Adam Smercina

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Education

August 2020	**University of Michigan** *Ph.D. Astronomy & Astrophysics*
May 2017	**University of Michigan** *M.S. Astronomy & Astrophysics*
May 2015	**University of Toledo** *B.S. Physics, Minor in Mathematics*

Professional Appointments

2020–	**Postdoctoral Scholar** Mentor: Julianne Dalcanton	University of Washington
2015–2020	**Graduate Research Fellow** Advisor: Eric Bell	University of Michigan
2012–2015	**Undergraduate Research Assistant** Advisor: J.D. Smith	University of Toledo
2014	**Summer REU Student** Advisor: Christy Tremonti	University of Wisconsin-Madison

Grants as PI

4 grants, totaling **$481,000**

Grant	**Funding Agency**	**Amount**
Hubble Space Telescope GO-16191	NASA	$206,000
Hubble Space Telescope GO-16185	NASA	$93,000
Rackham Predoctoral Fellowship	Univ. of Michigan	$44,000
National Science Foundation Graduate Research Fellowship	NSF	$138,000

Honors & Awards

Ralph B. Baldwin Prize in Astronomy *University of Michigan*	March 2022
Honorble Mention, AAS Rodger Doxsey Travel Prize	January 2021
Alternate, Pappalardo Postdoctoral Fellowship in Physics (2020–2023) *Massachusetts Institute of Technology*	December 2019
Rackham Predoctoral Fellowship *University of Michigan*	Sep. 2019–Aug. 2020
National Science Foundation Graduate Research Fellowship	Sep. 2016–Aug. 2020
Outstanding Graduating Senior, College of Nat. Science & Math. *University of Toledo*	May 2015
Robert and Noreen Stollberg Award *University of Toledo*	April 2014
Chad Tabory Award for Outstanding Undergraduate Research *University of Toledo*	April 2013 & 2015

Invited Talks

University of Washington Astronomy Colloquium — May 2023
Seattle, WA, USA

Tufts University Phyics & Astronomy Colloquium — April 2023
Medford, MA, USA

CCA Galactic Dynamics Community Meeting, — November 2022
New York, NY, USA

Rutgers University Journal Club — November 2022
Piscataway, NJ, USA

Univ. of Victoria Physics and Astronomy Seminar — October 2022
Victoria, BC, CAN

NRC-HAA Colloquium — October 2022
Victoria, BC, CAN

Univ. of Michigan Ralph B. Baldwin Prize Colloquium — June 2022
Ann Arbor, MI, USA

Univ. of British Columbia Astronomy Colloquium — October 2021
Virtual

DELVE Collaboration Meeting — October 2021
Virtual

JINA-CEE Chemical Evolution Workshop — March 2020
Cambridge, MA, USA

DiRAC Institute Seminar — December 2019
Seattle, WA, USA

Caltech TAPIR Seminar — September 2019
Pasadena, CA, USA

UC Irvine Astrophysics Seminar — September 2019
Irvine, CA, USA

Univ. of Michigan Galaxy Group Seminar — April 2018
Ann Arbor, MI, USA

NRAO TUNA Lunch Talk — October 2017
Charlottesville, VA, USA

Conference & Workshop Presentations

The Physics and Impact of Astrophysical Dust — March 2024
Aspen, CO, USA

The First Year of JWST Science Conference — September 2023
Baltimore, MD, USA

Roman Science Inspired by Emerging JWST Results — June 2023
Baltimore, MD, USA

241st American Astronomical Society Meeting — January 2023
Seattle, WA, USA

The Epoch of Galaxy Quenching — September 2022
Cambridge, UK

A Comprehensive View of Galaxy Evolution from the Milky Way to I Zwicky 18 — July 2022
Sesto, Italy

EAS 2022: Dwarf galaxies beyond the Local Group — June 2022
Valencia, Spain

EAS 2021: Renaissance of the Low Surface Brightness Universe — June 2021
Virtual

Streams 21: Constraints on Dark Matter — February 2021
Virtual

237th American Astronomical Society Meeting *Virtual*	January 2021
STScI Virtual Symposium The Local Group: Assembly and Evolution *Virtual*	September 2020
Galaxy Quenching throughout Cosmic Time *Aspen, CO, USA*	February 2020
Small Galaxies, Cosmic Questions *Durham, UK*	August 2019
Light in the Suburbs: Structure and Chemodynamics of Galaxy Halos *Sesto, Italy*	June 2019
233rd American Astronomical Society Meeting *Seattle, WA, USA*	January 2019
Stellar Halos Across the Cosmos *Heidelberg, Germany*	July 2018
Astrophysical Frontiers in the Next Decade and Beyond *Portland, OR, USA*	June 2018
The Origins of Galaxies, Stars, and Planets in the Era of ALMA *Pasadena, CA, USA*	December 2017
Great Lakes Cosmology & Galaxies Conference *Hamilton, Ontario, Canada*	June 2016
225th American Astronomical Society Meeting *Seattle, WA, USA*	January 2015

Professional Activities & Experience

Service & Leadership

Member of New Great Observatories Science Analysis Group (SAG)
Rubin Observatory DP0 Delegate (2023–Present)
Organizer for *The End of Star Formation at the End of the World* conference (Puerto Varas, CHIL; Dec 2024)
Organizer for *How Roman Observations Will Confront Theory* conference (Pasadena, CA, USA; July 2024)
Referee for manuscripts in ApJ, MNRAS, New Astronomy (2020–Present)
NOIRLab Telescope Allocation Committee panel member (May 2022–Present)
External Reviewer for *HST*, CanTAC (2021–Present)
AAS Doxsey Travel Prize Committee (2023–2026)
AAS Chambliss Judge (2021, 2023)
AAS Abstract Sorter (2021)
U. of Washington APO 3.5 m Telescope Allocation Committee (2022–Present)
U. of Washington Astro Lunch & DiRAC Seminar Coordinator (2020–2022)
U. of Washington Back to Astronomy Committee (2021)
Reviewer for U. of Washington Undergrad Grad School Essay Workshop (2020–2023)
Internal U. of Michigan NOEMA Telescope Allocation Committee (2020)

Outreach

Public Outreach Talk at the Seattle Astronomical Society (April 2023)
· Title: *Triangulum Galaxy Unveiled*
AAS Press Briefing Panelist (January 2023)
· Title: *The Structure of the Triangulum Galaxy in Surveyed Stellar Populations*
Skype A Scientist participant (2019–2021)
· Spoke with 5 grade-school classrooms, including the US and Saudi Arabia
U. of Michigan NSF Graduate Research Fellowship Workshop panelist (2017)

Teaching	U. of Washington Instructor for ASTR 499 Independent Research Course (2021–2022) Mentor for 12+ students in the U. of Michigan UROP Program (2017–2020) U. of Michigan Graduate Student Instructor for ASTRO 102 Astronomy Lab (2016)
Professional Collaborations	Panchromatic Hubble Andromeda Treasury (PHAT) Panchromatic Hubble Andromeda Treasury Triangulum Extended Region (PHATTER) Panchromatic Hubble Andromeda Southern Treasury (PHAST) Galaxy Halos, Outer disks, Substructure, Thick disks, and Star clusters (GHOSTS) DECam Local Volume Exploration (DELVE) Local Group L-Band Survey (LGLBS)

Students Advised & Mentored

Tash Sandford	Current First-year Ph.D. Student at Indiana University Primary advisor as U. of Washington undergraduate and Post-Bacc (2021–2023)
Katya Gozman	Third-year PhD Candidate at U. of Michigan (2020–Present) Significant ongoing mentoring, including on first paper (2020–Present)
Michael Messere	Current Second-year Ph.D. Student at Columbia University Primary advisor as U. of Michigan undergraduate (2019–2021)
Jiaming Pan	Current Second-year Ph.D. Student at U. of Michigan Significant mentoring, including on first paper (2019–2022)

Press Coverage

Archaeology of Nearby Galaxies	Familiar Fluffy Triangulum Galaxy has Hidden, Two-Armed Pattern Old and new stars paint very different pictures of the Triangulum galaxy There's Something Very Strange About Star Distribution In The Triangulum Galaxy
Dwarf/Satellite Galaxies	The Lonely Giant: Milky Way-sized Galaxy Lacking Galactic Neighbors Nobody Predicted this Galaxy would be so Lonely A Lonely Galaxy's Puzzling Lack of Neighbors Could Shed Light On Dark Matter Life and Death in Nearby Galaxies
Post-Starburst Galaxies	Scientists Find Elusive Gas From Post-starburst Galaxies Hiding in Plain Sight Astronomer Works With Alumnus to Find Elusive Gas From Galaxies Hiding in Plain Sight Astronomers Team up to Create New Method to Understand Galaxy Evolution
Stellar Halos	Astronomers conduct one of the most detailed studies of a stellar halo Galactic Leftovers within the M81 Group Life and Death in Nearby Galaxies

Successful Observing Programs on Competitive Facilities

Bolded titles indicate PI proposals.

Hubble Space Telescope	2022, SNAP-17158, 55 Snapshot Targets *The lowest luminosity galaxy candidates ever discovered outside of the Milky Way* 2021, GO-16778, 195 orbits *The Panchromatic Hubble Andromeda Southern Treasury (PHAST)* 2021, GO-16611, Archival *Modeling Spatiotemporal Systematics in Multiwavelength Stellar Photometry Catalogs*

	2020, GO-16191, 31 orbits **A Benchmark Survey of Resolved Stellar Populations in the Nearest Ultra Diffuse Galaxy, F8D1**
	2020, GO-16185, 12 orbits **Resolving Star Formation Triggered by M82's Prototypical Superwind**
James Webb Space Telescope	2021, GO-2128, 22.8 hours *The First Resolved View of Individual Star Formation Across a Spiral Arm*
Subaru Telescope	2022, Hyper Suprime-Cam, 7.1 hours (Queue) *A complete, uniform survey of the ultrafaint satellites and stellar halo populations in the M81 group*
	2019, Hyper Suprime-Cam, 16.9 hours (Queue) **How did M64 get its gas? Revealing M64's Most Dominant Merger Event using its Stellar Halo**
	2017, Hyper Suprime-Cam, 2 nights (Classical) **Revealing the Stellar Halo and Dwarf Satellites of M94**
VLT	2019, MUSE, 20.5 hours *A unique MUSE measurement of the 3D dynamical evolution of a disk galaxy*
	2019, MUSE, 12 hours *A First Ever Measure of the Resolved Kinematics of a Stellar Halo Outside of the Local Group*
VLA	2019, 10.1 hours **After The Fall: Resolving the Radio Properties of Post-Starburst Galaxies**
ALMA	2021, 16 hours (12m) *Stars or Black Holes? What mechanisms cause the rapid shutdown of star formation at the end of a burst?*
	2018, 6.7 hours (12m) **After the Fall: A High-Resolution View of the Nuclear Molecular Gas in a Post-Starburst Galaxy**
	2016, 6.1 hours (12m) *After the Fall: Zooming in on the Molecular Fuel in Post-Starburst Galaxies* 2016, 4.5 hours (12m)
	What Stops Galactic Star Formation? An ALMA Study of Dense Molecular Gas in Post-Starburst Galaxies
	2015, 5.3 hours (12m); 8.7 hours (ACA) *After the Fall: Mapping the Molecular Fuel in Post-Starburst Galaxies*
Gemini Observatory	2022, NIFS, 7.9 hours *Mapping Quenching Processes on Resolved Scales in Post-Starburst Galaxies with NIFS*
	2022, GMOS (Fast Turnaround), 3.2 hours *Confirming ultra-faint dwarf galaxy candidates in the M31 group*

PUBLICATIONS

29 total: 8 first-author, 21 contributing author, h-index = 11, total citations = 413
†Indicates a student-led paper

First, Second, and Third Author

1. **A. Smercina**, J.J. Dalcanton, B.F. Williams, et al. 2023, ApJ, 957, 3
The Panchromatic Hubble Andromeda Treasury: Triangulum Extended Region (PHATTER). V. The Structure of M33 in Resolved Stellar Populations
https://iopscience.iop.org/article/10.3847/1538-4357/acf3e8
2. **A. Smercina**, E.F. Bell, P.A. Price, et al. 2023, ApJ Letters, 949, L37
Origins of the Evil Eye: M64's Stellar Halo Reveals the Recent Accretion of an SMC-Mass Satellite
https://iopscience.iop.org/article/10.3847/2041-8213/acd5d1
3. K. Gozman†, E.F. Bell, **A. Smercina**, et al., 2023, ApJ, 947 21
Saying Hallo to M94's Stellar Halo: Investigating the Accretion History of the Largest Pseudobulge-Host in the Local Universe
https://iopscience.iop.org/article/10.3847/1538-4357/acbe3a
4. K.D. French, **A. Smercina**, K. Rowlands, et al. 2023, ApJ, 942, 25
The State of the Molecular Gas in Post-Starburst Galaxies
https://arxiv.org/abs/2204.07465
5. E.F. Bell, **A. Smercina**, P.A. Price, et al., 2022, ApJ Letters, 937, L3
Ultra-Faint Dwarf Galaxy Candidates in the M81 Group: Signatures of Group Accretion
https://iopscience.iop.org/article/10.3847/2041-8213/ac8e5e
6. J. Pan†, E.F. Bell, **A. Smercina**, et al., 2022, MNRAS, 515, 48
New Globular Cluster Candidates in the M81 group
https://doi.org/10.1093/mnras/stac1638
7. **A. Smercina**, J.D.T Smith, K.D. French, et al. 2022, ApJ, 929, 154
After The Fall: Resolving the Molecular Gas in Post-Starburst Galaxies
https://iopscience.iop.org/article/10.3847/1538-4357/ac5d5f
8. **A. Smercina**, E.F. Bell, J. Samuel, and R. D'Souza, 2022, ApJ, 930, 69
Relating the Diverse Merger Histories and Satellite Populations of Nearby Galaxies
https://iopscience.iop.org/article/10.3847/1538-4357/ac5d56
9. **A. Smercina**, E.F. Bell, P.A. Price, C.T. Slater, R. D'Souza, et al. 2020, ApJ, 905, 60
The Saga of M81: Global View of a Massive Stellar Halo in Formation
https://iopscience.iop.org/article/10.3847/1538-4357/abc485
10. **A. Smercina**, E.F. Bell, P.A. Price, R. D'Souza, et al. 2018, ApJ, 863, 152
A Lonely Giant: The Sparse Satellite Population of M94 Challenges Galaxy Formation
https://iopscience.iop.org/article/10.3847/1538-4357/aad2d6
11. **A. Smercina**, J.D.T. Smith, D.A. Dale, K.D. French, et al. 2018, ApJ, 855, 51
After The Fall: The Dust and Gas in E+A Post-Starburst Galaxies
https://iopscience.iop.org/article/10.3847/1538-4357/aaafcd
12. **A. Smercina**, E.F. Bell, C.T. Slater, P.A. Price, et al. 2017, ApJ Letters, 843, L6
d1005+68: A New Faint Dwarf Galaxy in the M81 Group
https://iopscience.iop.org/article/10.3847/2041-8213/aa78fa

Significant Contributions

1. L.R. Cullinane, K.M. Gilbert, P. Guhathakurta, et al. (incl. **A. Smercina**), 2023, ApJ, 958, 157
TREX: Kinematic Characterisation of a High-Dispersion Intermediate-Age Stellar Component in M33
https://iopscience.iop.org/article/10.3847/1538-4357/ad003b
2. B. Harmsen†, E.F. Bell, R. D'Souza, et al. (incl. **A. Smercina**), 2023, MNRAS, 525, 4497
Constraining the assembly time of the stellar haloes of nearby Milky Way-mass galaxies through AGB populations
https://doi.org/10.1093/mnras/stad2480
3. B.F. Williams, M.J. Durbin, D. Lang, et al. (incl. **A. Smercina**), 2023, ApJS, 268, 48
The Panchromatic Hubble Andromeda Treasury XXI. The Legacy Resolved Stellar Photometry Catalog
https://iopscience.iop.org/article/10.3847/1538-4365/acea61
4. R. Chandar, A. Mok, K.D. French, **A. Smercina**, and J.D.T Smith, 2021, ApJ, 920, 105
The Star Formation History of a Post-Starburst Galaxy Determined From its Star Cluster Population
https://iopscience.iop.org/article/10.3847/1538-4357/ac0c19
5. B.F. Williams, M.J. Durbin, J.J. Dalcanton, et al. (incl. **Smercina**), 2021, ApJS, 253, 53
The Panchromatic Hubble Andromeda Treasury: Triangulum Extended Region (PHATTER) I. Ultraviolet to Infrared Photometry of 22 Million Stars in M33
https://iopscience.iop.org/article/10.3847/1538-4365/abdf4e

Contributing Author

1. S.K. Sarbadhicary†, J. Wagner, E.W. Koch, et al. (incl. **A. Smercina**), 2023, ApJ, *In Review*
Where do stars explode in the ISM? The distribution of dense gas around massive stars and supernova remnants in M33
https://arxiv.org/abs/2310.17694
2. J. Peltonen†, E. Rosolowsky, T.G. Williams, et al. (incl. **A. Smercina**), 2023, MNRAS, *In Review*
JWST Reveals Star Formation Across a Spiral Arm in M33
3. M. McNanna, K. Bechtol, A. Drlica-Wagner, et al. (incl. **A. Smercina**), 2023, ApJ, *Accepted*
A search for faint resolved galaxies beyond the Milky Way in DES Year 6: A new faint, diffuse dwarf satellite of NGC 55
https://arxiv.org/abs/2309.04467
4. D. Tran†, B.F. Williams, E. Levesque, et al. (incl. **A. Smercina**), 2023, ApJ, 954, 211
Spatially-Resolved Recent Star Formation History in NGC 6946
https://iopscience.iop.org/article/10.3847/1538-4357/aced44
5. J. Peltonen†, E. Rosolowsky, L.C. Johnson, et al. (incl. **A. Smercina**), 2023, MNRAS, 522, 6137
Clusters, Clouds, and Correlations: Relating Young Clusters to Giant Molecular Clouds in M33 and M31
https://doi.org/10.1093/mnras/stad1430
6. J.A. Otter†, K. Rowlands, K. Alatalo, et al. (incl. **A. Smercina**), 2022, ApJ, 941, 93
Resolved Molecular Gas Observations of MaNGA Post-starbursts Reveal a Tumultuous Past
https://arxiv.org/pdf/2210.12199.pdf
7. L.C. Johnson, T.M. Wainer, et al. (incl. **A. Smercina**), 2022, ApJ, 938, 81
The Panchromatic Hubble Andromeda Treasury: Triangulum Extended Region (PHATTER) IV. Local Group Cluster Search Star Cluster Catalog
https://iopscience.iop.org/article/10.3847/1538-4357/ac8def/meta
8. M. Lazzarini, B.F. Williams, M.J. Durbin, J.J. Dalcanton, **A. Smercina**, et al. 2022, ApJ, 934, 76

The Panchromatic Hubble Andromeda Treasury: Triangulum Extended Region (PHATTER) II. The Spatially Resolved Recent Star Formation History of M33
https://iopscience.iop.org/article/10.3847/1538-4357/ac7568

9. W. Cerny[†], A.B. Pace, A. Drlica-Wagner, et al. (incl. **Smercina**), 2021, ApJL, 920, L44
Eridanus IV: an Ultra-Faint Dwarf Galaxy Candidate Discovered in the DECam Local Volume Exploration Survey
https://iopscience.iop.org/article/10.3847/2041-8213/ac2d9a
10. A. Drlica-Wagner, J.L. Carlin, D.L. Nidever, et al. (incl. **Smercina**), 2021, ApJS, 256, 2
The DECam Local Volume Exploration Survey: Overview and First Data Release
https://iopscience.iop.org/article/10.3847/1538-4365/ac079d
11. I.S. Jang, R.S. de Jong, et al. (incl. **Smercina**), 2020, A&A, 640, L19
Is NGC 300 a pure exponential disk galaxy?
https://www.aanda.org/articles/aa/full_html/2020/08/aa38651-20/aa38651-20.html
12. K.D. French, A.I. Zabludoff, et al. (incl. **Smercina**), 2018, ApJ, 861, 123
Why Post-Starburst Galaxies are Now Quiescent
https://iopscience.iop.org/article/10.3847/1538-4357/aac8de