

**CANDIDATE STATEMENT FOR  
ASSOCIATE DIRECTOR REPRESENTING THE  
NORTH CENTRAL REGION**

**Name:** Marc Seigar

**Current Position:** Dean, College of Natural Sciences and Mathematics

**Organization:** University of Toledo

**Chapter Affiliation:** University of Toledo

**Candidate's Statement:**

Sigma Xi's commitment to advancing STEM education and promoting scientific leadership and influence is close to my heart as a dean in a college of sciences at a major research university. The community of STEM professionals and educators that Sigma Xi brings together is at the forefront of this core mission. The mission drives us to learn about fields outside of our own in a way that promotes interdisciplinary studies and research, without which we cannot begin to solve the major issues we face as a society. This is becoming more important as we educate the STEM workforce of the future.

To me, being an advocate for science is central to my role as a leader in higher education. Just recently, I had the chance to meet with a U.S. Senator to talk about environmental issues affecting the Great Lakes. Together with researchers from our Lake Erie Research Center, we took the U.S. Senator on one of our research vessels out onto Lake Erie. He got to see the August algal bloom in western Lake Erie and the Toledo water intake. However, it is much more than this. As a dean in a science college, I oversee research in environmental research, sustainable energy production, and human disease. We know that we are in an era where humans are having an unsustainable impact on our environment, which has impacted how we produce energy, and impacts human health, not just through heat-related illness, but also through the emergence of new diseases as our cities encroach on the natural habitats around them.

As Associate Director for the North Central Region, I would work in collaboration with the Director to develop strategies in multiple areas related to Sigma Xi's mission and the strategic plan. I am particularly committed to educating, not just the next generations of scientists, but also the public about scientific issues that we face. In an era where misinformation is commonplace, we need to develop new strategies for teaching all our college students (not just the STEM students) how scientific advancement works. This will take innovation in education in both the K-12 and college settings. This is also related to promoting scientific leadership and influence, as we will need to develop leaders who are capable of advocating for the changes we need in science education and scientific support. In summary, as an Associate Director, I believe I can further add to Sigma Xi's mission by promoting ideas to support science education, research, and leadership that will support the organizations strategic plan and grow our STEM workforce in areas that will be needed to solve the environmental challenges we face as a society.



**Marc Seigar, Dean, College of Natural Sciences and Mathematics**

Marc Seigar earned a B.Sc. in Physics from Imperial College London in the U.K. in 1993 and a Ph.D. in Astrophysics from the Liverpool Astrophysics Research Institute in 1998. Marc joined The University of Toledo as Dean of the College of Natural Sciences and Mathematics in August of 2021.

After obtaining his Ph.D., Marc went onto various research positions at Ghent University (in Belgium), the Joint Astronomy Centre (in Hilo, Hawaii) and the University of California Irvine. He then went onto a tenure-track faculty position at the University of Arkansas. In 2014, he was hired as Head of the Department of Physics and Astronomy at the University of Minnesota Duluth, where he also spent three years as Associate Dean of the Swenson College of Science and Engineering. Just before joining UToledo, from 2020 to 2021, Marc served as a Program Director (rotator) in the Division of Astronomical Sciences in the National Science Foundation.

Marc's area of scholarship is astronomy and astrophysics. He studies nearby galaxies and is particularly interested in galaxy dynamics, structure and morphology. Throughout his career, Marc has made use of data from various astronomical observatories, such as the Hubble Space Telescope, Spitzer, Gemini, and facilities at Kitt Peak and Lick observatories.

Personal research website: [www.marcseigar.com](http://www.marcseigar.com).

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Dean, College of Natural Sciences and  
Mathematics  
University of Toledo  
Professor, Department of Physics and  
Astronomy  
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Toledo, OH 43606  
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## Profile:

Forward thinking change leader with deep knowledge of the higher education landscape, nationally and internationally. Data-driven, evidence-based decision-making, consummate collaborator and team integrator, culturally competent, strong interpersonal and communication skills. Looking to leverage my knowledge and experience into a Senior Leadership role in Higher Education.

## Administrative Appointments and Leadership Accomplishments:

2021 – present: **Dean**, *College of Natural Sciences and Mathematics*, University of Toledo

**The University of Toledo** is an open-access public research university with an academic medical center whose mission is to educate students to become future-ready graduates, cultivate leaders, create and advance knowledge, care for patients and engage our local, national, and global communities. The university enrollment includes just over 13,000 undergraduate students and almost 4,000 graduate students.

**The College of Natural Sciences and Mathematics** faculty seek to build and disseminate foundational and applicable knowledge through excellence in teaching, research and discovery, and community engagement; foster the advancement of science, mathematics, and technology locally, regionally, and globally; and serve as a transformative force within a diverse, interdisciplinary, and collaborative educational environment for improving our world through science and mathematics. The college enrollment includes about 1,000 undergraduate students and 300 graduate students.

### *Academic Program Development and Review*

Worked with 130 faculty in five academic departments to oversee all curriculum development and revisions. Introduced a new undergraduate program in Neuroscience, a new graduate program in Environmental Sciences, an online M.S. in Mathematics, and a collaborative PhD program in Translational Biomedical Science (with Medicine). Improved the existing undergraduate program in Data Science to include more experiential learning opportunities and hire a program director. New programs are projected to increase undergraduate enrollment by 200 students, and Data Science is currently at 90 students.

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Developed new international agreements for 2+2 programs with universities in India and Vietnam. These agreements will bring in at least 40 students a year starting in the fall 2024 semester.

Oversight of an innovative year-long international exchange program with Salford University in the U.K. for STEM undergraduate majors, that exchanges about 10 students per year on average.

### *Budget and Finance Management*

Oversight of a College with five departments, six research centers, about 130 faculty, 1000 undergraduate students, 300 graduate students, about \$25 million in annual sponsored research funding, and an overall budget of \$25 million.

Identified almost \$1,200,000 through careful budget review and by creating efficiencies. Raised graduate student stipends to make them more competitive with peer institutions.

Transitioned the College to a new incentive-based budget model and developed a new Budget Advisory Committee for the College.

### *Institutional Change Leadership*

Collaborated with faculty and administration to create a university-wide Task Force on Peer Mentoring for Undergraduate Students. This has improved summer melt from 10% in summer 2021 to less than 5% in summer 2022.

Developed a new Student Services Office for the College and recruited a director and new advising staff into the College to better serve at-risk students. This helped improve retention to over 80% in the college.

Started new advisory committees including an Undergraduate Student Deans Advisory Committee and a Graduate Student Deans Advisory Committee.

Started once per semester meetings with Lecturers, Assistant Professors, Associate Professors, and full Professors.

Started college-wide meetings, of which three are offered every semester.

### *College research support and innovation*

Established partnerships with national labs (e.g., PNNL and NREL) and pursuing Federal funding in solar energy, hydrogen production, and coastal environmental research. This resulted in a \$1.25 million seed grant from the Department of Energy as part of a consortium to establish a Regional Clean Hydrogen Hub in Northwest Ohio.

Started an innovative, collaborative research agreement with the SENS Foundation for biomedical and biological research that brings in \$1.2M annually to the College.

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Won a \$2.2 million grant from the State to develop and open the University of Toledo Wetlands Research Park, and new university research center.

### *Student and Academic Support and Success*

The College saw increased rankings for PhD and undergraduate programs while I was dean, with four PhD programs and four departments being nationally ranked for the first time in 2022 and improvements in rankings for two of those programs in 2023.

Maintained steady enrollment of about 1000 undergraduate students and 300 graduate students respectively at a time when overall enrollment for the university has been trending downward.

Worked with Career Services to develop more mechanisms for internships for Science and Mathematics students. About 20% of our undergraduate students seek internships and the number is increasing.

Increased first year retention to a record of over 80%.

### *Advancement and Development*

Introduced a new Corporate Partnership program for the College, which raises about \$150,000 annually.

Serving on the Deans Advisory Group for Advancement which is helping to plan the next development campaign for the university.

Raised over \$6 million in donations in my first two years as Dean (\$3.2 million in FY 22 and \$3 million so far in FY 23), including new scholarship programs, endowed positions, and infrastructure development. This is a record level of fundraising for the College.

2020 – 2021: **Program Director**, *Division of Astronomical Sciences*, National Science Foundation

**The National Science Foundation** was established by the federal government in 1950. Its mission is to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense of the country. The National Science Foundation envisions a nation that capitalizes on new concepts in science and engineering and provides global leadership in advancing research and education.

### *Research Administration and oversight*

Oversight of several grant panels per year in the Research Experiences for Undergraduate (REU) program, the AGEP-GRS supplement program, the Graduate Student Research Fellowship (GRFP) program, and the Astronomy and Astrophysics Grants (AAG) program.

Led the GRFP, REU, AGEP-GRS and EXC (Extragalactic Astronomy and Cosmology) programs for the Division of Astronomical Sciences. This was a budget of about \$20 million per year.

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Involvement in NSF-wide programs such as CSSI, TRIPODS and Cyber Training.

My overall portfolio included around \$60M of research awards.

### *Foundation wide service*

Engineering Directorate Liaison for the Division of Astronomical Sciences.

Involvement and interest in Federal science policy.

2020 – 2021: **Associate Dean**, *Swenson College of Science and Engineering*, University of Minnesota Duluth

**The University of Minnesota Duluth** (UMD) is a student-centered, undergraduate-focused institution of higher education, defined by its commitment to student access and promoting exceptional outcomes for graduates. As a land-grant and sea-grant university, UMD achieves its mission through vibrant and high-quality academic and co-curricular programs; impactful research, scholarship, and creative activities; and service engagement beyond the confines of the campus. The university's diverse faculty and staff are committed to students' academic achievement, personal development and well-being, and lifelong career goals. The university enrollment includes about 8,000 undergraduate students and 1,600 graduate, professional, and adult students.

**The Swenson College of Science and Engineering** at UMD serves 3,400 undergraduate students in the basic science and core engineering programs, including computer science. The college also serves 400 graduate students in both master's and doctoral programs. Students are provided with a rigorous curriculum and innovative opportunities to work with faculty in applied research and service activities. Graduates are prepared to solve problems and benefit society; be active members of the workforce; and be successful participants in professional and other advanced degree programs.

### *Curriculum Administration, Leadership and Development*

Oversaw all student and curricular affairs (including assessment) for the College's 21 undergraduate programs and 14 master's programs. This included oversight of ABET-accreditation/self-study reports for the engineering programs.

Provided oversight of the two existing interdisciplinary Ph.D. programs in the College, the Ph.D. in Integrated Biosciences and the Ph.D. in Water Resources Science.

Assisted in the development of new interdisciplinary Ph.D. programs at the University of Minnesota Duluth, including a Ph.D. in Computational and Data Sciences, which saw a new incoming cohort of 10 students in fall 2020.

Development of the first official 3+2 dual-degree program with our Engineering programs and the Physics program at UW La Crosse.

International Liaison for the College involved in development of agreements with university partners in foreign countries, including the establishment of 2+2 and 1+2+1 dual-degree articulation agreements with

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seven institutions in China. This brought in about 50 international students per year, pre-pandemic.

Worked with program assessment liaisons in every department to develop new assessment plans for each program.

### *Budget oversight*

Advised the Dean concerning budgetary issues in a college with an annual budget of about \$35 million, 200 full-time faculty and 80 staff, with enrollment of over 3400 undergraduate students and about 400 graduate students, and about \$10 million per year in extramural research funding. The Swenson College was the largest college at UMD and the third largest in the University of Minnesota System.

Oversaw faculty travel funds (\$30,000 per year) and the tech fees (\$1 million per year) for the College.

Oversaw disbursement of funds for Graduate TAs to departments and disbursement of funds for hiring non-tenure-track and adjunct faculty.

Oversaw funding of summer school.

### *Research Administration*

Provided oversight of shared research resources in the College, such as the Research Instrumentation Laboratory.

Oversaw the undergraduate research opportunity program in the College.

### *Faculty and Student Support*

North Star STEM Alliance (Louis Stokes Alliance for Minority Participation) site co-coordinator and member of the governing board for UMD.

Development and oversight of a new Faculty Mentoring Program in the College.

Oversaw the College Advising Office which including an Advising Director, an Administrative Assistant, and four professional advisors.

### *Institutional and Program Accreditation*

Served as the Swenson College of Science and Engineering's representative on our Higher Learning Commission (HLC) workgroups, which was part of the effort to submit our Quality Initiative Report to HLC in the summer of 2017.

Oversaw the accreditation process for seven ABET accredited programs in the College.

2020 – 2021: **Department Head**, *Department of Physics and Astronomy*, University of Minnesota Duluth

- Direct reports included 16 full-time faculty, 4 part-time faculty, a teaching postdoc, 16 graduate teaching assistants, 3 staff, and the planetarium management team, with an operational budget of \$1.8 million.

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- Established a new \$25,000 endowed fund for scholarships for entering freshmen physics majors. Secured the inaugural scholarship for Engineering Physics students. Also, established the \$1 million Radulovich Scholarship endowment for students in the Physics graduate program. Finally, raised funds for a new endowed fund for the Planetarium.
- More than doubled the enrollment of undergraduate majors in the department, from about 40 majors to over 100 majors and increased the annual student credit hours from about 6,000 to over 10,000.
- Enacted curriculum changes to our undergraduate programs in 2015, making the programs more flexible, including new concentrations in Business Administration and Computational Physics.
- Developed a new ABET-accredited undergraduate program in Engineering Physics, which began enrolling students in 2017 and reached an enrollment of around 70 students.
- Moved the calculus-based General Physics sequence completely to active learning in a new technologically advanced classroom designed specifically for teaching our General Physics courses.
- Increased research infrastructure by supporting teaching post-docs in the Department of Physics and Astronomy.
- Increased the number of Graduate TAs in the department from 12 to 16. With Graduate RAs, the department had over 20 total graduate students.
- Increased the number of staff in the department from 2 to 4 and increased the number of full-time faculty from 11 to 16. This included successfully negotiating hiring five new faculty members.
- Upgraded the Planetarium with a new digital projector and state-of-the art software suites including Uniview, WorldViewer, and NASA Eyes.
- Acquired a new portable Planetarium that travels to K-12 schools in the region, reaching over 4,000 students per year.
- Increased attendance at the Planetarium from about 7,000 per year to almost 20,000 per year, including those reached by the portable planetarium.
- Hired a new director and program director for the Planetarium (these were both new positions in the department).
- Developed plans for a new rooftop observatory, including the donation of an observatory dome, renovation plans, and plans for fundraising.
- Developed the new webpages for both the Physics Department and the Planetarium as the College migrated all its websites to the new content management system.
- Manage foundation funds for the Planetarium and for the Department totaling over \$1,200,000.

### Career Development:

- Jun 2022: Harvard Graduate School of Education, Harvard Institute for Management and Leadership in Education
- 2020 – 2021: NSF Federal Coaching and Mentoring Program



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- Oct 2019: Allies and Advocates Training
- Feb 2018: CASE workshop on Development for Deans and Academic Administrators
- Fall 2017: Intercultural Leadership Development Program, University of Minnesota Duluth.
- Spring 2017: Leadership Development Program, University of Minnesota.
- Jan 2015: Workshop on “Insights to Philanthropy” for Department Heads, Associate Deans and Directors at UMD.
- Nov 2007: American Association of Physics Teachers/American Physical Society New Faculty Workshop.

### Regional Appointments and Service:

- 2023 – present: Member, Erie Shores Council Executive Board
- 2021 – present: Member, Rotary Club of Toledo
- 2020 – 2021: President-Elect, Rotary Club of West Springfield
- 2019 – 2020: Treasurer, Rotary Club of Duluth
- 2017 – 2020: UMD representative to the Governing Board, North Star STEM Alliance
- 2016 – 2020: UMD representative to the Duluth School District Aerospace Physics Advisory Council
- 2016 – 2020: Member, Rotary Club of Duluth
- 2014 – 2020: UMD representative to the Minnesota Space Grant Consortium
- 2013 – 2014: Past President, Arkansas Academy of Science
- 2012 – 2014: UALR representative to the Arkansas Space Grant Consortium.
- 2011 – 2014: Director, Arkansas Academy of Science Undergraduate Research Awards Program
- 2012 – 2013: President, Arkansas Academy of Science
- 2011 – 2012: President Elect, Arkansas Academy of Science
- 2010 – 2011: Vice President, Arkansas Academy of Science
- 2010 – 2011: Chair of the Resolutions Committee, Arkansas Academy of Science

### Honors and Awards:

- 2014: UALR College of Science Award for Outstanding Research
- 2013 – present: Full member of Sigma Xi
- 2007: Elected Fellow of the Royal Astronomical Society
- 2004 – 2007: Gary McCue Fellowship at the University of California, Irvine

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- 2004: Inaugural Hoku Outreach Award winner, Mauna Kea Observatories
- 2004: Outreach Volunteer of the Year, Mauna Kea Observatories
- 1993 – 1998: Particle Physics and Astrophysics Research Council Graduate Fellowship
- 1993: Awarded Associate of the Royal College of Science

### Academic/Research Experience/Appointments:

- 2021 – present: **Professor**, *Department of Physics and Astronomy  
University of Toledo, Toledo, OH*
- 2014 – 2021: **Professor**, *Department of Physics and Astronomy  
University of Minnesota Duluth, Duluth, MN*
- 2014 – 2021: **Adjunct Professor**, *Minnesota Institute for Astrophysics  
University of Minnesota Twin Cities, Minneapolis, MN*
- 2013 – 2014: **Professor**, *Department of Physics and Astronomy  
University of Arkansas at Little Rock, Little Rock, AR*
- 2011 – 2013: **Associate Professor**, *Department of Physics and Astronomy  
University of Arkansas at Little Rock, Little Rock, AR*
- 2007 – 2011: **Assistant Professor**, *Department of Physics and Astronomy  
University of Arkansas at Little Rock, Little Rock, AR*
- 2007 – 2018: **Adjunct Professor**, *Center for Space and Planetary Science  
University of Arkansas, Fayetteville, AR*
- 2004 – 2007: **Research Assistant Professor**, *Department of Physics and Astronomy, University  
of California Irvine, Irvine, CA*
- 2004 – 2007: **Visiting Astronomer**, *The Observatories of the Carnegie Institution for Science,  
Pasadena, CA*
- 2001 – 2004: **Staff Astronomer**, *U.K. Infrared Telescope (UKIRT)  
Joint Astronomy Centre, Hilo, HI*
- 1998 – 2001: **Postdoctoral Research Fellow**, *Astronomical Observatory  
Department of Physics and Astronomy, University of Ghent, Belgium*
- 1998 – 2001: **Visiting Astronomer**, *Hubble Space Telescope operations  
Space Telescope Science Institute, Baltimore, MD*

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## Education:

- 2022 **Harvard Institute for Management and Leadership in Education**, Harvard Graduate School of Education
- 1998 **Doctoral of Philosophy, Astrophysics**, Liverpool Astrophysics Research Institute, Liverpool, U.K.  
Dissertation title: Observational Studies of the Structure of Spiral Galaxies  
Advisor: Professor Philip A. James
- 1993 **Bachelor of Science, Physics**, Imperial College, London, U.K.  
Awarded with upper second-class honors (equivalent to *magna cum laude*).

## Service/Committee Assignments:

### University of Toledo:

#### University:

- 2023 – 2024: Chair, Provost and Executive Vice President for Academic Affairs Search Committee
- 2023 – present: Member, Deans Advisory Group for Advancement
- 2022 – 2023: Chair, College of Arts and Letters Dean Search Committee
- 2022 – 2023: Member, Associate Vice President and Chief Human Resource Officer Search Committee
- 2022 – present: Member, Infrastructure Task Force
- 2022: Member, Internal Review Committee for Intel Research and Educational Proposals
- 2022: Member, Senior Director of Corporate and Foundation Engagement Search Committee, University of Toledo Foundation
- 2021 – present: Member, Provost's Deans Council
- 2021 – present: Member, Workforce Development Committee
- 2021 – present: Member, President's Advisory Council
- 2021 – 2022: Co-chair, University of Toledo Strategic Planning Subcommittee on Partnerships and Performance.
- 2021 – 2022: Member, University of Toledo Strategic Planning Committee

#### College:

- 2021 – present: Chair, NSM Chairs Council
- 2021 – present: Ex Officio, NSM Faculty Council
- 2021 – present: Ex Officio, NSM Diversity and Inclusion Committee

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## National Science Foundation:

### Agency level:

2020 – 2021: Member, Education and Human Resources Undergraduate STEM Program Working Group

## University of Minnesota Duluth:

### University:

2019 – 2020: Member, International Transfer Credit Task Force

2018 – 2019: Chair, Strategic Enrollment Management Subcommittee

2017 – 2020: Member, Strategic Enrollment Management Subcommittee

2016 – 2019: Member, Council of Associate Deans

2016 – 2017: Member, Higher Learning Commission Subcommittee for Resources, Planning, and Institutional Effectiveness

2016: Member, Provost Search Committee

2016: Member, Teaching and Learning Committee

2016: Member, Graduate Council

2015 – 2016: Member, Chancellor's Senior Leadership Council

2015 – 2016: Member, Academic Restructuring Task Force

2015 – 2016: Chair, University Coordinating Council

2015 – 2016: Chair, Faculty Assembly and Faculty Council

2015 – 2016: Member, Teaching and Learning Task Force

2015 – 2016: Member, Department of Education Science Specialist, Tenure-Track Search Committee

2015: Member, Vice Chancellor for Finance and Operations Search Committee

2014 – 2015: Vice Chair, UMD Faculty Assembly and UMD Faculty Council

2014 – 2016: Faculty Council

### College:

2019 – 2020: Member, Curriculum and Policy Committee

2019 – 2020: Member, Faculty Mentoring Program Advisory Committee

2017 – 2019: Chair, Scholarship and Student Awards Committee

2017 – 2019: Chair, Faculty Mentoring Program Working Group

2017: Chair, Outreach/Communications Specialist Search Committee

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- 2017 – 2018: Member, Academic Advisor Search Committee
- 2017 – 2019: Ex Officio, Curriculum and Policy Committee
- 2016 – 2019: Ex Officio, Executive Committee
- 2016 – 2019: Ex Officio, Active Learning Committee
- 2016 – 2019: Ex Officio, Outreach Committee
- 2016 – 2017: Chair, Shared Resources Committee
- 2015 – 2016: Member, Outreach Committee
- 2015 – 2016: Member, ad hoc committee for Tenure, Promotion and Merit
- 2015 – 2016: Member, Outreach/Communications Specialist Search Committee
- 2014 – 2020: Member, Senior Academic Leadership Committee
- 2014 – 2016: Member, Multicultural and Diversity/Women in STEM Committee
- 2014: Member, Curriculum and Policy Committee (one-semester substitute)

### **Department:**

- 2014 – 2015: Chair, Physics Assistant Professor Search Committee
- 2014: Chair, UALR Physics Lecturer Search Committee

### **University of Arkansas at Little Rock:**

#### **System:**

- 2010 – 2014: Member, UAMS/UALR/UCA Joint Graduate Council

#### **University:**

- 2012 – 2014: Chair, Graduate Council
- 2012 – 2014: Member, Chancellor's Leadership Group
- 2012 – 2014: Member, Chancellor's Policy Advisory Council
- 2010 – 2012: Vice Chair, Graduate Council
- 2008 – 2014: Member, UALR Graduate Council
- 2009 – 2011: Member, UALR Faculty Senate

#### **College:**

- 2011 – 2012: Chair, UALR College of Science *ad hoc* committee on Graduate Affairs
- 2009 – 2014: Applied Physics Liaison, Applied Science Doctoral Affairs Committee
- 2008 – 2009: Member, College of Science *ad hoc* committee on success metrics

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## Department:

2011 – 2014: Member, Physics Student Scholarship committee

2011 – 2012: Chair, Physics Lecturer Promotion Committee

2007 – 2014: Member, Physics General Education Core Curriculum Committee

2007 – 2014: Member, Physics Curriculum Committee

2007 – 2014: Member, Physics Laboratory Committee

## **Professional service:**

2022 – present: Member, Education Prize Committee, American Astronomical Society

2021 – present: Member, Editorial Board, Universe, MDPI Journals

2019 – present: Member, International Astronomical Union's Executive Committee on Astronomy for Equity and Inclusion

2019: American Physical Society Task Force on Physics Program Reviews

2017 – present: External reviewer for Physics programs (I have been a reviewer for three physics departments so far).

Jan 2017: Session Chair, Session on Elliptical and Spiral Galaxies. 229<sup>th</sup> Meeting of the American Astronomical Society, Grapevine, Texas

Apr 2016: Co-Chair of the Local Organizing Committee, Annual Meeting of the Wisconsin Minnesota Planetarium Society (WIMPS), Marshall W. Alworth Planetarium, Duluth, Minnesota

Jan 2016: Session Chair, Session on Elliptical and Spiral Galaxies. 227<sup>th</sup> Meeting of the American Astronomical Society, Kissimmee, Florida

2014 – 2020: Minnesota Space Grant Consortium UMD Institutional Representative

Jan 2014: Session Chair, Session on Evolution of Galaxy Structure. 223<sup>rd</sup> Meeting of the American Astronomical Society, Washington, D.C.

Apr 2013: Session Chair. 97<sup>th</sup> Annual Meeting of the Arkansas Academy of Science, Clarion Hotel, Little Rock, Arkansas

2012 – 2013: Chair of the Scientific and Local Organizing Committees, Structure and Dynamics of Disk Galaxies conference, Winthrop Rockefeller Institute, Petit Jean Mountain, Arkansas

Jan 2012: Session Chair, Session on Spiral Galaxies I. 219<sup>th</sup> Meeting of the American Astronomical Society, Austin, Texas

Apr 2011: Session Chair. 19<sup>th</sup> Annual Arkansas Space Grant Consortium Meeting, Petit Jean Mountain, Arkansas

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- Apr 2011: Session Chair. 95<sup>th</sup> Annual Meeting of the Arkansas Academy of Science, University of Arkansas at Monticello, Monticello, Arkansas
- Jan 2011: Session Chair, Session on M31, M32 and S4G Spirals. 217<sup>th</sup> Meeting of the American Astronomical Society, Seattle, Washington
- 2010 – present: Reviewer and panelist of grant proposals submitted to various programs at NASA and NSF
- 2009 – 2014: Arkansas Space Grant Consortium UALR Institutional Representative
- 2009 – 2010: Chair of the Scientific and Local Organizing Committee, 94<sup>th</sup> Annual Meeting of the Arkansas Academy of Science, University of Arkansas at Little Rock, Little Rock, Arkansas
- 2000 – present: Reviewer of articles submitted to Monthly Notices of the Royal Astronomical Society, The Astrophysical Journal, The Astronomical Journal, and Astronomy and Astrophysics.

## Professional Societies:

- 2013 – present: Full member of Sigma Xi
- 2008 – present: Sigma Pi Sigma National Honors Society
- 2007 – present: Member of the American Association of Physics Teachers
- 2006 – present: Member of the International Astronomical Union
- 2003 – present: Member of the American Astronomical Society
- 1993 – present: Member of the Royal Astronomical Society (Fellow since 2007)

## Post-docs and Research Associates Mentored:

- Ben Rosenwasser: Post-doc, 2022 – present
- Joel Berrier: Post-doc, 2009 – 2012  
Now Associate Professor and Department Chair at the University of Nebraska Kearney
- Anton Empl: Research Associate, 2010 – 2014  
Now a Research Associate at the University of Houston
- Patrick Treuthardt: Post-doc, 2009 – 2012  
Now Assistant Head of the Astronomy and Astrophysics Research Laboratory at the North Carolina Museum of Natural Sciences

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## Graduate Students Mentored:

### Ph.D. Students:

Mutlu-Pakdil, Burcin (UM-Twin Cities; graduated 2017)

Dissertation: *Supermassive Black Hole Scaling Relations and Peculiar Ringed Galaxies*

Now an Assistant Professor at Dartmouth College

Shields, Deanna (UA-Fayetteville; graduated 2016)

Dissertation: *An Upper Limit on the Tightening of Galactic Spiral Arm Pitch Angle in Cosmic Time.*

Now a Lecturer at the University of Arkansas at Fayetteville

Davis, Benjamin (UA-Fayetteville; graduated 2015)

Dissertation: *Logarithmic Spiral Arm Pitch Angle of Spiral Galaxies: Measurement and Relationship to Galactic Structure and Nuclear Supermassive Black Hole Mass*

Now a CAP<sup>3</sup> Fellow and Research Associate at New York University Abu Dhabi

Al-Baidhany, Ismaeel (UALR; graduated 2014)

Dissertation: *Supermassive Black Hole Scaling Relations*

Now a Professor at Al-Mustansiriyah University, Baghdad

Sierra, Amber (UALR; graduated 2014)

Dissertation: *Determination of Resonance Locations in Barred Spiral Galaxies*

Now an Associate Professor at Arkansas Tech University

### Master's Students:

Swanson, Alaina (UMD, graduated 2022)

Kuhn, Victoria (UMD; graduated 2021)

Meuwissen, Lindsey (UMD; graduated 2021)

Dhakal, Suraksha (UMD; graduated 2018)

Karki, Arjun (UMD; graduated 2018)

Evich, Alexander (UMD; graduated 2016)

Mangedarage, Mithila (UMD; graduated 2016)

Berlanga Medina, Jazmin (UA-Fayetteville; graduated 2014)

Lindsay, Sarah (UALR; graduated 2014)

Mears, Thomas (UALR; graduated 2014)

Stanley, Charles (UALR; graduated 2014)

Hughes, John A. (UA-Fayetteville; graduated 2013)

Ferguson, Angela (UALR; graduated 2010)

## Undergraduate Students Mentored:

Joseph Fritche (UMD; Fall 2019 – Spring 2020)

Eli Brunner-Huber (UMD; Spring 2019 – Spring 2022)

Sauceda, Jose (UMD; Fall 2016 – Spring 2017)

Summers, Matthew (UMD; Fall 2016 – Spring 2018)



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Weavers, Henry (UMD; Fall 2016 – Spring 2019)  
 Dougherty, Mikelle (UMD; Fall 2015 – Spring 2017)  
 Wasniewski, Joshua (UMD; Fall 2015 – Spring 2018)  
 Gravenmier, Chris (UALR; Summer 2013 – Spring 2014)  
 Wilson, Charles (UALR; Fall 2012 – Spring 2014)  
 Mears, Thomas (UALR; Fall 2011 – Spring 2012)  
 Lindsay, Sarah (UALR; Fall 2010 – Spring 2012)  
 Stanley, Charles (UALR; Fall 2010 – Spring 2012)  
 Chandler, Phillip (UALR; Summer 2010)  
 Ring, William (UALR; Summer 2008)  
 Silverstein, Evan (UC Irvine; Senior Thesis 2007)  
 Leonard, Amanda (JAC; Summer 2004)  
 Prent, Nicole (JAC; Fall 2003)  
 Chorney, Nicole (JAC; Summer 2003)

### Grants/Financial Support:

Role	Funding Agency	Project Title	Duration	Amount
PI	Greater Toledo Community Foundation	Math Corps at the University of Toledo	2023-2024	\$61,649
Co-I	Department of Energy	Establishment of a Clean Hydrogen Hub in the Great Lakes Region	2023-2025	\$1,250,000
PI	Ohio Department of Natural Resources /H2Ohio	Conversion of 26 Acres of University property into wetland and associated upland and riparian habitat	2022-2024	\$2,229,188
PI	UT Enrollment Management Yield Initiative	NSM Shadow Days for Presidential Scholarship Applicants	2021-2022	\$6,000
PI	National Science Foundation	Intergovernmental Personnel Act Assignment	2020-2021	\$199,667
PI	Gunflint Trail Historical Society	UMD Boreal Observatory at the Chik-Wauk on the Gunflint	2019-2020	\$20,093
Co-PI	National Science Foundation Louis Stokes Alliance for Minority Participation	North Star STEM Alliance: Building on the Legacy of Minnesota's Louis Stokes Alliance for Minority Participation	2017-2021	\$3,748,263

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Co-PI	Minnesota LCCMR	Interactive Water Resource Programs for Planetariums in Minnesota	2017-2021	\$500,000
PI	Minnesota Collegiate Grant	A Robotically Controlled 24-inch Astronomical Observatory for UMD	2016	\$57,000
PI	Northland Foundation	The UMD GeoDome Theater: An Indigenous Planetarium Program	2015-2016	\$5,000
Co-PI	NASA	Minnesota Space Grant	2015-2021	\$3,450,000
PI	American Astronomical Society	Travel Grant to IAU General Assembly in Honolulu	2015	\$1,300
PI	NASA Space Grant	Upgrades and Installation of Uniview Integrative System at the Marshall W. Alworth Planetarium	2015-2016	\$18,750
PI	Minnesota Collegiate Grant	An Inflatable Mobile Planetarium Dome for UMD	2015-2016	\$46,000
PI	Fund for Astrophysical Research	Investigating the Evolution of Spiral Galaxies with High Spatial and Time Resolution Simulations	2014-2015	\$3,000
Co-PI	National Science Foundation Major Research Instrumentation	Acquisition of a Peta-scale Data Storage System for Big Data Exploration in STEM Fields	2014-2016	\$417,000
Co-PI	National Science Foundation	Integrative Tools for Underground Science	2012-2014	\$714,000
PI	American Astronomical Society	Travel Grant to IAU General Assembly in Beijing	2012	\$2,200
PI	NASA	The Nature of Dark Matter in the Universe	2010-2013	\$82,000
PI	Arkansas Space Grant Consortium	Toward a New Universal Density Profile for Dark Matter Halos	2010-2013	\$118,000
PI	American Astronomical Society	Travel Grant to IAU General Assembly in Rio de Janeiro	2009	\$1,900
PI	NASA	A Census of Supermassive Black Holes in the Universe	2008-2012	\$1,400,000
PI	Arkansas Space Grant Consortium	The Growth of Supermassive Black Holes in the Universe	2008-2009	\$5,000

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Co-PI	NASA	Toward a Census of Supermassive Black Holes in the Universe	2007-2008	\$65,000
PI	Space Telescope Science Institute	Central Mass Concentrations of Disk Galaxies: The Nuclear Spiral Connection	2006-2010	\$51,000
PI	American Astronomical Society	Travel Grant to IAU General Assembly in Prague	2006	\$5,000
PI	Space Telescope Science Institute	The Co-Evolution of Spiral Structure and Mass Concentration in Disk Galaxies	2005-2007	\$93,000
PI	American Astronomical Society	Travel Grant to conference on The Fabulous Destiny of Galaxies in Marseilles, France	2005	\$1,600

### Selected Invited Presentations:

- Oct 2022: Colloquium, Wright State University, Department of Physics
- Dec 2021: Colloquium, University of Toledo, Department of Physics and Astronomy
- Sep 2020: Colloquium, University of Wisconsin La Crosse, Department of Physics
- Jan 2020: Colloquium, Ball State University, Department of Physics and Astronomy
- Dec 2018: Colloquium, South Dakota State University, Department of Physics
- Sep 2017: Colloquium, University of Wisconsin La Crosse, Department of Physics
- Nov 2016: Colloquium, Liverpool John Moores University, Astrophysics Research Institute
- Dec 2015: Colloquium, University of Minnesota Duluth, Swenson College of Science and Engineering
- Sep 2015: Colloquium, Minnesota State University, Mankato, Department of Physics and Astronomy
- Aug 2015: Invited talk, Galaxies at High Redshift and Their Evolution Over Cosmic Time, Symposium 319, International Astronomical Union 29<sup>th</sup> General Assembly, Honolulu, HI
- Nov 2014: Seminar, University of Minnesota Duluth, Department of Physics
- Oct 2014: Colloquium, University of Wisconsin La Crosse, Department of Physics
- Sep 2014: Colloquium, University of Minnesota, Institute of Astrophysics
- Feb 2014: Colloquium, University of Minnesota Duluth, Department of Physics

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- Feb 2014: Colloquium, University of Houston, Department of Physics
- Aug 2013: Invited Speaker, Structure and Dynamics of Disk Galaxies conference, Winthrop Rockefeller Institute, Petit Jean Mountain, AR
- Mar 2013: Colloquium, University of Nebraska at Lincoln, Department of Physics
- Nov 2012: Extragalactic Astrophysics Seminar, NASA Goddard Space Flight Center
- Aug 2012: Invited talk, Galaxy Evolution Through Secular Processes, Special Session 3, International Astronomical Union 28<sup>th</sup> General Assembly, Beijing, China
- Apr 2010: Invited Speaker, IEEE Arkansas Chapter
- Jan 2010: Colloquium, University of Arkansas at Little Rock, Applied Science Department
- Nov 2009: Colloquium, University of Texas at Arlington, Department of Physics
- Aug 2009: Invited talk, The Co-Evolution of Supermassive Black Holes and Their Host Galaxies, International Astronomical Union 27<sup>th</sup> General Assembly, Rio de Janeiro, Brazil
- Apr 2009: Keynote Lecture, Arkansas Academy of Science
- Feb 2009: Colloquium, University of Arkansas, Department of Physics
- Nov 2009: Colloquium, University of Alabama, Department of Physics and Astronomy
- Jul 2008: Seminar, University of Arkansas, Center for Space and Planetary Science
- Dec 2007: Colloquium, University of Arkansas, Center for Space and Planetary Science
- Sep 2007: Colloquium, University of Arkansas at Little Rock, Applied Science Department
- Mar 2007: Colloquium, University of Arkansas at Little Rock, Department of Physics and Astronomy
- Jan 2007: Seminar, University of California Berkeley, Department of Astronomy, Cosmology Group
- Dec 2006: Colloquium, European Southern Observatory Headquarters, Santiago, Chile
- Oct 2006: Seminar, University of California Santa Cruz, Department of Astronomy
- Sep 2006: Seminar, California Institute of Technology, Infrared Processing and Analysis Center
- May 2006: Invited Talk, Galaxies in The Cosmic Web meeting, New Mexico State University
- Feb 2006: Seminar, University of California San Diego, Center for Astrophysics and Space Sciences
- Feb 2006: Colloquium, University of California Los Angeles, Department of Physics and Astronomy, Division of Astronomy and Astrophysics
- Feb 2006: Seminar, The Observatories of the Carnegie Institution of Science
- Jul 2004: Colloquium, University of Hawaii at Manoa, Institute for Astronomy
- Jul 2004: Colloquium, Joint Astronomy Centre

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- June 2004: Invited speaker, Barred Galaxies conference, Pilanesberg National Park, South Africa
- Mar 2004: Colloquium, Canada France Hawaii Telescope Headquarters
- Mar 2004: Colloquium, National Astronomical Observatories of Japan, Subaru Telescope Headquarters
- Jan 2004: Colloquium, Gemini Observatory North Operations Center
- Dec 2000: Seminar, Imperial College, Department of Physics, Astrophysics Group
- Dec 1998: Colloquium, Liverpool John Moores University, Astrophysics Research Institute
- Mar 1998: Colloquium, Ghent University Astronomical Observatory, Ghent, Belgium
- Sep 1997: Colloquium, SISSA (International School for Advanced Studies), Trieste, Italy
- May 1997: Invited Talk, Extragalactic Astronomy in the Infrared conference, Les Arcs, France

### Selected Outreach and Volunteer Activities:

- Apr 2021: Invited Speaker at the Rotary Club of West Springfield
- Aug 2020: Invited Speaker at the Duluth Rotary Club
- Apr 2020: Virtual Astronomy Day 2020 speaker
- Mar 2019: Invited Speaker at the Duluth Rotary Club
- Mar 2019: UMD Science and Engineering Day
- Jan 2019: FIRST Robotics Kickoff Event
- Apr 2018: Astronomy Day 2018 speaker
- Mar 2018: UMD Science and Engineering Day
- Jan 2018: FIRST Robotics Kickoff Event
- Jul 2017: Press Release, "Galactic Maelstroms Weigh Black Holes". Joint release with collaborators at Swinburne University, Australia. Articles appeared on [iflscience.com](http://iflscience.com), and [sciencedaily.com](http://sciencedaily.com).
- Jan 2017: Press Release, "Researchers Get First Look at New, Extremely Rare Galaxy". This resulted in several articles published in newspapers around the world and online. Articles appeared on [cnn.com](http://cnn.com), [gizmodo.com](http://gizmodo.com), in Astronomy Magazine, and many other news websites and newspapers. We were also interviewed by Canadian television and several local news stations in Minnesota.
- Apr 2017: Astronomy Day 2017 Director at UMD
- Feb 2017: Invited Speaker at the Harbortown Rotary Club
- Dec 2016: Invited Speaker at the Duluth Rotary Club
- Nov 2016: Science on Tap
- Nov 2016: Congdon Park Elementary School Family Science Night

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- Oct 2016: UMD Science and Engineering Day
- Oct 2016: Minnesota Iron Range STEM exhibition
- Sep 2016: Volunteer, Lake Superior Sustainable Farming Association of Minnesota
- Summer 2016: Joint UMD / Duluth Children's Museum GeoDome exhibit
- Apr 2016: Astronomy Day 2016 Director at UMD
- Apr 2016: Keynote speaker at the Annual Dinner of the Marshall H. and Nellie Alworth Memorial Fund.
- Jan 2016: Invited Speaker at the Rotary Club of Duluth
- Oct 2015: Congdon Park Elementary School Spooktacular Science Night
- Sep 2015: UMD Science Day
- Sep 2015: Charles L. Matsch GeoDome Theater Mobile Planetarium Media Launch event
- Apr 2015: Astronomy Day 2015 Director at UMD
- Apr 2015: Presentation on the 25<sup>th</sup> anniversary of the launch of the Hubble Space Telescope
- Mar 2015: 2<sup>nd</sup> UMD Physics Olympiad for Undergraduate Students
- Feb 2015: Northeast Minnesota Regional Science Fair
- Dec 2014: 1<sup>st</sup> UMD Physics Olympiad for High School Students
- Oct 2014: UMD Science Day
- Oct 2014: Congdon Park Elementary School Spooktacular Science Night
- Sep 2013: Invited Speaker at the Saline County Kiwanis Club
- Aug 2013: Press release, "First Astronomy Conference to be Held in Arkansas".
- Mar 2013: Invited Speaker at the West Little Rock Rotary Club
- 2011 – 2014: Annual Duke TIP Ceremony Presenter
- 2011 – 2012: Volunteer, International Observe the Moon Night
- Mar 2011: Panelist and Presenter, Little Rock Science Café
- Aug 2008: Press release, "Arkansas Astronomers Land \$1.4million NASA Grant to Study Supermassive Black Holes"
- Jun 2008: Press release, "New Method Developed to Weight Distant Supermassive Black Holes". This involved a press conference at the 212<sup>th</sup> meeting of the American Astronomical Society meeting in St. Louis, MO. Subsequently, articles were published in New Scientist Magazine, Astronomy Magazine, Sky & Telescope, USA Today, National Geographic and many more. I was also interviewed by the BBC for their "Sky at Night" program and by NPR for their "Earth and Sky" program.

# Marc S. Seigar, Ph.D.

2001 - 2004: Summit Tour Volunteer, Mauna Kea Observatories

2001 - 2004: Night Sky outreach activities volunteer, Mauna Kea Observatories

## Publications

Total citations: 4400+

h-index: 31

Citations/paper: 94

### Books:

**Seigar, M. S.** 2017, "Spiral Structure in Galaxies", (Bristol, UK: IOP Publishing), ISBN: 978-1-6817-4609-8

**Seigar, M. S.** 2015, "Dark Matter in the Universe", (Bristol, UK: IOP Publishing), ISBN: 978-1-6817-4118-5

### Edited Volumes:

**Seigar, M. S.**, & Treuhardt, P. 2014, "Structure and Dynamics of Disk Galaxies", *Astronomical Society of the Pacific Conference Series* Vol. 480 (San Francisco, ASP)

### Under review:

Rosenwasser, B., & **Seigar, M. S.** 2023. "Identification and spectroscopic observations of the narrow polar ring galaxy VII Zw 764", *Monthly Notices of the Royal Astronomical Society*, submitted.

### Refereed Journal Publications:

Fusco, M. S., Davis, B. L., Kennefick, J., Kennefick, D., & **Seigar, M. S.** 2022. "Probing the Low-mass End of the Black Hole Mass Function via a Study of Faint Local Spiral Galaxies", *MDPI Universe*, **12**: 649

**Seigar, M. S.**, Harrington, A., & Treuhardt, P. 2018. "Determination of Resonance Locations in the Barred Spiral Galaxy, NGC 613, from morphological arguments", *Monthly Notices of the Royal Astronomical Society* **481**: 5394-5400

Mutlu-Pakdil, B., **Seigar, M. S.**, Hewitt, I. B., Treuhardt, P., Berrier, J. C., & Koval, L. E. 2018. "The Illustris Simulation: Supermassive Black Hole – Galaxy Connection Beyond the Bulge", *Monthly Notices of the Royal Astronomical Society* **474**: 2594-2606

Davis, B. L., Graham, A. W., & **Seigar, M. S.** 2017. "Revisiting the (Black Hole Mass) – (Spiral Arm Pitch Angle) Relation", *Monthly Notices of the Royal Astronomical Society* **471**: 2187-2203

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- Koliopanos, F., Ciambur, B. C., Graham, A. W., Webb, N. A., Coriat, M., Mutlu-Pakdil, B., Davis, B. L., Godet, O., Barret, D., & **Seigar, M. S.** 2017. "Searching for Intermediate Mass Black Holes in Dwarf Galaxies with Low-Luminosity AGN: A multiple-method approach", *Astronomy & Astrophysics* **601**: A20
- Mutlu-Pakdil, B., Mangedarage, M., **Seigar, M. S.**, & Treuthardt, P. 2017. "A photometric study of the peculiar and potentially double ringed, nonbarred galaxy: PGC 1000714", *Monthly Notices of the Royal Astronomical Society* **466**: 355-368
- Mutlu-Pakdil, B., **Seigar, M. S.**, & Davis, B. L. 2016. "The local black hole mass function derived from the  $M_{\text{BH}} - P$  and the  $M_{\text{BH}} - n$  relations", *The Astrophysical Journal* **830**: 117
- Sierra, A. D., **Seigar, M. S.**, Treuthardt, P., & Puerari, I. 2015. "Determination of resonance locations in barred spiral galaxies using multiband photometry", *Monthly Notices of the Royal Astronomical Society* **450**: 1799-1811
- Al-Baidhany, I., **Seigar, M.**, Treuthardt, P., Sierra, A., Davis, B., Kenefick, D., Kenefick, J., Lacy, C., Toma, Z. A., & Jabbar, W. 2014. "A study of the relation between spiral arm pitch angle and the kinetic energy of random motions of host spiral galaxies", *Journal of the Arkansas Academy of Science* **68**: 25-36
- Seigar, M. S.**, Davis, B. L., Berrier, J., & Kenefick, D. 2014. "Constraining dark matter halo profiles and galaxy formation models using spiral arm morphology. II. Dark and stellar mass concentrations for 13 nearby face-on galaxies". *The Astrophysical Journal* **795**: 90
- Davis, B. L., Berrier, J. C., Johns, L., Shields, D. W., Kenefick, D., Kenefick, J., **Seigar, M. S.**, & Lacy, C. H. S. 2014. "The black hole mass function derived from local spiral galaxies". *The Astrophysical Journal* **789**: 124
- Alexander, T., Alton, D., Arisaka, K., Back, H. O., Beltrame, P., Benziger, J., Bonfini, G., Brigatti, A., Brodsky, J., Bussino, S., Cadonati, L., Calaprice, F., Candela, A., Cao, H., Cavalcante, P., Chepurinov, A., Chidzik, S., Cocco, A. G., Condon, S., D'Angelo, D., Davini, S., De Vincenzi, M., De Haas, E., Derbin, A., Di Pietro, G., Dratchnev, I., Durben, D., Empl, A., Etenko, A., Fan, A., Fiorillo, G., Franco, D., Fomenko, K., Forster, G., Gabriele, F., Galbiati, C., Gazzana, S., Ghiano, C., Goretti, A., Grandi, L., Gromov, M., Guan, M., Guo, C., Guray, G., Hungerford, E. V., Ianni, Al., Ianni, An., Joliet, C., Kayunov, A., Keeter, K., Kendziora, C., Kidner, S., Klemmer, R., Kobychew, V., Koh, G., Komor, M., Korablev, D., Korga, G., Li, P., Loer, B., Lombardi, P., Love, C., Ludhova, L., Luitz, S., Lukyanchenko, L., Lund, A., Lung, K., Ma, Y., Machulin, I., Mari, S., Maricic, J., Martoff, C. J., Meregaglia, A., Meroni, E., Meyers, P., Mohayai, T., Montanari, D., Montuschi, M., Monzani, M. E., Mosteiro, P., Mount, B., Muratova, V., Nelson, A., Nemptzow, A., Nurakhov, N., Orsini, M., Ortica, F., Pallavicini, M., Pantic, E., Parmeggiano, S., Parsells, R., Pelliccia, N., Perasso, L., Perasso, S., Perfetto, F., Pinsky, L., Pocar, A., Pordes, S., Randle, K., Ranucci, G., Razeto, A., Romani, A., Rossi, B., Rossi, N., Rountree, S. D., Saggese, P., Saldanha, R., Salvo, C., Sands, W., **Seigar, M.**, Semenov, D., Shields, E., Skorokhvatov, M., Smirnov, O., Sotnikov, A., Sukhotin, S., Suvarov, Y., Tartaglia, R., Tatarowicz, J., Testera, G., Thompson, J., Tonazzo, A., Unzhakov, E., Vogelaar, R. B., Wang, H., Westerdale, S., Wojcik, M., Wright, A., Xu, J., Yang, C., Zavatarelli, S., Zehfus, M., Zhong, W., & Zuzel, G. 2013. "DarkSide search for dark matter". *Journal of Instrumentation* **8**: C11021



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- Davis, B. L., Berrier, J., Shields, D. W., Kennefick, D., Kennefick, J., **Seigar, M. S.**, Lacy, C. H. S., & Puerari, I. 2012. "Measurement of galactic logarithmic spiral arm pitch angle using two-dimensional fast Fourier transform decomposition". *The Astrophysical Journal Supplement* **199**: 33
- Ho, L. C., Li, Z.-Y., Barth, A. J., **Seigar, M. S.**, & Peng, C. Y. 2011. "The Carnegie-Irvine Galaxy Survey. I. Overview and atlas of optical images". *The Astrophysical Journal Supplement* **197**: 21
- Seigar, M. S.**, & Berrier, J. 2011. "Galaxy Rotation Curves in the Context of LCDM Cosmology". *Advances in Modern Cosmology* **1**: 77-102
- Seigar, M. S.** 2011. "The dark matter halo density profile, spiral arm morphology, and supermassive black hole mass of M33". *ISRN Astronomy & Astrophysics* **2011**: 725697
- Barrows, R. S., Lacy, C. H. S., Kennefick, D. Kennefick, J., & **Seigar, M. S.** 2011. "Unusual double-peaked emission in the SDSS quasar J093201.60+031858.7". *New Astronomy* **16**: 122-127
- Seigar, M. S.**, Barth, A. J., & Bullock, J. S. 2008. "A revised LCDM mass model for the Andromeda Galaxy", *Monthly Notices of the Royal Astronomical Society* **389**: 1911-1923

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- Seigar, M. S.**, Kennefick, D., Kennefick, J., & Lacy, C. H. S. 2008. "Discovery of a relationship between spiral arm morphology and supermassive black hole mass in disk galaxies", *The Astrophysical Journal* **678**: L93-L96
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## Marc S. Seigar, Ph.D.

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