Name: Dayrl Briggs
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Position Title: Lead Cleanroom Engineer
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Education:
RETS Electronics Institute, Birmingham, AL., A.A.S. 1986 Electronics Engineering

Professional Experience:

2006–Present	Task Leader, Lead Cleanroom Engineer, Lab Space Manager Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
2006	Equipment Maintenance Manager, Ion Implant/Diffusion, Intel Corp., Fab 23, Colorado Springs, CO
2003–2006	Mechanical Engineering Vacuum Group, Spallation Neutron Source, Oak Ridge National Laboratory
1997–2003	Equipment Engineering Manager, Equipment Engineer, Ion Implant/Diffusion/CVD, Vitesse Semiconductor, Fab 2, Colorado Springs, CO
1990–1997	Equipment Engineering, Technician Diffusion/CVD, Atmel Semiconductor Corp., Fab 3, 4, and 5, Colorado Springs, CO
1986–1990	Equipment Engineering Technician, Diffusion/CVD, Texas Instruments, DMOS-IV, Dallas, TX

Professional Activities:
1. Cleanroom Technical Operations
   - Manage the daily operation of the NRL Cleanroom.
   - Provide initial cleanroom safety training and orientation for new Users who will be working in the cleanroom.
   - Lead a team that provides process development, process characterization and control for all equipment in the NRL Cleanroom. Provide User training for operation of all cleanroom equipment as well as consultation with users and staff to determine and deliver their specific thin film or etch needs for their particular project.
2. Equipment Engineering / Operations
   - Emphasis on cleanroom startups, safety systems, process gas distribution design and layout, equipment layout, equipment procurement, installation, modification, repair and maintenance.

Selected Peer-Reviewed Publications:
Yang, Y.; Kravchenko, I. I.; Briggs; D. P.; Valentine, J., "All-Dielectric Metasurface Analogue of Electromagnetically Induced Transparency," *Nat. Commun.*, **5**, 5753 (2014).

Moitra, P.; Slovick, B. A.; Li, W.; Kravchenko, I. I.; Briggs, D. P.; Krishnamurthy, S.; Valentine, J., "Large-Scale All-Dielectric Metamaterial Perfect Reflectors," *ACS Photonics*, **2**, 692–69 (2015).

Wang, W.; Klots, A.; Yang, Y.; Li, W.; Kravchenko, I. I.; Briggs, D. P.; Kirill I. Bolotin, K. I.; Valentine, J., "Enhanced Absorption in Two-Dimensional Materials via Fano-resonant Photonic Crystals," *Applied Physics Letters***, 106**, 181104 (2015).

Wei, D.; Edgar, J. H.; Briggs, D. P.; Retterer, S. T.; Srijanto, B.; Hensley, D. K.; Meyer III, H. M., "Atomic Layer Deposition TiO2–Al2O3 Stack: An Improved Gate Dielectric on Ga-polar GaN Metal Oxide Semiconductor Capacitors," *J. Vac. Sci. Technol.*, **32**, 060602 (2014).

Yuanmu; Y.; Wenyi; W.; Boulesbaa,A.; Kravchenko, I.; Briggs, D.; Puretzky, A.; Geohegan, D.; Valentine, J. G., "Nonlinear Fano-Resonant Dielectric Metasurfaces," *Nano Lett.*, **15,** 7388 (2015).

Agapov, R. L.; Srijanto, B.; Fowler, C.; Briggs, D.; Nickolay V Lavrik, N. V.; Sepaniak, M. J., "Lithography-Free Approach to Highly Efficient, Scalable SERS Substrates Based on Disordered Clusters of Disc-On-Pillar Structures," *Nanotechnology*, **24,** 50 (2013).

Yang, Y.; Wang, W.; Moitra, P.; Kravchenko, I. I.; Briggs, D. P.; Valentine, J., "Dielectric Meta-Reflectarray for Broadband Linear Polarization Conversion and Optical Vortex Generation," *Nano Letters*, **14**, 1394–1399 (2014).

Agapov, R. L.; Boreyko, J. B.; Briggs, D. P.; Srijanto, B. R.; Retterer, S. T.; Colliera, C. P.; Lavrik, N. V., "Length Scale of Leidenfrost Ratchet Switches Droplet Directionality," *Nanoscale*, **6**, 9293 (2014).

Agapov, R. L.; Boreyko, J. B.; Briggs, D. P.; Srijanto, B. R.; Retterer, S. T.; Colliera, C. P.; Lavrik, N. V., "Asymmetric Wettability of Nanostructures Directs Leidenfrost Droplets," *ACS Nano*, **8,** 860–867 (2014).

Agapov, R. L.; Boreyko, J. B.; Briggs, D. P.; Srijanto, B. R.; Retterer, S. T.; Colliera, C. P.; Lavrik, N. V., "Length Scale Selects Directionality of Droplets on Vibrating Pillar Ratchet," *Advanced Materials Interfaces*, **1**, 1400337 (2014).