NAU NORTHERN ARIZONA UNIVERSITY

JOHN G GIBBS, PhD

Associate Professor
Department of Applied Physics and Materials Science
Center for Materials Interfaces in Research and Applications
Northern Arizona University
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PROFESSIONAL

2020- **Associate Professor with Tenure**
Department of Applied Physics and Materials Science
Center for Materials Interfaces in Research and Applications (¡MIRA!)
Northern Arizona University
Flagstaff, AZ 86011, USA

2014-2020 **Assistant Professor**
Department of Applied Physics and Materials Science (2019 – 2020)
Department of Physics and Astronomy (2014 – 2019)
Northern Arizona University
Flagstaff, AZ 86011, USA

2011-2014 **Postdoctoral Research Fellow**
Max Planck Institute for Intelligent Systems
Stuttgart, Germany

EDUCATION

2006-2011 **PhD Physics**
University of Georgia
Athens, GA 30602

2001-2005 **BS Mathematics / BS Physics**
University of Georgia
Athens, GA 30602

AWARDS AND HONORS

1. Faculty Early Career Development Program (CAREER) Award, National Science Foundation, 2019.
2. Cottrell Scholar Award, Research Corporation for Science Advancement (RCSA), 2018, Tucson, AZ.
3. Ground Breaking Contribution Award, International Conference on Chiroptical Spectroscopy, 2013, Nashville, TN.
4. Sean M. Kirkpatrick Award for Outstanding Achievement in Graduate Research, Department of Physics and Astronomy, University of Georgia, 2011, Athens, GA.
5. AVS National Student Award for the AVS 58th International Symposium and Exhibition, 2011, Nashville, TN.
6. Participant of the 60th Meeting of Nobel Laureates, 2010, Lindau, Germany.

PUBLISHED PEER-REVIEWED JOURNAL ARTICLES

***Corresponding author**

1. J. G. Gibbs*, J. Castañeda, and A. Nourhani*, Active colloidal crystallites, in peer review 2020.
2. A. Leeth Holterhoff, and J. G. Gibbs*, Material-dependent performance of fuel-free, light-activated, self-propelling colloids, *Chem. Commun*. 2020, *56*, 4082—4085.
3. J. G. Gibbs*, Shape- and material-dependent self-propulsion of photocatalytic active colloids, interfacial effects, and dynamic inter-particle interactions, *Langmuir* 2019, *35*, xxxx–xxxx.
4. S. Sarkar, R. O. Behunin*, and J. G. Gibbs*, Shape-dependent, chiro-optical response of UV-active nanohelix metamaterials, *Nano Lett.* 2019, *19*, 8089–8096.
5. J. G. Gibbs*, S. Sarkar, A. Leeth Holterhoff, M. Li, J. Castañeda, and J. Toller, Engineering the dynamics of active colloids by targeted design of metal-semiconductor heterojunctions, *Adv. Mater. Interfaces* 2019, *6*, 1801894.
6. A. Leeth Holterhoff, M. Li, and J. G. Gibbs*, Self-phoretic microswimmers propel at speeds dependent upon an adjacent surface's physicochemical properties, *J. Phys. Chem. Lett*. 2018, *9*, 5023–5028.
7. E. O'Neel-Judy, D. Nicholls, J. Castañeda, and J. G. Gibbs*, Light-activated, multi-semiconductor hybrid microswimmers, *Small* 2018, *14*, 1801860.
8. D. Nicholls, A. DeVerse, R. Esplin, J. Castañeda, R. Nair, Y. Loyd, R. Voinescu, C. Zhou, W. Wang and J. G. Gibbs*, Shape-dependent motion of structured photoactive microswimmers, *ACS Appl. Mater. & Interfaces* 2018, *10*, 18050–18056.
9. U. Choudhury, A. V. Straube, P. Fischer, J. G. Gibbs, and F. Höfling, Active colloidal propulsion over a crystalline surface, *New J. Phys.* 2017, *19*, 125010.
10. A. Nourhani, D. Brown, N. Pletzer, and J. G. Gibbs*, Engineering contactless particle-particle interactions in active microswimmers, *Adv. Mater.* 2017, *29*, 1703910.
11. J. N. Johnson, A. Nourhani, R. Peralta, C. McDonald, B. Thiesing, C. J. Mann, P. E. Lammert, and J. G. Gibbs*, Dynamic stabilization of Janus sphere trans-dimers, *Phys. Rev. E* 2017, *95*, 042609.
12. A. Nourhani, S. J. Ebbens, J. G. Gibbs, and P. E. Lammert, Spiral diffusion of rotating self-propellers with stochastic perturbation, *Phys. Rev. E* 2016, *94*, 030601.
13. H.-H. Jeong, A.G. Mark, T.-C. Lee, M. Alarcon-Correa, S. Eslami, T. Qiu, J. G. Gibbs, and P. Fischer, Active nanorheology with plasmonics, *Nano Lett.* 2016, *16*, 4887–4894.
14. A. Wittmeier, A. Leeth Holterhoff, J. Johnson, and J. G. Gibbs*, Rotational analysis of spherical, optically anisotropic Janus particles by dynamic microcopy, *Langmuir* 2015, *31*, 10402–10410.
15. U. Choudhury, L. Soler, J. G. Gibbs, S. Sanchez, and P. Fischer, Surface roughness-induced speed increase for active Janus micromotors, *Chem. Comm.* 2015, *51*, 8660–8663.
16. J. G. Gibbs*, and P. Fischer, Active Colloidal Microdrills, *Chem. Comm.* 2015, *51*, 4192–4195.
17. S. Eslami, J. G. Gibbs, Y. Rechkemmer, J. van Slageren, M. Alarcon-Correa, T.-C. Lee, A.G. Mark, G.L.J.A. Rikken, P. Fischer, Chiral Nanomagnets, *ACS Photon.* 2014, *1*, 1231–1236.
18. D. Schamel, A.G. Mark, J. G. Gibbs, C. Miksch, K. I. Morozov, A. M. Leshansky, P. Fischer, Nano-propellers and their actuation in viscoelastic media, *ACS Nano* 2014, *8*, 8794–8801.
19. H.-H. Jeong, A.G. Mark, J. G. Gibbs, T. Reindl, U. Waizmann, J. Weis, P. Fischer, Shape control in wafer-based aperiodic 3D nanostructures, *Nanotechnology* 2014, *25*, 235302.
20. J. G. Gibbs, A.G. Mark, T.-C. Lee, S. Eslami, D. Schamel, and P. Fischer, Nanohelices by shadow growth, *Nanoscale* 2014, *6*, 9457–9466.
21. T.-C. Lee, M. Alarcón-Correa, C. Miksch, K. Hahn, J. G. Gibbs, and P. Fischer, Self-propelling nanomotors in the presence of strong Brownian forces, *Nano Lett.* 2014, *14*, 2407–2412.
22. J. G. Gibbs*, A.G. Mark, S. Eslami, P. Fischer, Plasmonic nanohelix metamaterials with tailorable giant circular dichroism, *Appl. Phys. Lett.* 2013, *103*, 213101.
23. D. Schamel, M. Pfeifer, J. G. Gibbs, B. Miksch, A.G. Mark, P. Fischer, Chiral Colloidal Molecules and Observation of the Propeller Effect, *J. Am. Chem. Soc.* 2013, *135*, 12353–12359.

24. A.G. Mark, J. G. Gibbs, T.-C. Lee, P. Fischer, Hybrid nanocolloids with programmed 3D-shape and material composition, *Nature Mater.* 2013, *12*, 802–807.
25. J. G. Gibbs, S. Kathari, D. Saintillan, Y.-P. Zhao, Geometrically Designing the Kinematic Behavior of Catalytic Nanomotors, *Nano Lett.* 2011, *11*, 2543–2550.
26. J. G. Gibbs, Y.-P. Zhao, Catalytic Nanomotors: fabrication, mechanism, and applications, *Front. Mater. Sci.* 2011, *5*, 25–39.
27. J. G. Gibbs, N.A. Fragnito, Y.-P. Zhao, Asymmetric Pt/Au Coated Micromotors Fabricated by Dynamic Shadowing Growth, *Appl. Phys. Lett.* 2010, *94*, 253107.
28. J. G. Gibbs, Y.-P. Zhao, Self-Organized Multi-Constituent Catalytic Nanomotors, *Small* 2010, *6*, 1656–1662.
29. M. Au, S. McWhorter, H. Ajo, T. Adams, Y.-P. Zhao, J. G. Gibbs, Free Standing Aluminum Nanostructures as Anodes for Li-Ion Rechargeable Batteries, *J. Power Sources* 2010, *195*, 3333–3337.
30. J. G. Gibbs, Y.-P. Zhao, Design and Characterization of Rotational Multi-Component Catalytic Nanomotors, *Small* 2009, *5*, 2304–2308.
31. J. G. Gibbs, Y.-P. Zhao, Autonomously Motile Catalytic Nanomotors by Bubble Propulsion, *Appl. Phys. Lett.* 2009, *94*, 163104.
32. J. G. Gibbs, Y.-P. Zhao, Measurement of Driving Force of Catalytic Nanomotors in Dilute Hydrogen Peroxide by Torsion Balance, *Rev. Sci. Inst.* 2008, *79*, 086108.

Journal Articles and Manuscripts in Preparation

1. B. Landry, V. Girgis, and J. G. Gibbs*, Controlling the speed of light-activated colloids with an external magnetic field, to be submitted 2020.
2. J. G. Gibbs,* T. Thomas, M. Li, and A. Leeth Holterhoff, *On command switching between rotation and translation in self-propelled particles*, to be submitted 2020.
3. T. Thomas, R. Poehnl, W. Uspal*, J. G. Gibbs*, *Helical photoactive microswimmers*, to be submitted 2020.

Conference Proceedings

1. J. G. Gibbs*, A. Nourhani, J. N. Johnson, & P. E. Lammert, Spiral diffusion of self-assembled dimers of Janus spheres, *MRS Adv.* 2017, 3471–3478.
2. S. Eslami, J. G. Gibbs, A.G. Mark, T.C. Lee, H.-H. Jeong, I. Kim, & P. Fischer, Parallel fabrication of wafer-scale plasmonic metamaterials for nano-optics, in Advanced Fabrication Technologies for Micro/Nano Optics and Photonics VIII, *Proc. SPIE* 2015, 93740R.
3. H.-H Jeong, A.G. Mark, J. G. Gibbs, T. Reindl, U. Waizmann, J. Weismann, P. Fischer, 3D nanofabrication on complex seed shapes using glancing angle deposition, *2014 IEEE 27th International Conference on Micro Electro Mechanical Systems (MEMS)* 2014, 437–440.
4. J. G. Gibbs, Y.-P. Zhao, Catalytic nanomotors: challenges and opportunities, 2011 SPIE Defense, Security, and Sensing, *Proc. SPIE* 2011, 80580O.
5. M. Au, S. McWhorter, H. Ajo, T. Adams, Y.-P. Zhao, J. G. Gibbs, Free Standing Nanostructures for Anode of Li-Ion Rechargeable Batteries, *ECS Trans.* 2009, *19*, 59–66.

Book Chapters

1. T. Qiu, J. G. Gibbs, D. Schamel, A.G. Mark, U. Choudhury, P. Fischer, From nanohelices to magnetically actuated microdrills: a universal platform for some of the smallest untethered microrobotic systems optimized for low Reynolds number and biological environments, in Small-Scale Robotics, Springer GmbH, Berlin Heidelberg 2014, 53–65.
2. J. G. Gibbs, Y.-P. Zhao, Catalytic Nanomotors, in Design of Heterogeneous Catalysts, Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim 2009, 141–159.

INVITED PRESENTATIONS

1. *Micro- and nanoscale chemical propulsion*, CEIAS Seminar Series Fall 2019 NAU, October 25, 2019.
2. *A new type of interaction between active colloids*, Frontiers in Soft Matter and Macromolecular Networks, University of San Diego, September 27, 2019.
3. *Shape- and material-dependent dynamics of photocatalytic active colloids*, Microscale Motion and Light (International Workshop), Max Planck Institute for the Physics of Complex Systems, Dresden, DE, July 2019.
4. *Engineering self-propelled colloids to achieve purely repulsive or purely attractive particle-particle interactions*, CECAM Workshop titled "Emergent dynamics and self-assembly of out-of-equilibrium colloids," École polytechnique fédérale de Lausanne, Lausanne, Switzerland, March 2019.
5. *Contactless particle-particle interactions in active microswimmers,* 92nd ACS Colloids and Surface Symposium, State College, PA, 2018.
6. *Dynamics of Self-Assembled Active Colloids,* MRS Spring Meeting, Phoenix, AZ, 2017.
7. *Swarming behavior in active colloids facilitated by an effective long-range attraction and magnetic dipole-dipole repulsion*, NAU Chemistry Department Colloquium, Flagstaff, AZ, 2017.
8. *Consideration of orientation and geometry in active chemical colloids*, MNM2016 - International Workshop on Micro- and Nanomachines, Hannover, Germany, 2016.
9. *Using dynamic microscopy to study mesoscale diffusion and active propulsion*, University of Georgia Physics Seminar, Athens, GA, 2015.
10. *Complex hybrid nanomaterials by dynamic physical vapor co-deposition*, Center for Bioengineering Innovation lecture series, Northern Arizona University, Flagstaff, AZ, 2015.
11. *Hybrid Nanomaterials, Control, and Symmetry*, Michigan Technological University, Houghton, MI, 2014.
12. *Autonomous Motion Control at the Micro-scale*: Micro and Nanomotors - Challenges and Perspectives, Dresden, Germany, 2012.
13. *Nanomotors: Design, Control, and Applications*, University of Georgia, Athens, GA, 2011.

OTHER PRESENTATIONS

1. *Designing Contactless Multi-Particle Interactions in Autonomous Microswimmers,* MRS Spring Meeting, Phoenix, AZ, 2018.
2. Co-author: *Active colloidal propulsion over a crystalline surface*, DPG-Frühjahrstagung und EPS-CMD27, Berlin, Germany, March 2018.
3. *Emergent phenomena in colloidal active matter*, XXVI International Materials Research Congress, Cancun, Mexico, 2017.
4. *Hybrid chiral metamaterials by dynamic shadowing growth*, APS Spring Meeting, San Antonio, TX, 2015.
5. *Nano colloids and non-centrosymmetric nanostructured materials*: MRS 2012 Fall Meeting, Boston, MA, 2012.
6. *Catalytic Nanomotor Control: Design Techniques Using Dynamic Shadowing Growth*, AVS 58th International Symposium and Exhibition, Nashville, TN, 2011.
7. *Catalytic Nanomotors: challenges and opportunities*, 2011, SPIE Defense, Security and Sensing, Orlando, FL, 2011.
8. *Catalytic Nanomotors by Dynamic Shadowing Growth*, 2010 IEEE International Conference on Robotics and Automation, Anchorage, AK, 2010.
9. *Designing Catalytic Nanomotors by Dynamic Shadowing Growth*, 2009 South Eastern Section of the APS, Atlanta, GA, 2009.

STUDENT PRESENTATIONS

1. Taylor Thomas: Helical photoactive microswimmers, Microscale Motion and Light (International Workshop), Max Planck Institute for the Physics of Complex Systems, Dresden, DE, July 2019.

2. Sam Sarkar, UV-active nanohelix metamaterials, MRS Spring Meeting, Phoenix, AZ, 2019.
3. Étude O'Neel-Judy: *On Applying Novel Techniques to Control Active Matter Systems at the Microscale,* MRS Spring Meeting, Phoenix, AZ, 2018.
4. Dylan Nicholls: *Targeted Design of Photoactive Particles with Geometry-Dependent Motion*, MRS Spring Meeting, Phoenix, AZ, 2018.
5. Raaman Nair: (Poster) *Micromotors with Multiple Photoactivities*, MRS Spring Meeting, Phoenix, AZ, 2018.

FUNDING: CURRENT & PENDING

Federal current and completed:

1. PI: J. G. Gibbs: *CAREER: Microscale contactless reconfigurable swarms with active random mutations (MICROSWARMS)*, National Science Foundation, Faculty Early Career Development Program (CAREER), 2019 – 2024: $502,993
2. PI: J. G. Gibbs: *Investigating Shape-Dependent Emergent Collective Behavior in Artificial Active Matter Systems,* Research Corporation for Science Advancement, Cottrell Scholars Award, 2018 – 2021: $100,000
3. PI: J. G. Gibbs: *Photocatalytic active matter*, National Science Foundation, Particulate and Multiphase Processes (PMP), 2017 – 2019: $132,900

State and local current and completed:

1. PI: R. O. Behunin, *Acquisition of an ICE Oxford Dry Ice 1K Closed-cycle cryostat*, Northern Arizona University, Office of the Vice president for Research, Research Equipment Acquisition Program, FY2020 Technology and Research Initiative Research Fund (TRIF), 2019 – 2020: $100,000
2. PI: J. G. Gibbs: *Acquisition of a Nikon TI-2 Inverted Microscope*, Northern Arizona University, Office of the Vice president for Research, Research Equipment Acquisition Program, FY2019 Technology and Research Initiative Research Fund (TRIF), 2019 – 2020: $27,643
3. PI: Bertrand Cambou: *Renewal: Exploiting Nanomaterials for End-to-End Cybersecurity Solutions*, Arizona Board of Regents, Regents' Innovation Fund (RIF), 2017 – 2018: $45,000
4. PI: J. G. Gibbs: *Acquisition of a Langmuir-Blodgett Trough*, Northern Arizona University, Office of the Vice president for Research, Research Equipment Acquisition Program, FY2018 Technology and Research Initiative Research Fund (TRIF), 2017 – 2018: $14,800
5. PI: J. G. Gibbs: *Photocatalytic nanomotors*, Northern Arizona University, Office of the Vice president for Research, Faculty Grants Program (FGP), 2017 – 2018: $14,980
6. PI: J. G. Gibbs: *Dynamic, actively propelled nanomotors within biological environments*, Northern Arizona University, Office of the Vice president for Research, 2016 – 2018: $100,000
7. PI: Bertrand Cambou: *Exploiting Nanomaterials for End-to-End Cybersecurity Solutions*, Arizona Board of Regents, Regents' Innovation Fund (RIF), 2016 – 2017: $60,805
8. PI: J. G. Gibbs: *Determining the driving mechanism of chemical micromotors*, Northern Arizona University, Office of the Vice president for Research, Faculty Grants Program (FGP), 2016 – 2017: $14,994
9. PI: J. G. Gibbs: *NanoPHISH - Nanostructured Photoelectrochemical Improvements for Solar Hydrogen,* Northern Arizona University, Center for International Education, Global and Interdisciplinary Fund, 2015 – 2018: $7,900
10. PI: T. Becker: *Acquisition of rheometer accessories to support interdisciplinary research and extramural funding opportunities in polymer characterization, particulation studies, and smart materials*, Northern Arizona University, Office of the Vice president for Research, Research Development Grants (RDG) Program – Equipment Acquisition, 2015 – 2016: $61,366
11. PI: J. G. Gibbs: *Nanomanufacturing Gradient Alloy and Hybrid Complex Nanomaterials*, Northern Arizona University, Office of the Vice president for Research, Research Development Grants (RDG) Program – Preliminary Studies, 2015 – 2016: $19,460
12. PI: J. G. Gibbs: European Soft Matter Infrastructure, WPS-ESMI Experimental Infrastructure, University of Edinburgh, Edinburgh, United Kingdom, 2013: $1000

Pending:

1. *NSF-MRI Track 2 : An advanced electron microscope for Northern Arizona University to advance research and education in the North of Arizona*, National Science Foundation, Major Research Instrumentation, 2020 – 2023: $2,600,000.
2. *Engineering large artificial Raman nonlinearities using nanohelix metamaterials*, National Science Foundation, DMR - Electronic/Photonic Materials, 2020 – 2023: $407,035

PATENTS

1. J. G. Gibbs, T. R. Dillingham, and A. Nourhani, *Hybrid Composite Dielectric Metamaterials for Next Generation High Energy Storage*, pending.
2. J. G. Gibbs, and B. Cambou*; Nanomaterial Physically Unclonable Function Systems and Related Methods;* patent application PCT/US2016/60735, 2016.

TEACHING

1. 2014: Department of Physics and Astronomy: Upper Level Physics, NAU, Flagstaff, AZ
2. 2013-2014: Guest lecturer, Department of Chemistry, University of Stuttgart, Stuttgart, Germany

CLASSES TAUGHT

1. Electricity and Magnetism I & II: NAU PHY331 & PHY332
2. Solid State Physics: NAU PHY481/581
3. Graduate Seminar: NAU PHY698
4. Advanced Lab: NAU PHY333W
5. Special Topics: NAU PHY399 – Nanotechnology: ***I introduced this class in 2015.

OTHER EDUCATIONAL ACTIVITIES

1. Chair and graduate coordinator of the PhD in Applied Physics and Materials Science, NAU
2. Chair and graduate coordinator of the MS in Applied Physics, NAU
3. Chair of the Curriculum Committee, Department of Physics and Astronomy (2014 – 2019), Department of Applied Physics and Materials Science (2020 – present), NAU
4. Developed and taught a general audience “Nanotechnology” class
5. I introduced new experiments to PHY333W, Advanced Lab for undergraduate physics majors to include more modern experiments
6. I developed a class Solid State Physics II, a co-convened undergraduate and graduate class, which is a follow up to the first semester class I teach. This class emphasizes nanoscale physics topics
7. Curriculum mapping, student learning outcomes, and purpose statement development for the Physics BS Degree
8. Curriculum mapping, student learning outcomes, and purpose statement development for the MS in Applied Physics: I re-designed the MS in Applied Physics to consist of more rigorous course work and to emphasize experimental techniques

JOURNAL REFEREE

Accounts of Chemical Research, ACS Applied Materials & Interfaces, ACS Applied Nano Materials, ACS Nano, ACS Photonics, Advanced Functional Materials, Advanced Materials, Advanced Materials Interfaces, Advanced Optical Materials, Analytical Chemistry, Angewandte Chemie, Applied Physics Letters, Chemistry – An Asian Journal, Colloids and Surfaces A, Chemical Communications, IEEE Transactions on Nano-bioscience, Industrial & Engineering Chemistry Research, Journal of Physical Chemistry C, Journal of Physics: Condensed Matter,

Langmuir, Micromachines, Nano Letters, Nanoscale, Nature Communications, Optics Express, RSC Advances, Scientific Reports, Small, Soft Matter

Review Board Referee

1. Cottrell Scholars Award via the Research Corporation for Science Advancement
2. National Science Foundation, Nanomanufacturing (NM), Particulate and Multiphase Processes (PMP)
3. Ad hoc reviewer for the NSF Faculty Early Career Development Program (CAREER)
4. NSF Solid State and Materials Chemistry (SSMC) Nanomaterials Virtual Panel
5. Hooper Undergraduate Research Award (NAU)
6. Research Grant Council (RGC) of Hong Kong
7. French National Research Agency (Agence Nationale de la Recherche, ANR)
8. US Department of Energy, Office of Basic Energy Sciences (BES)

Student Research and Awards

1. Étude O'Neel-Judy, *Nanomotors Driven by Light*, Hooper Undergraduate Research Award (HURA), Northern Arizona University, 2017.
2. Robert Voinescu, Goldwater Honorable Mention, 2017.
3. Étude O'Neel-Judy, Goldwater Scholar, 2017.
4. Yoseph Loyd, Interns-to-Scholars (I2S) award for the project, *Manufacturing Novel Nanomaterials*, 12-week undergraduate internship program 2016.
5. Robert Castellanos, *Numerically simulating gradient alloy materials*, NASA Space Grant, Northern Arizona University, 2016.
6. Ra'Shae Esplin, *The Self-Assembly of Active Magnetic Micro- and Nano-structures*, Hooper Undergraduate Research Award (HURA), Northern Arizona University, 2015.

Publicity

1. NAU News: NAU physicist awarded prestigious $502,000 NSF grant to harness active matter for nanoscale applications, March 13, 2019.
2. NAU News: NAU physicist receives prestigious 2018 Cottrell Scholar Award, June 11, 2018.
3. Chemistry World, a chemistry news magazine published by the Royal Society of Chemistry, comments in the article titled, *Micromotors navigate tiny biochemical lab*, May 18, 2017.
4. NAU Global Magazine, Publication of the Center for International Education, NAU, 2015.
5. Radio Newscast: KNAU Science and Technology News, *Brain Food: NAU Physicist Creates Nanorobots That Could Fight Cancer* Feb. 19, 2015
6. News Article: *Nanopropeller could be used for microscopic medicine*, Kurzweil Accelerating Intelligence, July 31, 2014.
7. News Article: *Designing and building nanocomponents to spec*, PhysOrg, Aug. 14, 2013.
8. News Article: *Nanobauteile nach Maß*, Innovations Report, June 26, 2013.

Committees and University Service

1. Member of the Search Committee for the Graduate Program Coordinator for the College of Engineering, Informatics, and Applied Sciences at NAU, 2019.
2. Curriculum Committee Chair, undergraduate and MS in Applied Physics, NAU Department of Physics and Astronomy, 2016 – present
3. Chair of the Search Committee for two-TT Assistant Professors beginning in Aug. 2017, NAU Department of Physics and Astronomy, 2016 – 2017
4. Colloquium Committee, NAU Department of Physics and Astronomy, 2014 – 2017
5. Faculty Senate Senator, Northern Arizona University, 2015 – 2017

Outreach

1. Collaboration with Hopi Junior/Senior High School (Native American Tribe)
2. Flagstaff Festival of Science – In class speaker program
3. Mentor for Flagstaff High School Student Tristan Ruggio for the Intel International Science and Engineering Fair, 2016

Current Lab Members

Graduate: ◘ MS: Nana Amoah ◘ MS: Sterlling Awuye ◘ MS: Michael Bryant ◘ MS: Brad Landry ◘ PhD: Sam Sarkar ◘ PhD: Taylor Thomas

Undergraduate: ◘ John Castañeda ◘ Andrew Leeth Holterhoff ◘ Mingyang Li ◘ Victoria Girgis

Past Senior Lab Members

Research Associate: ◘ Amir Nourhani, PhD, Penn State University

Postdoc: ◘ Dylan Nicholls, PhD, University of North Dakota – Now at Lam Research

Past Students

Graduate: ◘ Ra'Shae Esplin ◘ Joe Goodman ◘ MS: Raaman Nair ◘ Joel Johnson ◘ Andrew Wittmeier (PhD Student at the University of Göttingen)

Undergraduate: ◘ Theo Beigbeder ◘ Daniel Brown ◘ Shelly Bort ◘ Daniel Brown ◘ Michael Bryant ◘ Robert Castellanos (now PhD student at Colorado St. U.) ◘ Heather Charles (now PhD student at U of A) ◘ Andrew DeVerse ◘ Nathan Diefenderfer (Now MS Student at NAU) ◘ Samantha Emerson ◘ Ra'Shae Esplin ◘ Zachery Kane ◘ Aaron Leibowitz ◘ Yoseph Loyd ◘ Christopher McDonald ◘ Jacob McLane (now PhD student at U. Texas, Austin) ◘ Ian Morris ◘ Etude O'Neel-Judy ◘ Mike Ortiz ◘ Robert Peralta (now MS student at U. Glasgow) ◘ Nick Pletzer ◘ Cody Stein (now at Raytheon) ◘ Justin Toller ◘ Robert Voinescu ◘ Nuria Wright-Garba (now at National Solar Observatory)