GREGORY S. SPRADLIN

e-mail: spradlig@erau.edu
phone: 386-226-7737
address: Department of Mathematics
Embry-Riddle Aeronautical University
600 S. Clyde Morris Blvd.
Daytona Beach, FL 32114-3900

EMPLOYMENT EXPERIENCE

Professor   August 2014-present
Associate Professor   July 2006-August 2014
Assistant Professor   June 2000-July 2006
Embry-Riddle Aeronautical University

Davies Fellow/Visiting Researcher   August 1998-June 2000
United States Military Academy, West Point, New York
Army Research Laboratory, Aberbeen Proving Ground, Maryland

Visiting Research Assistant Professor   June 1995-June 2000
University of California, Davis

EDUCATION

Embry-Riddle Aeronautical University   January 2006-April 2009
22 credits of undergraduate coursework in
          computer science and electrical engineering

University of Wisconsin-Madison   May 1995
Ph.D. in mathematics
          Advisor: Dr. Paul H Rabinowitz
          Dissertation Title: "Multibump Solutions to a Class of
                    Semilinear Partial Differential Equations"

Siena College   May 1988
B.S. in mathematics

PUBLICATIONS

- *Combined effect of heterogeneous target dose and heterogeneous radiosensitivity on tumor control probability for different fractionation regimens*, with V. Y. Kuperman and L.M. Lubich, Physica Media, 2022, Vol. 95, pp. 140-147.
- *Effect of applicator rotation on dose distribution in accelerated partial breast irradiation*, with V. Y. Kuperman and J. Kordemenos, Biomed. Phys. Eng. Express, 2017, Vol. 3, no. 3.
- *Not All Traces on the Circle Come from Functions of Least Gradient in the Disk*, with Alexandru Tamasan, Indiana University Mathematics Journal, 2014, Vol. 63, no. 6. pp. 1819-1837.
- *Effect of Variable Dose Rate on Biologically Effective Dose*, with Vadim Kuperman, International Journal of Radiation Biology, November 2013, vol. 89, issue 11, pp. 889-897.
- *Weierstrass Traveling Wave Solutions for Dissipative Benjamin, Bona, and Mahony (BBM) Equation*, with Stefan Mancas and Harihar Kanal, Journal of Mathematical Physics, vol. 54, 2013, pp. 081502(1-15).
- *Use of Radiation Protraction to Escalate Biologically Equivalent Dose to the Treatment Target*, with Vadim Kuperman, Medical Physics, vol. 38, 2011.
- *A Non-autonomous Second Order Boundary Value Problem on the Half-Line*, Nonlinear Ordinary Differential Equations and Applications, Vol. 17, no. 5, October 2010, pp. 639-645.
- *Heteroclinic Solutions to an Asymptotically Autonomous Second Order Equation*, Electronic Journal of Differential Equations, Vol. 2010(2010), No. 137, pp. 1–14.
- *On Osgood's criterion for classical wave equations and nonlinear shallow water wave equations,* with Tim Smith, Int. Journal of Math. Analysis, Vol. 4, 2010, no. 20, 967 - 974.
- *Traveling Waves for the BBM Equation with Viscosity Term*, Advances and Applications in Fluid Mechanics, Vol. 5 (2009), No. 1, pp. 101-106.
- *Lanchester's Equations in Three Dimensions,* with Christina Spradlin, Computers and Mathematics with Applications, Vol. 53 (2007) No.7, pp. 999-1011.
- *Scattered Homoclinics to a class of time-recurrent Hamiltonian systems*, ESAIM-Control, Optimisation and Calculus of Variations, Vol. 13 (2007) No. 3, pp. 528-537.
- *An Elliptic Equation with no Monotonicity Condition on the Nonlinearity*, ESAIM- Control, Optimisation and Calculus of Variations, Vol. 12 (2006) No. 4, pp. 768-794.
- *Interacting Near-Solutions to a Hamiltonian System*, Calculus of Variations and Partial Differential Equations, Vol. 22 pp. 447-465 (2005).
- *Existence of solutions to a Hamiltonian system without convexity condition on the nonlinearity*, Electron. J. Diff. Eqns., Vol. 2004(2004), No. 21, pp. 1-13.
- *Interfering solutions of a nonhomogeneous Hamiltonian system,* Electronic Journal of Differential Equations Vol. 2001(2001), No. 47, pp. 1-10.
- *An elliptic equation with spike solutions concentrating at local minima of the Laplacian of the potential*, Electronic Journal of Differential Equations, Vol. 2000(2000), No. 32, pp. 1-14.
- *An Elliptic Partial Differential Equation with a Symmetrical Almost Periodic Term*, Calculus of Variations and Partial Differential Equations 9, pp. 233-247 (1999).
- *A Singularly Perturbed Elliptic Partial Differential Equation with an Almost Periodic Term*, Calculus of Variations and Partial Differential Equations 9, pp. 207-232 (1999).
- *A Perturbation of a Periodic Hamiltonian System*, Nonlinear Analysis, Theory, Methods, & Applications, 38 (8) (1999) pp. 1003-1022.
- *A Hamiltonian System with an Even Term*, Topological Methods in Nonlinear Analysis, 10.1, 1997, pp. 93-106.

- *An Almost Periodic Function of Several Variables with no Local Minimum*, Rendiconti dell'Instituto di Matematica dell'Universia di Trieste, 28 (1996), no. 1-2, pp. 371-381.

OTHER INTERESTS

- Computing (Linux, Python)
- Classical music, playing piano (see original piano composition "Rhapsody in C Minor" at https://gregspradlin.org/)
- Social networking, making memes (see *House of Memes*, at https://gmotd.tumblr.com/)
- Chess and other games
- Growing orchids and other houseplants