

Gina Accawi

PROFILE

Gina Accawi has nearly thirty years of experience in the field of software engineering and software architecture. During her tenure at ORNL, her focus has been architecting software applications, developing, and managing teams of developers to deliver software solutions in support of the scientists and engineers at the Oak Ridge National Laboratory. Throughout her career, she has built solutions for diverse research areas including building technologies, transportation, sensors, and manufacturing.

The focus of most of her work is constructing applications to perform energy consumption analysis and make straightforward suggestions or allow side-by-side comparisons to reduce usage.

EXPERIENCE

GROUP LEADER, OAK RIDGE NATIONAL LABORATORY; OAK RIDGE, TN – 2020 - PRESENT; SENIOR TECHNICAL STAFF MEMBER; 2017 - 2020; R&D STAFF MEMBER 2009 - 2017

KEY APPLICATIONS:

- Building Science Advisor (v1 and v2) - Software architect, lead developer
- Weatherization Assistant (registered users only)- Software team lead, architect, and developer
- MEASUR - Software architect, team lead, developer
- FuelEconomy.gov - IT Support, architectural support, and advisor
- National Household Travel Survey - Software architect and lead developer
- Energy Savings and Moisture Transfer Calculator - Software architect and lead developer
- ESCO Selector - Software architect and lead developer
- Combined Heat and Power Catalog - Content transfer to ORNL, cloud hosting setup assistance, monitoring assistance
- Distributed Generation for Resilience Planning Guide - Content transfer to ORNL, cloud hosting setup assistance, monitoring assistance
- CHP Technical Assistance Partnerships - Content transfer to ORNL, cloud hosting setup assistance, monitoring assistance
- Publications Web Tool (internal) - Architectural assistance
- Grid Signature Library (internal) - Architectural advisor

SELECTED SOFTWARE RELEASES 2022:

- MEASUR - <https://doi.org/10.11578/dc.20220107.3> - DOE Code id 7421

- AMO Tools Suite - <https://doi.org/10.11578/dc.20171221.1> - DOE Code id 69000
- Weatherization Assistant - <https://doi.org/10.11578/dc.20211101.1> - DOE Code id 66461

SELECTED PUBLICATIONS:

- Nimbalkar, Sachin, Armstrong, Kristina, Thirumaran, Kiran, Guo, Wei, Accawi, Gina, Wenning, Thomas. “Process Heating Assessments Using DOE’s Manufacturing Energy Assessment Software for Utility Reduction (MEASUR) Tool Suite”. AISTech 2020 – Proceedings of the Iron & Steel Technology Conference. DOI 10.33313/380/179. <https://www.osti.gov/biblio/1669778>
- Ahl, Amanda, et al. “Occupant Behavior for Energy Conservation in Commercial Buildings: Lessons Learned from Competition at the Oak Ridge National Laboratory.” Sustainability, vol. 11, no. 12, 2019, p. 3297., doi:10.3390/su11123297.
- Boudreaux, Philip, et al. “A Rule-Based Expert System Applied to Moisture Durability of Building Envelopes.” Journal of Building Physics, vol. 42, no. 3, 2018, pp. 416-437., doi:10.1177/1744259117750370.
- Shrestha, Som, Desjarlais, Andre Omer, Dagleish, Laverne, Ng, Lisa, Hun, Diana E., Emmerich, Steve, and Accawi, Gina K. Sun . "Moisture Transfer in Commercial Buildings Due to Air Leakage: A New Feature in the Online Airtightness Savings Calculator". United States. <https://www.osti.gov/servlets/purl/1607126>.
- Boudreaux, Philip R., Pallin, Simon B., Antretter, Florian, Accawi, Gina K., Desjarlais, Andre Omer, Werling, Eric, and Salonvaara, Mikael. Sun . "The Building Science Advisor: Providing expert advice on building envelope systems". United States.
- Malhotra, Mini, Im, Piljae, Accawi, Gina, Ternes, Mark, and MacDonald, Mike. Wed . "Multifamily Tool for Energy Audits (MulTEA) Engineering Manual (Version 1)". United States. doi:10.2172/1476423. <https://www.osti.gov/servlets/purl/1476423>.

SELECTED ACCOMPLISHMENTS

- Recipient of the Air Barrier Association of America (ABAA) Industry Partner Award 2022
- Official release of MEASUR v1.0 in 2022
- Submitted R&D 100 Award for MEASUR in 2022
- Finalist for R&D 100 Award in 2019 for Building Science Advisor (BSA)
- Conducted nearly 100 resume reviews, dozens of initial interviews, and 8 hiring/final interviews in the field of computer science and IT professionals to support programs across numerous divisions and several directorates.
- Software architect supporting diverse researchers and engineers from various specialties: building science, building envelope, transportation science, fuel economy, manufacturing, and digital manufacturing.
- Ongoing mentorship for the SULI, CCI, ORISE, ORAU, and ASTRO programs.
- Mentor for four sequential capstone project collaboration with Tennessee Tech University for the Advanced Manufacturing Office, EERE program

EDUCATION

University of Tennessee, Knoxville – BS Mathematics, 1992

SKILLS

- Programming languages: Java, C++, C, Fortran, C#.
- Frameworks: Angular, .NET, Vue, JPA, Eclipselink, J2EE, Node.js, npm, Electron
- Operating Systems: Linux (RHEL, Ubuntu), Mac OS, Windows Server
- Expertise in management, project planning, systems architecture, technical training, large venue presentations, and technical writing.
- Career experience focused on porting legacy applications to newer frameworks and toolsets - reproducing and expanding functionality, simplifying user experience, and facilitating ease of access to datasets while extending the life of existing software solutions.
- Adept in providing hands-on leadership, building, and developing unified, productive and cohesive teams to achieve project deliverables

PRESENTATIONS

- RETS Community, Conference; 2008: Data Mapping with XSLT
- RETS Community, Conference; 2007: SOAP, WSDL, XSD and XSLT
- RETS Community, Conference; 2005 and 2006: XSD
- Microsoft Corporation, MN Campus; 2006: Getting Real with Ajax
- Microsoft VSLive, NY; 2002: XQuery (Delivered by Tom Barnaby)
- Microsoft Regional Offices, Chicago, IL; 2002: Understanding XML
- Microsoft Regional Offices, Minneapolis, MN; 2002: Understanding XML
- Intertech, Inc. MN Campus; 2002: Java APIs for XML
- Microsoft Regional Offices, Minneapolis, MN; 2002: XML Transformations Demystified
- Microsoft Corporation, MN Campus; 2001: Remote Scripting and Beyond
- Microsoft Regional Offices, Minneapolis, MN; 2001: Understanding Web Security