RICHARD W. WIES, Ph. D., P. E.

Address:
University of Alaska-Fairbanks
Electrical and Computer Engineering Department
PO Box 755915
Fairbanks, AK 99775

Email/Phone/Fax:
E-mail: rwwiesjr@alaska.edu
Phone (Office): (907) 474-7071
Phone (Cell): (907) 388-3561
Fax: (907) 474-5135

EDUCATION

1999	Ph.D. in Electrical Engineering rst of om g, Laramie, WY
1995	Master of Science in Electrical Engineering rst of om g, Laramie, WY
1992	Bachelor of Science in Electrical Engineering rst of om g, Laramie, WY

PROFESSIONAL QUALIFICATIONS

Jun 2007-present	Registered Professional Engineer, Stat of laska, , License #: 11793

TEACHING/INSTRUCTION

Jun 2018-present	Professor, rst of laska a rba ks Advising and instruction at the undergraduate and graduate level in Power and Controls.
Jul 2006-Jun 2018	Associate Professor, rst of laska a rba ks Advising and instruction at the undergraduate and graduate level in Power and Controls.
Aug 1999-Jun 2006	Assistant Professor, rst of laska a rba ks Advising and instruction at the undergraduate and graduate level in Power and Controls. Courses instructed: Electric Machinery (EE 303), Electrical Power Systems (EE 404), Electrical Power Engineering (EE 406), Power Electronics Design (EE 408/608), Digital Control Systems (EE 671), and special topic courses (EE 693) in Adaptive Filtering, Nonlinear Systems, and Renewable and Sustainable Energy Systems.
Summer 2002-2007	Alaska Summer Research Academy, rst of laska a rba ks Lead instructor for junior high and high school students for Electrical Engineering unit dealing with power and energy.
Spring 1999	Assistant Lecturer, rst of om g Instructor for senior Electrical Engineering course in Power Systems.

RESEARCH EXPERIENCE

Aug 1999-
present

Principal Investigator, rst of laska a rba ks

1) US Department of Energy Office of Electricity Grid Modernization Laboratory Consortium through Pacific Northwest National Laboratory (PNNL) ($156.94k: Oct 2017-Mar 2019)

-Development of an energy storage monitoring and optimization application for the PNNL GridAPPS-D platform to assist operators in electric utilities with microgrids comprised of intermittent renewables and energy storage.

2) Iowa Department of Transportation Aurora Pooled Fund Consortium ($30k: Jun 2016

10) US Department of Energy

7) US Department of Energy

3) US Department of Defense ($2M: Jan 2005-Dec 2007)

S

1) R. W. Wies, MicroFEWS: Understanding the FEW Nexus in Remote Alaska Communities, , Panel on Research and Education for Food, Energy, and Water Nexus, 18PESGM2195, Portland, OR, Aug. 2018. PESGM.2018-PESLI

2) R. W. Wies, N. T. Janssen, and R. A. Peterson, Autonomous Distributed Secondary Loads for Sole Frequency Regulation in High Penetration Wind-Diesel Microgrids, , Chicago, IL, Jul. 2017. DOI: 10.1109/PESGM.2017.8274105

3) R. W. Wies, N. T. Janssen, R. A. Peterson, and M. Mueller-Stoffels, Remote Islanded Microgrids in Alaska and the Arctic, , Panel on Lessons Learned from Implementing Portable and Reconfigurable Microgrids for Resilient Operation, 17PESGM2766, Chicago, IL, Jul 2017. PESGM.2017-PESLI

4) R. W. Wies, N. T. Janssen, and R. A. Peterson, Voltage and Frequency Stability in Remote Islanded Microgrids with High Penetration of Renewables and Unbalanced Loading, , Panel on Microgrid Stability and Modelling, Boston, MA, Jul 2016. PESGM.2016-PESLI1249

5) R. W. Wies, Achieving Maximum Value from Variable Resources (In Islanded Grids), , Guam, Apr 2016.

6) R. W. Wies, N. T. Janssen, and R. A. Peterson, Distributed Self-Sensing Secondary Loads for Frequency Regulation in Wind-Powered Islanded Microgrids, , Denver, CO, Jul 2015. DOI: 10.1109/PESGM.2015.7286033 (47 full text views IE)

7) Paul S. Gill, Michael C. Hatfield, Daniel Randle, Richard Wies, Rajive Ganguli, Siena Rosetti, and Samuel Vanderwaal. "Team of Unmanned Aircraft Systems (UAS) and Unmanned Ground Vehicles (UGV) for Emergency Response in Mining Applications", 51st AIAA/SAE/ASEE Joint Propulsion Conference, AIAA Propulsion and Energy Forum, AIAA 2015-4111, Jul 2015. DOI: http://dx.doi.org/10.2514/6.2015-4111 (6 citations GS)

8) N. T. Janssen, R. W. Wies, and R. A. Peterson, Improved Frequency Regulation on Hybrid Wind-Diesel Microgrids using Self-Sensing Electric Thermal Storage Devices, , Perth, WA, Australia, Sep 2014. DOI: 10.1109/AUPEC.2014.6966561 (83 full text views IE)

9) R. W. Wies, E. Chukkapalli, and M. Mueller-Stoffels, Improved Frequency Regulation in Mini-Grids with High Wind Contribution using Online Genetic Algorithm for PID Tuning, , Washington, DC, Jul 2014. DOI: 10.1109/PESGM.2014.6939257 (4 citations IE)

10) N. T. Janssen, R. W. Wies, and R. A. Peterson, Development of a Full-Scale-Lab-Validated Dynamic Simulink© Model for a Stand-Alone Wind-Powered Microgrid, , Baltimore, MD, Jul 2014. DOI:10.1115/POWER2014-32035 (4 citations GS)

11) R. W. Wies, N. T. Janssen, and R. A. Peterson, Evaluation of Grid-Interactive Electric Thermal Storage (GETS) Heaters for Islanded Renewable Energy-Diesel Microgrids in Cold Regions, Improved Frequency Regulation in Mini-Grids with High Wind Contribution using Online Genetic Algorithm for PID Tuning, , Narvik, Norway, May 2014.

12) B. E. Muhando, R. W. Wies, T. H. -Scale Rampable Dispatchable , San Diego, CA, Jul 20126hd[20JETBT5i)1hrnN

13) R. W. Wies   -

, Tromsø, Norway, Jan 2012.

14) R. W. Wies
    Wind-
                , Tromsø, Norway, Jan 2012.

15) R. W. Wies and D. S. Pozo   -Efficient Wind-Diesel Generation Systems Employing Smart Grid
                                                                            , Girdwood, AK, Mar
    2011.

16) R. W. Wies, R. A. Johnson, and J. D. Aspnes   -Efficient Standalone Distributed
    Generation System Employing Renewable Energy Sources and Smart Grid Technology as a Student
                                                                                    ,
    Minneapolis, MN, Jul 2010. DOI: 10.1109/PES.2010.5590089 (17 citations IE)

17) D. L. Barnes, R. A. Johnson, R. W. Wies

                                    , American Society of Civil Engineers, Duluth, Minnesota, Aug
    2009. DOI: http://dx.doi.org/10.1061/41072(359)49 (32 downloads

27) S. Bogosyan, M. Gokasan, A. Turan and R. W. Wies, "Development of Remotely Accessible Matlab/Simulink Based Electrical Drive Experiments," 2007 IEEE International Symposium on Industrial Electronics, Vigo, Jun 2007, pp. 2984-2989. DOI: 10.1109/ISIE.2007.4375090 (8 citations IE)

28) R. W. Wies   Village Metering and Power Study
                , Session T5-C, Fairbanks, AK, Apr 2007.

29) R. W. Wies, A. Balasubramanian, and J. W. Pierre
    and Auto-Regressive Block Processing Techniques for Estimating the Low Frequency

                                , Montreal, Canada, Jun 2006. DOI: 10.1109/PES.2006.1709578 (15 citations
    IE)

30) R. W. Wies, A. Balasubramanian, and J. W. Pierre,   Using Adaptive Step-Size Least Mean Squares
    (ASLMS) for Estimating Low-Frequency Electromechanical Modes in Power Systems
                                , Stockholm, Sweden,
    Jun 2006. DOI: 10.1109/PMAPS.2006.360409 (19 citations GS)

31) R. W. Wies, A. N. Agrawal, R. A. Johnson, and T. J. Chubb

41) R. W. Wies -Battery System for , Asian Institute of
Technology, Bangkok, Thailand, Jan 2004.

42) N. Zhou, J. W. Pierre, and R. W. Wies -Frequency Electromechanical Modes of , Oct 2003.

43) R. W. Wies Use of ARMA Block Processing for Estimating Stationary Low-Frequency Electromechanical Modes of Power Systems, , vol. 18, no. 1, pp. 167-173, Jul 2003. , 2003. DOI: 10.1109/PES.2003.1270937 (3 paper and 1 patent citation IE)

44) R. W. Wies -Turbine Generators (WTGs) into Hybrid Di , Whitehorse, Yukon Terr. Canada, May 2003.

45) R. W. Wies , paper 379-190, pp. 241-246, Feb 2003.

46) M. G. Anderson, J. W. Pierre, and R. W. Wies , Tempe, Arizona, Oct 2002.

47) R. W. Wies and J. D. -Efficient Hybrid Power Source for Remote , Session 2133, paper 2002-1289, Jun 2002. (58 downloads from ASEE)

48) R. W. Wies -Mean Squares (LMS) Adaptive Filtering Technique for Estimating Low- , Asok Ray and Joe H. Chow, Chairs, , paper ACC02-IEEE1025, May 2002. . DOI: 10.1109/ACC.2002.1025429 (4 citations IE)

49) R. W. Wies , Grant R. Gerhart, Robert W. Gunderson, Chuck M. Shoemaker, Editors, Proceedings of SPIE Vol. 4024, pp. 263-272, Jul 2000. DOI: 10.1117/12.391637 (1 citation GS)

SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS

Journal Manuscript Reviewer: IEEE Transactions on Power Systems (1997-pres), Education (2000-pres), Energy Conversion (2001-pres), Industrial Electronics (2005-pres), Sustainable Energy (2015-pres); International Journal of Adaptive Control and Signal Processing (2005-pres), IET Transactions on Generation, Transmission, and Distribution (2005-pres), IET Transactions on Renewable Generation (2007-pres), Progress in Photovoltaics: Research and Applications (2006-2009).

Proposal Reviewer: NSF Energy, Power, Controls, and Networks (2016); NSF Science and Technology Centers: Integrative Partnerships Program (2008-2009); US Department of State Civilian Research & Development Foundation STCU (2004-2005)

Lead Instructor (Energy Unit): Alaska Summer Research Academy (2002-2007)

PROFESSIONAL DEVELOPMENT ACTIVITIES

Attended over 30