# JOSHUA NEW, PH.D., C.E.M., PMP, CMVP, CSM, IREE

One Bethel Valley Road ● P.O. Box 2008 ● Oak Ridge, TN 37831 ● 865.241.8783 ● newjr@ornl.gov

## EDUCATION

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| **The University of Tennessee, Knoxville (UTK)** | Knoxville, TN |
| 2009, Ph.D. | Computer Science (GPA 3.9/4.0); Dissertation *"Visual Analytics for Relationships in Scientific Data"* |

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| **Jacksonville State University (JSU)** | Jacksonville, AL |
| 2004, M.S. | Computer Systems and Software Design (GPA 4.0/4.0); Outstanding MCIS Graduate Award; Thesis: *"An Advanced User Interface for Pattern Recognition in Medical Imagery: Interactive Learning, Contextual Zooming, and Gesture Recognition"* |

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| 2001, B.S. | Double-major Computer Science and Mathematics, Physics minor (GPA 3.5/4.0) |

## EXPERIENCE

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| 2009- | **UT-Battelle, Oak Ridge National Laboratory**      Oak Ridge, TN |

**SENIOR R&D STAFF, Grid-Interactive Controls** - maintain US DOE Q clearance

- Serve as sub-program manager for "Software Tools & Models" in the ~75-person Building Technologies Research & Integration Center (BTRIC) for 9 years.

- Responsible for sponsor relations, securing funding, multi-disciplinary team communication and development, high-impact publications, and ensuring timely completion of all deliverables for projects including but not limited to: websites, web services, databases, software tools, simulation engine development, supercomputing, image processing, AI for deep learning, and big data mining applications. Created and simulated a model of 125.7 million U.S. buildings.

- Funding – led a 5-year average of 9.2 funded projects per year (35% success rate), personal budget authority of $1.6 million per year, and total award amount of $9.0 million per year.

- Deliverables – successfully led ORNL teams to complete 4-year average of 52 deliverables per year, 100% on-budget, 93% on-time.

- Publications – 5-year avg. of 12.4 publications/yr, 86% acceptance; h-index 13; i10-index 19

### AWARDS

- Certifications: Certified Energy Manager (2017, 2021), Project Management Professional (2018, 2021), Certified Measurement & Verification Professional (2018), Certified Scrum Master (2019, 2021), Investor Ready Energy Efficiency Professional (2020)

- Selected Copyrights: (1) "AutoGen" (TXu 2-159-000) – Automatic EnergyPlus file modifier/generator – world's fastest building energy model creator utilizing text replacement for variable in EnergyPlus files. (2) "AutoSim" Automatic Simulator (TXu 2-141-960) – world's fastest buildings simulator for scalably distributing EnergyPlus files on High Performance Computing devices, simulating on virtual disk, and returning results for storage and analysis; awarded by U.S. Copyright Office.

## PUBLICATIONS (150+)

1. New, Joshua R., Adams, Mark, Bass, Brett, Berres, Anne, and Clinton, Nicholas (2021). "Model America - models of every U.S. building. [Data set]." Constellation, doi.ccs.ornl.gov/ui/doi/339, April 14, 2021. [Data]

2. Bass, Brett, New, Joshua R., and Copeland, William (2020). "Potential Energy, Demand, Emissions, and Cost Savings Distributions for Buildings in a Utility's Service Area." *Energies* journal, Special Issue "Designing, Modeling and Optimizing Energy and Environmental Systems for Buildings," volume 14(1), issue 132, doi.org/10.3390/en14010132, Dec. 29, 2020. [Energies] [PDF]

3. Allen-Dumas, Melissa R., Rose, Amy N., New, Joshua R, et al. (2020). "Impacts of the Morphology of New Neighborhoods on Microclimate and Building Energy Use." *Renewable & Sustainable Energy Reviews*, volume 133, 110030, ISSN 1364-0321, doi.org/10.1016/j.rser.2020.110030, November 2020. [RSER] [PDF]

All publications available at http://web.eecs.utk.edu/~jnew1. Citations available at Google Scholar.