 1996.

**Conference Publications**

41. R. A. Wildman and **D. S. Weile**, "Numerical solution of time-domain integral equations using the Nyström method," to be presented at the *IEEE Antennas and Propagation Society Symposium*, Washington DC, July 2005.
42. A. Mohan and **D. S. Weile**, "Accurate modeling of the cylindrical wire kernel using higher order basis functions," to be presented at the *IEEE Antennas and Propagation Society Symposium*, Washington DC, July 2005.
43. S. Cui, **D. S. Weile**, and J. L. Volakis, "Novel planar absorber design using genetic algorithms," to be presented at the *IEEE Antennas and Propagation Society Symposium*, Washington DC, July 2005.
44. S. Cui and **D. S. Weile**, "Application of a novel particle swarm optimization to the design of electromagnetic absorbers," to be presented at the *IEEE Antennas and Propagation Society Symposium*, Washington DC, July 2005.
45. R. A. Wildman and **D. S. Weile**, "Nyström discretization of time-domain integral equations using a filtered Green's function and predictor/corrector," presented at *USNC/URSI National Radio Science Meeting*, Monterey, CA, July 2004.
46. R. A. Wildman and **D. S. Weile**, "Two-dimensional transverse-magnetic time-domain scattering using the Nyström method and Green's function filtering," presented at the *IEEE Antennas and Propagation Society Symposium*, Monterey, CA, vol.4, pp. 200-203, July 2004.
47. G. Pisharody and **D. S. Weile**, "A robust solution to time domain integral equations for perfect electric conductors using loop-tree decomposition and bandlimited extrapolation," presented at the *IEEE Antennas and Propagation Society Symposium*, Monterey, CA, vol.4, pp. 204-207, July 2004.
48. G. Pisharody and **D. S. Weile**, "An accurate solution to time domain integral equations for homogeneous dielectric bodies using loop-tree decomposition and bandlimited extrapolation," presented at the *IEEE Antennas and Propagation Society Symposium*, Monterey, CA, vol.4, pp. 208-211, July 2004.

49. A. Mohan and **D. S. Weile**, "A hybrid method of moments-marching on in time method for the solution of electromagnetic scattering problems," presented at the *IEEE Antennas and Propagation Society Symposium*, Monterey, CA, vol.4, pp. 216-219, July 2004.
50. G. A. Gazonas, A. P. Velo, and **D. S. Weile**, "Optimal design of multilayered structures subject to transient loading," presented at the *Seventh National Congress on Mechanics, Hellenic Society of Theoretical and Applied Mechanics*, June 2004.
51. **D. S. Weile,** "An augmented time-domain electric field integral equation solution technique," presented at *Progress in Electromagnetics Research Symposium*, Honolulu, HI, October 2003.
52. S. Ali and **D. S. Weile**, "Electromagnetic coupling through perforated shields due to near field radiators," presented at the *IEEE Electromagnetic Compatibility International Symposium*, Boston, MA, vol.2, pp.806-811, August 2003.
53. G. Pisharody, R. A. Wildman, **D. S. Weile**, "Accurate solution of the time domain integral equations of electromagnetics using higher order vector bases and bandlimited extrapolation," presented at the *IEEE Antennas and Propagation International Symposium,* Columbus, OH, vol. 3, pp. 555-558, June 2003.
54. G. Pisharody and **D. S. Weile**, "Electromagnetic scattering from a homogeneous material body using time domain integral equations and bandlimited extrapolation," presented at the *IEEE Antennas and Propagation International Symposium,* Columbus, OH, pp. 567- 570, June 2003.
55. S. Cui and **D. S. Weile**, "A simple approach to synthesis of arrays with shaped pattern and low side lobe level," presented at the *IEEE Antennas and Propagation International Symposium,* Columbus, OH, vol. 1, pp. 768-771, June 2003.
56. S. Cui and **D. S. Weile**, "Efficient analysis of scattering from periodic structures composed of arbitrary inhomogeneous and anisotropic materials using FE-BI Method accelerated by FFT," presented at the *IEEE Antennas and Propagation International Symposium,* Columbus, OH, vol.2, pp. 177-180, June 2003.
57. R. A. Wildman and **D. S. Weile**, "An accurate broadband method of moments using higher order basis functions and tree-loop decomposition," presented at the *IEEE Antennas and Propagation International Symposium,* Columbus, OH, vol. 4, pp. 102-105, June 2003.
58. S. Cui, **D. S. Weile**, "Robust design of absorbers using Genetic Algorithms and the Finite Element Boundary Integral Method," presented at the *IEEE Antennas and Propagation International Symposium*, San Antonio, TX, vol. I, pp. 326-329, June 2002.
59. **D. S. Weile**, N. W. Chen, E. Michielssen, B. Shanker, "An accurate time-marching solution method for the electric field integral equation using a bandlimited extrapolator," presented at the *IEEE Antennas and Propagation International Symposium*, San Antonio, TX, vol. 2, pp. 162-165, June 2002.
60. R. A. Wildman, J. I. Kramer, **D. S. Weile**, P. Christie, "Wire layer geometry optimization using stochastic wire sampling," presented at the *Workshop on System Level Interconnect Prediction*, San Diego, CA, pp. 97-102, April 2002.
61. **D. S. Weile**, B. Shanker, and E. Michielssen, "An accurate scheme for the numerical solution of the time domain electric field integral equation," presented at *IEEE Antennas and Propagation International Symposium*, Boston, MA, pp. 516-519, July 2001.
62. A. E. Yilmaz, **D. S. Weile**, J. M. Jin, and E. Michielssen, "An FFT accelerated MOT scheme for the analysis of scattering in lossy media, " presented at *IEEE Antennas and Propagation International Symposium*, Boston, MA, pp. 510-514, July 2001.
63. Y. Yu, **D. S. Weile**, M. Lu, E. Michielssen, "Full-wave time-domain analysis of conducting surface including the singular edge behavior," presented at *USNC/URSI Radio Science Meeting*, Boston, MA, July 2001.
64. E. Michielssen, K. Aygün, M. Lu, K. Yegin, B. Shanker, **D. S. Weile**, "Fast time domain integral equation solvers: Trends and challenges," presented at *USNC/URSI Radio Science Meeting*, Boston, MA, July 2001.

65. **D. S. Weile**, B. Shanker, A. A. Ergin, and E. Michielssen, "A predictor-corrector technique for the accurate solution of time-domain integral equations," presented at *USNC/URSI Radio Science Meeting*, Salt Lake City, UT, p. 177, July 2000.
66. **D. S. Weile**, A. A. Ergin, B. Shanker, and E. Michielssen, "An accurate discretization scheme for the numerical solution of time-domain integral equations," presented at *IEEE Antennas and Propagation International Symposium*, Salt Lake City, UT, pp.741-744, July 2000.
67. **D. S. Weile**, E. Michielssen, D. E. Goldberg, "The compact genetic algorithm: A litmus test for genetic algorithm applicability," presented at *Applied Computational Electromagnetics Symposium,* Monterey, CA, pp. 78-85, Mar. 2000.
68. **D. S. Weile** and E. Michielssen, "Rational Krylov reduced order modeling of frequency selective surfaces through the blazing onset using Woodbury singularity extraction," presented at *IEEE Antennas and Propagation International Symposium*, Orlando, FL, pp. 1730-1733, July 1999.
69. **D. S. Weile** and E. Michielssen, "Genetic algorithms with diploid chromosomes and dominance for the adaptive repair of arrays with failed elements," presented at *USNC/URSI Radio Science Meeting*, Orlando, FL, p. 130, July 1999.
70. **D. S. Weile**, S. E. Fisher, E. Michielssen and W. Woody, "Pareto genetic algorithm design of log-periodic monopole arrays mounted on realistic platforms," presented at *Applied Computational Electromagnetics Symposium,* Monterey, CA, pp. 371-378, Mar. 1999.
71. **D. S. Weile**, E. Michielssen, and K. Gallivan, "Rational Krylov reduced order modeling of multiscreen frequency selective surfaces," presented at *IEEE Antennas and Propagation International Symposium*, Atlanta, GA, pp. 406-409, Jun. 1998.
72. **D. S. Weile**, E. Michielssen, and K. Gallivan, " Two parameter generalized Krylov-based model order reduction of multiscreen frequency selective surfaces," presented at *USNC/URSI National Radio Science Meeting*, Atlanta, GA, p. 93, Jun. 1998.
73. **D. S. Weile**, E. Michielssen, and K. Gallivan, "Rational Krylov reduced order modeling of multiscreen frequency selective surfaces," presented at *Applied Computational Electromagnetics Symposium,* Monterey, CA, pp. 732-739, Mar. 1998.
74. **D. S. Weile** and E. Michielssen, "Evolutionary optimization of electromagnetic devices using advanced operators and population structures," presented at *IEEE Antennas and Propagation International Symposium*, Montréal, pp. 1668-1671, Jul. 1997. (invited)
75. D. Treyer, **D. S. Weile**, and E. Michielssen, "The application of novel genetic algorithms to electromagnetic problems," presented at *Applied Computational Electromagnetics Symposium*, Monterey, CA, pp. 1382-1386, Mar. 1997.
76. **D. S. Weile** and E. Michielssen, "Multiobjective optimization of EM devices using Pareto genetic algorithms," presented at *Allerton Antenna Symposium*, Monticello, IL, Sept. 1996.
77. A. Singh, **D. S. Weile**, S. Rajapatirana, V. L. Granatstein, "Library of codes for design of depressed collectors for gyrotrons," presented at *IEEE International Conference on Plasma Science*, Boston, MA, p. 257, Jun. 1996
78. **D. S. Weile**, E. Michielssen, and A. Boag, "Community based evolutionary optimization of frequency selective surfaces," presented at *USNC/URSI National Radio Science Meeting*, Baltimore, MD, p. 345, Jun. 1996.
79. **D. S. Weile**, E. Michielssen, and D. E. Goldberg, "Multiobjective synthesis of electromagnetic devices using genetic algorithms," presented at *IEEE Antennas and Propagation International Symposium*, Baltimore, MD, pp. 592-596, Jun. 1996.
80. E. Michielssen, W. C. Chew, and **D. S. Weile**, "Genetic algorithm optimized perfectly matched layers for finite difference frequency domain applications," presented at *IEEE Antennas and Propagation International Symposium*, Baltimore, MD, pp. 2106-2109, Jun. 1996.
81. **D. S. Weile** and E. Michielssen, "Optimization of broad-band wire antennas in real environments using genetic algorithms," presented at *Applied Computational Electromagnetics Symposium,* Monterey, CA, pp. 726-733, Mar. 1996.
82. H. Berger and **D. S. Weile**, "A new formulation of energy transport in nonuniform waveguiding structures," presented at *Midwest Symposium on Circuits and Systems*, Washington, DC, pp. 1332-1333, Aug. 1992.