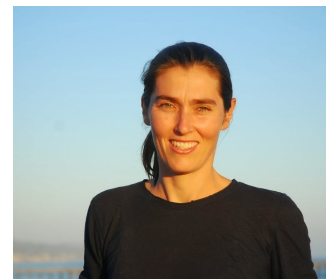


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(a) Professional Preparation

- Stanford University, Palo Alto, CA
 - Physics, B.S. with honors, June 2000
 - Mathematical and Computational Science, B.S., June 2000
 - Honors Thesis: The Coil-Stretch Transition of Polymers in Near Shear Flows (supervisor: Professor Steve Chu)
- Harvard University, Cambridge, MA
 - Physics, Ph.D., June 2006
 - Thesis Topic: Imaging Electrons in Nanoscale Structures (supervisor: Professor Bob Westervelt)
- Yale University, New Haven, CT
 - Postdoctoral Associate, 2006-2009 (supervisor: Professor Jack Harris)

(b) Appointments

09/2019 – present	Director, Quantum Foundry, an NSF Q-AMASE-I center, UC Santa Barbara
01/2016 – 12/2020	Associate Director, Materials Research Laboratory, UC Santa Barbara
08/2010 – present	Assistant, Associate, and Full Professor of Physics, UC Santa Barbara
08/2010 – present	Bruker Endowed Chair in Science and Engineering, UC Santa Barbara
09/2009 – 8/2010	Visiting Scholar, Lukin group, Harvard University
05/2008 – 05/2009	L’Oreal For Women in Science postdoctoral fellow

(c) Honors and Awards

- Geoffrey Frew Fellowship from the Australian Academy of Sciences (2021)
- NSF CAREER Award (2014)
- Presidential Early Career Award for Science and Engineering (2012)
- Air Force Office of Scientific Research Young Investigator Award (2010)
- L’Oreal Postdoctoral Fellowship for Women in Science (2008)

(d) Synergistic Activities

- Co-organizer, Project Scoping Workshop for guiding NSF investment in quantum science infrastructure, Dec 2021
- Faculty Director of the Eddleman Center for Quantum Innovation @ UCSB, 2020-present
- Member of the Department of Energy Quantum Information Science Education Working Group, March 2021
- Member of External Advisory Board for Harvard’s NSF Science & Technology Center, Cornell’s Center for Materials Research (an NSF MRSEC), and SPIN – a Swiss National Science Foundation (SNSF) National Centre of Excellence
- Member of the American Physical Society Committee on Scientific Publications, (2018-present)
- Advisory Board Member, Center for Quantum Nanoscience, Institute for Basic Science, Korea
- Started a math circle for elementary school children in Santa Barbara, with weekly classes of ~ 40 children

- Review panelist for L'Oreal For Women in Science Fellowship (2014-2021)
- Lecturer at the 2019 NSF/DOE/AFOSR Quantum Science Summer School (QS³), Pittsburgh
- Participation in the Forum on Quantum Information Science at the White House, organized by the OSTP, Washington DC, October 2016
- Lecturer at the Les Houches Summer School on Quantum Opto and NanoMechanics, Aug 2015
- Reviewer for Science, Nature, Physical Review, Applied Physics Letters, NanoLetters
- Society of Physics Students Faculty advisor and Women in Physics Advisor, UCSB Physics Dept.
- Advisor on Physical Review X Visiting Committee (2014)
- Conference Organizer ECMols Conference (Dortmund, 2021), Joint QED-C/Google workshop on Superconducting Qubit Materials (UCSB, 2020), Emerging Directions and Opportunities in Quantum Science (UCSB, Feb 2019), Quantum Information and Measurement (Paris, 2017), Conference Organizer, Rocky Mountain Conference on Magnetic Resonance (2015-2019). Conference Organizer, Spin Mechanics V, Les Houches, France (Feb 2018). German-American Frontiers of Science Conference, Berlin (May, 2012).

(e) Invited Talks (Accepted, since 2016)

- 3rd Munich Conference on Quantum Science and Technology (July 2021)
- Seminar at Quantum Undergraduate Research at IBM and Princeton program, (July 2021)
- International Conference on Molecule Based Magnets, Manchester UK (June 2021)
- Annual Symposium at the Center for Molecular Quantum Transduction (CMQT), Northwestern University (May 2021)
- NSF Workshop on Quantum Engineering Infrastructure (April 2021)
- MIT Lincoln Laboratory's Advanced Technology for National Security Workshop (April, 2021)
- Optical Society of America Quantum 2.0 Conference (June 2020)
- Los Alamos/Sandia Center for Integrated Nanotechnologies (CINT) Annual Conference (Sep, 2020)
- Virtual Atomic, Molecular, Optical Seminar Series (Sep, 2020)
- NSF Quantum Leap Workshop (Sep 2020)
- Trieste School on Nanomechanics (Sep, 2020)
- NSF workshop on Enabling Transformative Advances in Materials Engineering through Development of Novel Approaches to Electron Microscopy (Sep, 2020)
- Quantum Diamond Conference, Leiden Netherlands (July, 2020)
- Gordon Research Conference on Mechanical Systems in the Quantum Regime (July, 2020)
- Gordon Research Conference on Quantum Science (July, 2020)
- Workshop and School on Quantum Science: Implementations, Benasque Spain (June, 2020)
- Stanford Q-FARM Initiative Symposium (April, 2020)
- QED-C SC Qubit Materials Workshop (Jan, 2020)
- Physics of Quantum Electronics Conference, Snowbird Utah (Jan, 2020)
- Materials Research Society Fall Meeting, Boston (Dec, 2019)
- Stanford University Physics Colloquium (Oct, 2019)
- Fundamental Optical Processes in Semiconductors (FOPS), Banff, Canada (Sep, 2019)
- Quantum Nanoscience Workshop, Seoul (Sep, 2019)
- Gordon Research Conference on Quantum Sensing, Hong Kong (July, 2019)
- Diamond Photonics Symposium @ EPFL, Lausanne (May, 2019)
- CLEO Conference, San Jose CA (May, 2019)
- University of Chicago Physics Colloquium (May, 2019)
- Columbia University Physics Colloquium (May, 2019)
- WE-Heraeus-Seminar on Diamond Quantum Technologies, Bad Honnef Germany (Mar, 2019)
- University of Texas Austin Physics Colloquium & Condensed Matter Seminar, Texas (Feb, 2019)

- Texas A&M Physics Colloquium, Texas (Feb, 2019)
- Conference on the Physics and Chemistry of Surfaces and Interfaces, Santa Fe NM (Jan, 2019)
- Physics of Quantum Electronics Conference, Snowbird Utah (Jan, 2019)
- Harvard University, CIQM Quantum Materials and Devices Seminar (Nov, 2018)
- European Conference on Molecular Electronics Peniscola, Spain (Oct, 2018)
- KAIST (Korea Advanced Institute of Science and Technology)-UCSB Workshop (Sep, 2018)
- SPIE Conference on Quantum Photonic Devices, San Diego, CA (Aug, 2018)
- CLEO, Special Symposium on Emerging quantum sensing techniques and applications, San Jose CA (May, 2018)
- University of California Los Angeles Physics Department Colloquium (May, 2018)
- Pittsburgh Quantum Institute Event, University of Pittsburgh (Apr, 2018)
- Spin Mechanics V and NanoMRI workshop, Les Houches, France (Feb, 2018)
- University of Nevada Reno Physics Colloquium (Nov 2017)
- Institute for Quantum Computing Department Colloquium, Waterloo Canada (Oct 2017)
- Workshop on Foundations and Applications of Nanomechanics, Trieste Italy (Sep, 2017)
- Fundamental Optical Processes in Semiconductors (FOPS) Conference, Washington (Sep, 2017)
- Gordon Research Conference on Quantum Sensing, Hong Kong (July, 2017)
- Frontiers of Metrology Techniques for Magnetic Nanodevices Workshop, Oregon (July, 2017)
- Cal Tech Condensed Matter Physics Seminar, Pasadena (May, 2017)
- Stanford University Materials Department Colloquium (May, 2017)
- Princeton University Institute for Science and Technology of Materials Seminar (April 2017)
- Materials Research Society Spring Meeting, Phoenix Arizona (April, 2017)
- Spin Mechanics IV Workshop, Lake Louise Canada (Feb, 2017)
- Heraeus Workshop on Quantum Sensing (Feb, 2017)
- Frontiers of Nanomechanical Systems, La Thuile Italy (Feb, 2017)
- EQuS Annual Workshop, Noosa Australia (Dec, 2016)
- EQuS (Engineered Quantum Systems) Optomechanics Incubator Meeting, Brisbane Australia (Dec, 2016)
- Australian Institute of Physics Congress (Dec, 2016)
- Washington University Saint Louis Physics Colloquium (Nov 2016)
- Harvard University Physics Colloquium (Nov 2016)
- University of Southern California (USC) Physics Colloquium (Nov, 2016)
- Materials Research Society Fall Meeting, Boston (Nov, 2016)
- Frontiers in Quantum Materials and Devices, Tokyo, Japan (June, 2016)
- Gordon Research Conference on Mechanical Systems in the Quantum Regime, Ventura, CA (Mar, 2016)
- Physics of Quantum Electronics Conference, Snowbird UT (Jan, 2016)
- Ohio State University Physics Colloquium (Jan, 2016)

(f) Current Grants and Contracts

- DOE QIS Center (Quantum Sensing Thrust Lead): Next Generation Quantum Science and Engineering (Q-NEXT)
- NSF Convergence Accelerator Award: High-throughput Proteomics Technology Based on Quantum Sensing
- NSF QLCI – CI: Present and Future Quantum Computation
- DOD ARO (lead PI): Patterning Atomic-scale Quantum Systems with DNA Origami
- ARO MURI: Robust Entanglement-Enhanced Metrology with Atoms and Solid-State Spins
- Roy T. Eddleman Center for Quantum Innovation

- NSF (lead PI, Division of Materials Research): Enabling Quantum Leap: Q-AMASE-i: Quantum Foundry at UCSB
- NSF (lead PI, Division of Materials Research): Imaging electron hydrodynamics in graphene
- NSF (lead PI, Quantum Information Science): Chiral quantum networks
- DARPA DRINQs (lead PI): Driven many-spin coherence in hierarchical hybrid architectures
- DOE (lead PI): Atom-defect hybrid quantum systems
- DOE (sub award, lead PI is Los Alamos National Laboratory): Topological phases of quantum matter and decoherence
- DOE EFRC (sub award, lead PI UC Berkeley): Center for novel pathways to quantum coherence in materials
- NSF MRSEC (lead co-PI): Materials Research Science and Engineering Center at UCSB

(g) References

1. Professor David Awschalom

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(h) Publications

“Protecting qubit coherence by spectrally engineered driving of the spin environment”, M. Joos, D. Bluvstein, Y. Lyu, D. M. Weld, A. B. Jayich, arXiv:2101.09654 (2021).

“Probing many-body noise in a strongly interacting two-dimensional dipolar spin system”, E. J. Davis, B. Ye, F. Machado, S. A. Meynell, T. Mittiga, W. Schenken, M. Joos, B. Kobrin, Y. Lyu, D. Bluvstein, S. Choi, C. Zu, A. B. Jayich, N. Y. Yao, arXiv:2103.12742 (2021).

“Engineering quantum-coherent defects: the role of substrate miscut in chemical vapor deposition diamond growth”, S. A. Meynell, C. A. McLellan, L. B. Hughes, W. Wang, T. E. Mates, K. Mukherjee, A. C. Bleszynski Jayich, Appl. Phys. Lett. 117, 194001 (2020).

“Imaging the breakdown of ohmic transport in graphene”, A. Jenkins, S. Baumann, H. Zhou, S. A. Meynell, D. Yang, K. Watanabe, T. Taniguchi, A. Lucas, A. F. Young, A. C. Bleszynski Jayich, arXiv:2002.05065 (2020).

“Colour centre generation in diamond for quantum technologies”, J. M. Smith, S. A. Meynell, A. C. Bleszynski Jayich, J. Meijer, Nanophotonics 2019-0196 (2019).

“Optimizing the formation of depth-confined nitrogen vacancy center spin ensembles in diamond for quantum sensing”, T. R. Eichhorn, C. A. McLellan, A. C. Bleszynski Jayich, Phys. Rev. Materials 3, 113802 (2019).

“Extending the Quantum Coherence of a Near-Surface Qubit by Coherently Driving the Paramagnetic Surface Environment”, D. Bluvstein, Z. Zhang, C. A. McLellan, N. R. Williams, A. C. Bleszynski Jayich, Phys. Rev. Lett. 123, 146804 (2019).

“Single-spin sensing of domain-wall structure and dynamics in a thin-film skyrmion host”, A. Jenkins, M. Pelliccione, G. Yu, X. Ma, X. Li, K. L. Wang, and A. C. Bleszynski Jayich, Phys. Rev. Mater. 3, 083801 (2019).

“Diamond optomechanical crystals with embedded nitrogen-vacancy centers”, J. V. Cady, O. Michel, K. W. Lee, R. N. Patel, C. J. Sarabalis, A. H. Safavi-Naeini, A. C. Bleszynski Jayich, Quantum Sci. Technol. 4 024009 (2019).

“Identifying and mitigating charge instabilities in shallow diamond nitrogen-vacancy centers”, D. Bluvstein, Z. Zhang, A. C. Bleszynski Jayich, Phys. Rev. Lett. 122, 076101 (2019).

“A Quantum Defect Sees its Charged Surroundings” Ania C. Bleszynski Jayich, Physics, Physics. 11. 10.1103/Physics.11.126 (2018).

“Nanoscale electrical conductivity imaging using a nitrogen-vacancy center in diamond”, A. Ariyaratne, D. Bluvstein, B. A. Myers & A. C. Bleszynski Jayich, Nature Comm. 9, 2406 (2018).

“Room-Temperature Skyrmions in an Antiferromagnet-Based Heterostructure”, G. Yu, A. Jenkins, X. Ma, S. A. Razavi, C. He, G. Yin, Q. Shao, Q. L. He, H. Wu, W. Li, W. Jiang, X. Han, X. Li, A. C. Bleszynski Jayich, P. Khalili Amiri, and K. L. Wang, Nano Lett. 18, 980 (2018).

“Topical Review: Spins and mechanics in diamond”, D. Lee, K. W. Lee, J. V. Cady, P. Ovartchaiyapong, A. C. Bleszynski Jayich, *J. Opt.* 19 033001 (2017).

“Nanomechanical Sensing Using Spins in Diamond”, M. S.J. Barson, P. Peddibhotla, P. Ovartchaiyapong, K. Ganesan, R. L. Taylor, M. Gebert, Z. Mielsens, B. Koslowski, D. A. Simpson, L. P. McGuinness, J. McCallum, S. Praver, S. Onoda, T. Ohshima, A. C. Bleszynski Jayich, F. Jelezko, N. B. Manson, and M. W. Doherty, *Nano Lett.* 17, 1496 (2017).

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“Strain coupling of a mechanical resonator to a single quantum emitter in diamond”, Kenneth W. Lee, Donghun Lee, Preeti Ovartchaiyapong, Joaquin Minguzzi, Jero R. Maze, Ania C. Bleszynski Jayich. *Phys. Rev. Applied* 6, 034005 (2016).

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“Patterned Formation of Highly Coherent Nitrogen-Vacancy Centers Using a Focused Electron Irradiation Technique”, C.A. McLellan, B.A. Myers, S. Kraemer, K. Ohno, D.D. Awschalom, A.C. Bleszynski Jayich, *NanoLetters* 16, 2450 (2016)

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“Reduced plasma-induced damage to near-surface nitrogen-vacancy centers in diamond”, S. Cui, A. Greenspon, K. Ohno, B. Myers, A.C. Bleszynski Jayich, D.D. Awschalom, E.L. Hu, *NanoLetters* 15, 2887 (2015).

"Deterministic coupling of delta-doped NV centers to a nanobeam photonic crystal cavity," J.C. Lee, D.O. Bracher, S. Cui, K. Ohno, C.A. McLellan, X. Zhang, P. Andrich, B. Aleman, K.J. Russel, A.P. Magyar, I. Aharonovich, A.C. Bleszynski Jayich, D.D. Awschalom, E.L. Hu, *Applied Physics Letters* 105, 261101 (2014).

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“Three dimensional localization of spins in diamond using ^{12}C implantation,” K. Ohno, F. J. Heremans, C. F. de las Casas, B. A. Myers, B. J. Aleman, A. C. Bleszynski Jayich, D. D. Awschalom, *Applied Physics Letters* 105, 052406 (2014).

“Dynamic strain-mediated coupling of a single diamond spin to a mechanical resonator,” P. Ovartchaiyapong, K. W. Lee, B. A. Myers, A. C. Bleszynski Jayich, *Nature Communications* 5, 4429 (2014).

“Probing surface noise with depth-calibrated spins in diamond,” B. A. Myers, M. C. Dartiailh, K. Ohno, A. Das, D. D. Awschalom, A. C. Bleszynski Jayich, *Physical Review Letters* 113, 027602, 20 (2014).

“Measurement of the Full Distribution of the Persistent Current in Normal-Metal Rings,” M. A. Castellanos-Beltran, D. Q. Ngo, W. E. Shanks, A. B. Jayich, J. G. E. Harris, *Physical Review Letters* 110, 156801 (2013).

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“Engineering shallow spins in diamond with nitrogen delta-doping,” K. Ohno, F. J. Heremans, L. C. Bassett, B. A. Myers, D. M. Toyli, A. C. Bleszynski Jayich, C. J. Palmstrom, D. D. Awschalom, *Applied Physics Letters* 101, 082413 (2012).

“Coherent Sensing of a Mechanical Resonator with a Single-Spin Qubit,” S. Kolkowitz*, A. C. Bleszynski Jayich*, Q. Unterreithmeier, S. D. Bennett, P. Rabl, J. G. E. Harris, M. D. Lukin (* = co-authors), *Science* 335, 1603 (2012).

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“Mesoscopic persistent currents in a strong magnetic field,” E. Ginossar, L. I. Glazman, T. Ojanen, F. von Oppen, W. E. Shanks, A. C. Bleszynski-Jayich, and J. G. E. Harris, *Physical Review B* 81, 155448 (2010).

“Persistent currents in normal metal rings: comparing high-precision experiment with theory,” A.C. Bleszynski-Jayich, W. E. Shanks, B. Peaudecerf, E. Ginossar, F. von Oppen, L. Glazman, and J.G.E. Harris, *Science* 326, 272 (2009).

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“Imaging a one-Electron InAs Quantum Dot in an InAs/InP Nanowire,” A.C. Bleszynski-Jayich, L.E. Froberg, M.T. Bjork, L. Samuelson, and R.M. Westervelt, *Physical Review B* 77, 245327 (2008).

“Noise thermometry and electron thermometry of a sample-on-cantilever system below 1 Kelvin,” A.C. Bleszynski-Jayich, W. E. Shanks, and J.G.E. Harris, *Applied Physics Letters* 92, 013123 (2008).

“High quality mechanical and optical properties of commercial silicon nitride membranes,” B.M. Zwickl, W.E. Shanks, A.M. Jayich, C. Yang, A.C. Bleszynski-Jayich, J.D. Thompson and J.G.E. Harris, *Applied Physics Letters* 92, 103125 (2008).

“Scanned Probe Imaging of Quantum Dots inside InAs Nanowires,” A.C. Bleszynski, F.A. Zwanenburg, R.M. Westervelt, and L.P. Kouwenhoven, *Nano Letters* 7, 2559 (2007).

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“Probe microscopy: Finding quantum dots inside nanowires”, *Nature Nanotechnology* 2, 600 (01 Oct 2007) News and Views.

“Nanowires: Joining the dots”, *Nature Nanotechnology* (24 Aug 2007) Research Highlights.

“Imaging Electron Interferometer,” B. J. LeRoy, A. C. Bleszynski, K. E. Aidala, R. M. Westervelt, A. Kalben, E. J. Heller, S. E. J. Shaw, K. D. Maranowski, and A. C. Gossard, *Physical Review Letters* 94, 126801 (2005).

“Imaging a Single Electron Quantum Dot,” P. Fallahi*, A.C. Bleszynski*, R.M. Westervelt, J. Huang, J.D. Walls, E.J. Heller, M. Hanson, and A.C. Gossard, (*these authors contributed equally to this work), *Nano Letters* 5, 223 (2005).

“Thermal Averages in a Quantum Point Contact with a Single Coherent Wave Packet,” E.J. Heller, K.E. Aidala, B.J. LeRoy, A.C. Bleszynski, A. Kalben, R.M. Westervelt, K.D. Maranowski, and A.C. Gossard, *Nano Letters* 5, 1285 (2005).

“Imaging Electron Waves,” R.M. Westervelt, M.A. Topinka, B.J. LeRoy, A.C. Bleszynski, *Physica E* 24, 63 (2004).

“Imaging Coherent Electron Wave Flow in a Two-dimensional Electron Gas,” B.J. LeRoy, A.C. Bleszynski, M.A. Topinka, R.M. Westervelt, *Physica E* 18, 163 (2003).

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