

Dr. Emmanuel Momjian

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Summary

Twenty-one years of experience working at national radio observatories, with activities that include:

- Leading science operations, carrying out telescope commissioning and science verification efforts,
- Leading groups and teams, managing resource allocation and budgets, recruiting new talent,
- Organizing and leading (inter)national scientific community outreach activities, providing extensive user support,
- Carrying out a diverse range of scientific research in astronomy, including technically challenging projects,
- Supervising and mentoring students and early career astronomers,
- Setting requirements for radio astronomy tools and software, testing, and verification.

Personal Information

Citizenship: United States of America (of Armenian descent).

Languages: Armenian (native), English (fluent), Arabic (fluent), Turkish (conversational).

Education

- Ph.D. in Physics, University of Kentucky, USA, 2003, GPA 4.0
 - Thesis Title: Sensitive Very Long Baseline Interferometry Studies of Interacting/Merging Galaxies.
 - Thesis advisers: Dr. Thomas H. Troland (U. Kentucky), Dr. Jonathan D. Romney (NRAO).
- M.S. in Physics, University of Kentucky, 2001, GPA 4.0
- Post Graduate Diploma in Physics (Solid State-Electronics), University of Aleppo, Syria, 1997.
- B.Sc. in Physics and Chemistry (double major), University of Aleppo, Syria, 1996.

Research appointments

- March 2014 - current: Scientist/A (with indefinite appointment), NRAO.
- Jan. 2011- March 2014: Associate Scientist/A (with indefinite appointment), NRAO.
- Oct. 2007 - Dec. 2010: Assistant Scientist/A (with indefinite appointment), NRAO.
- Dec. 2005 - Oct. 2007: Research Associate, Arecibo Observatory, NAIC/Cornell University.
- Oct. 2003 - Nov. 2005: Post-Doctoral Research Associate, Arecibo Observatory, NAIC/Cornell University.
- 2000 - 2003: NRAO Pre-Doctoral Associate.
- Summer 2000: NRAO Summer Student.
- Summer 1999: Summer Research Assistantship, NRAO.
- Summer 1998: Summer Research Assistantship, U. Kentucky.

Research Interests

- High redshift quasars and starburst galaxies.
- Star forming regions and magnetic fields (through Zeeman Splitting).
- Luminous and Ultra-luminous IR galaxies, and Megamaser galaxies.
- Extragalactic H I, OH, and other spectral lines.
- Radio observational techniques: Single dish, Multi-beam feed arrays, Radio Interferometry (e.g., VLA, GMRT, WSRT, MERLIN, MeerKAT, ALMA), Very Long Baseline Interferometry (VLBI; VLBA, HSA, EVN, Global); radio continuum, spectroscopy, spectropolarimetry.

Data Reduction Packages

- Astronomical Image Processing System (AIPS).
- Common Astronomy Software Applications (CASA).
- Miriad Data Reduction Software.
- Astronomical Information Processing System (AIPS++) - legacy.
- Arecibo Observatory IDL.

Programming Language Experience

- Fortran, Basic, Pascal, IDL, Perl, Python.

Teaching appointments

- Spring 1998 - Summer 2000: Graduate Teaching Assistant for Introductory Astronomy, U. Kentucky.
- Fall 1997: Physics instructor, Armenian Karen Jeppe College, Aleppo, Syria.
- Fall 1996 - Spring 1997: Lecturer and physics lab instructor, University of Aleppo, Syria.

Academic Awards & Fellowships

- 2000 - 2003: NRAO Pre-Doctoral Research Assistantship.
- 1996: Martyr Bassel Al-Assad Presidential Award for Superior Graduates, U. Aleppo, Syria.
- 1994: Martyr Bassel Al-Assad Presidential Award for Superior Students, U. Aleppo, Syria.

Telescope Observing Time Awards

- 1999 - current:
 - PI or co-I of more than 350 accepted telescope proposals (e.g., for time on the VLA, VLBA, MeerKAT, ALMA, Arecibo, FAST, GMRT, EVN, Global VLBI, MERLIN, WSRT, Chandra, XMM, JWST), summing up to more than 12000 hours of combined telescope time.

Membership in Professional Organizations

- 2001 - current: American Astronomical Society
- 2006 - current: International Astronomical Union

Professional Activities/Appointments

- August 2020 - January 2024: VLA/VLBA Science Support Division Head
- March 2020 - July 2020: VLA/VLBA Science Support Division Head (interim)
- January 2015 - November 2020: VLA/VLBA Scientific User Support Group Lead
- 2015 - 2022: Hiring manager, 4 Scientific Staff, 11 VLA Scientific Data Analysts (SDA), and 2 group leads
- 2015 - 2019: Member, Search Committees for 6 Scientific Staff, 1 group lead, 1 VLBA SDA, and 1 RF engineer
- 2015 - 2017: Member, Arecibo Observatory Users Committee
- 2013 - 2015: VLA Pipeline Operations Scientist
- 2011 - 2023: Member, the NRAO RSRO/ECSO Committee
- 2010 - 2012: Member, NRAO Library Advisory Committee
- 2007 - current: EVLA/VLA/VLBA Scientific and User Support
- 2007 - current: Expanded Very Large Array commissioning and testing

- 2006 - current: referee - ApJ, AJ, MNRAS, A&A, ANSEF, GMRT proposals, LMT proposals
- 2006 - 2007: The representative of the Extragalactic Arecibo L-Band Feed Array (E-ALFA) surveys at NAIC-Arecibo
- 2006: Member, the Arecibo Observatory Director Search Committee
- 2005 - 2013: Member, the Oversight Committee of the ALFALFA (Arecibo Legacy Fast ALFA) Survey
- 2003 - 2007: Member of the VLBI and eVLBI operations team of the Arecibo Observatory
- 2003 - 2007: Web master of the astronomy pages of the Arecibo Observatory
- 2003 - 2007: Friend of the C-High (6-8 GHz) receiver of the Arecibo radio Telescope

Organization of Meetings, Workshops, and Conferences

- 2023: Co-organizer, IAU/I-HOW Radio Astronomy, Erciyes University, Kayseri, Turkey
- 2022: Co-organizer, The 18th NRAO Synthesis Imaging Workshop, Socorro, NM
- 2021: Co-organizer (chair), The 8th VLA Data Reduction Workshop (virtual), Socorro, NM
- 2021: Organizer, Virtual NRAO Community Day
- 2020: Organizer, Virtual NRAO Community Day
- 2020: Organizer, NRAO Community Days at U. Guanajuato, Mexico (postponed/canceled due to the pandemic)
- 2020: Organizer, NRAO Community Days at DRAO, Canada (postponed/canceled due to the pandemic)
- 2020: Organizer, NRAO Community Days at NAOJ, Japan (postponed/canceled due to the pandemic)
- 2020: Co-organizer, The 17th NRAO Synthesis Imaging Workshop, Socorro, NM
- 2019: Organizer, The 7th VLA Data Reduction Workshop, Socorro, NM
- 2019: Organizer, The NRAO Community Days at UMBC, Baltimore, MD
- 2019: Organizer, The NRAO Community Days at Texas Tech, Lubbock, TX
- 2018: Organizer, The NRAO/LBO Community Days at INAOE, Puebla, Mexico
- 2018: Organizer, The NRAO/LBO Community Days at University of Toronto, Canada
- 2018: Co-organizer, The 16th NRAO Synthesis Imaging Workshop, Socorro, NM
- 2018: Organizer, The NRAO/LBO Community Days at Caltech, Pasadena, CA
- 2017: Organizer, The 6th VLA Data Reduction Workshop, Socorro, NM
- 2017: Organizer, The NRAO/LBO/GBO Community Days at Cornell U., Ithaca, NY
- 2017: Organizer, The NRAO/LBO Community Days at UNAM, Morelia, Mexico
- 2017: Organizer, The NRAO/LBO Community Day at U. Michigan, Ann Arbor, MI
- 2016: Co-organizer, The 5th VLA Data Reduction Workshop, Socorro, NM
- 2016: Co-organizer, The 15th NRAO Synthesis Imaging Workshop, Socorro, NM
- 2014: Organizer, VLA Community Day at Yonsei University, Seoul, S. Korea
- 2013: Co-organizer, VLA Community Day at U. Guanajuato, Mexico
- 2013: Co-organizer, VLA Community Day at UNAM, Morelia, Mexico
- 2012: Co-organizer, ASIAA Workshop on The Karl G. Jansky Very Large Array, Taiwan
- 2011: Co-organizer, Radio Astronomy & The ISM, Durango, CO
- 2008: Co-organizer, The Evolution of Galaxies through the Neutral Hydrogen Window, Arecibo, PR
- 2006: Co-organizer, Building the Foundation for U.S. Astronomy at m/cm Wavelengths in 2010 and Beyond, Tucson, AZ
- 2005: Co-organizer, Third NAIC-NRAO Single Dish Summer School, Arecibo Observatory, Arecibo, PR
- 2004: Co-organizer, Diffuse Matter in the Galaxy: Observations Confront Theory, Arecibo Observatory, Arecibo, PR

Student Supervision and Dissertation Committees

- 2024: Supervisor of the NRAO REU Summer student, Ms. V. Garcia.
- 2024: Supervisor of the Summer graduate student, Ms. Seneca Bahr.
- 2024: Co-Supervisor of the Summer graduate student, Mr. A. Sethi.

- 2023 – current: Member of the Ph.D. committee of Mr. A. Olvera (ASU).
- 2023: Supervisor of the NRAO Summer student, Ms. T. Rodriguez.
- 2022 – 2024: Supervisor of the NRAO Reber fellow/NMT student, Ms. T. Rodriguez.
- 2020 – 2024: Member of the Ph.D. committee of Ms. T. Rodriguez (NMT).
- 2020: Supervisor of the NRAO Summer graduate student, Ms. N. Wenner.
- 2017 - 2020: Supervisor of the NRAO Reber fellow/UNM student, Ms. M. Sanchez.
- 2017: Supervisor of the NRAO Summer student, Ms. A. Moore.
- 2016: Supervisor of the NRAO Summer student, Mr. J. Potvin.
- 2016: Co-Supervisor of the NRAO Summer student, Mr. K. Garimella.
- 2015: Member of the M.Sc. Dissertation Committee of Ms. I. Bautista at U. Guanajuato.
- 2014: Co-Supervisor of the NRAO Summer student, Ms. G. Johnson.
- 2014: Supervisor of the NRAO Summer graduate student, Mr. H. Gim.
- 2014: Supervisor of the NRAO Summer student, Ms. J. Gross.
- 2012: Co-Supervisor of the Carnegie Observatories Summer student, Mr. D. Z. Dong.
- 2012: Co-Supervisor of the NRAO Summer graduate student, Ms. L. K. Morabito.
- 2011: Supervisor of the NRAO Summer graduate student, Mr. S. Merriman.
- 2010: University of Maryland Special Graduate Faculty member, and a member of the Ph.D. Dissertation Committee of Ms. B. A. Zauderer.
- 2010: Supervisor of the NRAO Summer graduate student, Mr. M. Rickert.
- 2009: Supervisor of the NRAO Summer graduate student, Ms. M. Pastorius.
- 2007: Co-Supervisor of the NAIC, Arecibo Observatory Summer student, Ms. R. Lamm.
- 2006: Co-Supervisor of the NAIC, Arecibo Observatory Summer student, Ms. X. M. Fernandez.
- 2005: Supervisor of the NAIC, Arecibo Observatory Summer student, Ms. F. M. Day.

Publications

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Book Authorship

- The Evolution of Galaxies Through the Neutral Hydrogen Window, eds. R. Minchin & **E. Momjian**, 2008, AIP Conference Proceedings Series, Vol. 1035.

Publications Currently under Peer Review (Selected)

1. 'A Blazar in the Epoch of Reionization', Bañados, Eduardo, **Momjian, Emmanuel**, Connor, Thomas, et al. (2024), submitted to Nature Astronomy.
2. 'Far-Infrared and [CII] observations of a $z=7$ blazar', Bañados, Eduardo, Khusanova, Yana, Decarli, Roberto, **Momjian, Emmanuel**, et al. (2024), submitted to ApJ.
3. 'The discovery and evolution of a radio continuum and spectral-line outburst in the nearby galaxy NGC 660' Salter, C., Ghosh, T., Minchin, R., **Momjian, E.**, Catinella, B., Lebron, M., Lerner, M. (2024), submitted to AJ.

Refereed Publications (Selected)

Authored and co-authored 153 peer-reviewed articles. The full list may be found at [NASA ADS](#).

- 'A Census of the Deep Radio Sky with the VLA. I. 10 GHz Survey of the GOODS-N Field', Jiménez-Andrade, Eric F., Murphy, Eric J., **Momjian, Emmanuel**, Condon, James J., Chary, Ranga-Ram, Taylor, Russ, Dickinson (2024), ApJ, 972, 89.

- 'An Outflow-driven Water Maser Associated with Positive Black Hole Feedback in the Dwarf Galaxy Henize 2–10', Gim, Hansung B., Reines, Amy E., **Momjian, Emmanuel**, Darling, Jeremy (2024), 2024, ApJ, 969, 16.
- 'Maser Activity of Organic Molecules toward Sgr B2(N)', Xue, Ci, Remijan, Anthony, Faure, Alexandre, **Momjian, Emmanuel**, Hunter, Todd R., Loomis, Ryan A.; Herbst, Eric; McGuire, Brett (2024), ApJ, 967, 164.
- 'The MeerKAT Absorption Line Survey (MALS) Data Release. I. Stokes I Image Catalogs at 1–1.4 GHz', Deka, P. P., Gupta, N., Jagannathan, P., Sekhar, S., **Momjian, E.**, et al. (2024), ApJS, 270, 33.
- 'Radio Continuum and Water Maser Observations of the High-mass Protostar IRAS 19035+0641 A', Rodríguez, T. M., **Momjian, E.**, Hofner, P., Sarma, A. P., & Araya, E. D. (2024), ApJ, 962, 133.
- 'The Discovery of the Zeeman Effect in 38 GHz Class II Methanol Masers' **Momjian, E.**, & Sarma, A. P. (2023), ApJ, 958, 75.
- 'H I 21 cm Extended Structures to the Northeast and Southwest of NGC 5595: VLA Observations of the Disk Galaxy Pair NGC 5595 and NGC 5597' Garcia-Barreto, J. A., & **Momjian, E.** (2023), AJ, 165, 240.
- 'Discovery of Hydrogen Radio Recombination Lines at $z = 0.89$ toward PKS 1830-211' Emig, K. L., Gupta, N., Salas, P., Muller, S., Balashev, S. A., Combes, F., **Momjian, E.**, et al. (2023), ApJ, 944, 93.
- 'Magnetic field measurement in TMC-1C using 22.3 GHz CCS Zeeman splitting' Koley, A., Roy, N., **Momjian, E.**, Sarma, A. P., & Datta, A. (2022), MNRAS, 516, L48.
- 'Emergence of a new H I 21-cm absorption component at $z \sim 1.1726$ towards the γ -ray blazar PKS 2355-106' Srianand, R., Gupta, N., Petitjean, P., **Momjian, E.**, et al. (2022), MNRAS, 516, 1339.
- 'Discovery of Interstellar 2-Cyanoindene (2-C₉H₇CN) in GOTHAM Observations of TMC-1' Sita, M. L., Changala, P. B., Xue, C., Burkhardt, A. M., Shingledecker, C. N., Kelvin Lee, K. L., Loomis, R. A., **Momjian, E.**, et al. (2022), ApJL, 938, L12.
- 'Kiloparsec-scale Radio Structure in $z \sim 0.25$ Radio-quiet QSOs' McCaffrey, T. V., Kimball, A. E., **Momjian, E.**, & Richards, G. T. (2022), AJ, 164, 122.
- 'Long-term Variability of Class I Methanol Masers in the High-mass Star-forming Region DR21(OH)' Wenner, Nycole, Sarma, A. P., **Momjian, E.** (2022), ApJ, 930, 114.
- 'H I Gas Playing Hide-and-peek around a Powerful FRI-type Quasar at $z = 2.1$ ' Gupta, N., Srianand, R.; **Momjian, E.**; Shukla, G.; Combes, F.; Krogager, J. -K.; Noterdaeme, P.; Petitjean, P. (2022), ApJ, 927, 24.
- 'The Radio Spectral Turnover of Radio-loud Quasars at $z > 5$ ' Shao, Y., Wagg, J., Wang, R., **Momjian, E.**, Carilli, C. L., Walter, F., Riechers, D. A., Intema, H. T., Weiss, A., Brunthaler, A., & Menten, K. M. (2022), A&A 659, 159.
- 'CHILES VII: Deep Imaging for the CHILES project, a SKA prototype' Dodson, R., **Momjian, E.**, Pisano, D. J., et al. (2022), AJ, 163, 59.
- 'DIISC-I: The Discovery of Kinematically Anomalous H I Clouds in M 100' Gim, H. B., Borthakur, S., **Momjian, E.**, et al. (2021), ApJ, 922, 69.
- 'Discovery of Methanimine (CH₂NH) Megamasers toward Compact Obscured Galaxy Nuclei' Gorski, M. D., Aalto, S., Mangum, J., **Momjian, E.**, et al. (2021), A&A, 654, A110.
- 'Resolving the Radio Emission from the Quasar P172+18 at $z = 6.82$ ' **Momjian, E.**, Bañados, E., Carilli, C. L., Walter, F., & Mazzucchelli, C. (2021), AJ, 161, 207.
- 'Enhanced X-Ray Emission from the Most Radio-powerful Quasar in the Universe's First Billion Years' Connor, T., Bañados, E., Stern, D., Carilli, C., Fabian, A., **Momjian, E.**, Rojas-Ruiz, S., Decarli, R., Farina, E. P., Mazzucchelli, C., & Earnshaw, H. P. (2021), ApJ, 911, 120.

- ‘The Discovery of a Highly Accreting, Radio-loud Quasar at $z = 6.82$ ’ Bañados, E., Mazzucchelli, C., **Momjian, E.**, et al. (2021), ApJ, 909, 80.
- ‘Constraining the Quasar Radio-loud Fraction at $z \sim 6$ with Deep Radio Observations’ Liu, Y., Wang, R., **Momjian, E.**, Bañados, E., Zeimann, G., Willott, C. J., Matsuoka, Y., Omont, A., Shao, Y., Li, Q., & Li, J. (2021), ApJ, 908, 124.
- ‘Where's the Dust? The Deepening Anomaly of Microwave Emission in NGC 4725 B’ Murphy, E. J., Hensley, B. S., Linden, S. T., Draine, B. T., Dong, D., **Momjian, E.**, Helou, G., & Evans, A. S. (2020), ApJL, 905, L23.
- ‘A Curious Case of Circular Polarization in the 25 GHz Methanol Maser Line toward OMC-1’ Sarma, A. P., & **Momjian, E.** (2020), ApJ, 890, 6.
- ‘A Dual Black Hole Associated with Obscured and Unobscured AGNs: CXO J101527.2+625911’ Kim, D.-C., **Momjian, E.**, Yoon, I., et al. (2019), ApJ, 882, 149.
- ‘The Zeeman Effect in the 44 GHz Class I Methanol (CH_3OH) Maser Line toward DR21W’ **Momjian, E.**, & Sarma, A. P. (2019), ApJ, 872, 12.
- ‘Discovery of a Damped Ly α System in a Low- z Galaxy Group: Possible Evidence for Gas Inflow and Nuclear Star Formation’ Borthakur, S., **Momjian, E.**, Heckman, T. M., et al. (2019), ApJ, 871, 239.
- ‘A Powerful Radio-loud Quasar at the End of Cosmic Reionization’ Bañados, E., Carilli, C., Walter, F., **Momjian, E.**, Decarli, R., Farina, E. P., Mazzucchelli, C., & Venemans, B. P. (2018), ApJL, 861, L14.
- ‘Resolving the Powerful Radio-loud Quasar at $z \sim 6$ ’ **Momjian, E.**, Carilli, C. L., Bañados, E., Walter, F., & Venemans, B. P. (2018), ApJ, 861, 86.
- ‘Discovery of OH Absorption from a Galaxy at $z \sim 0.05$: Implications for Large Surveys with SKA Pathfinders’ Gupta, N., **Momjian, E.**, Srianand, R., et al. (2018), ApJL, 860, L22.
- ‘The Star Formation in Radio Survey: Jansky Very Large Array 33 GHz Observations of Nearby Galaxy Nuclei and Extranuclear Star-forming Regions’ Murphy, E. J., Dong, D., **Momjian, E.**, Linden, S., Kennicutt, R. C., Meier, D. S., Schinnerer, E., & Turner, J. L. (2018), ApJS, 234, 24.
- ‘The GOODS-N Jansky VLA 10 GHz Pilot Survey: Sizes of Star-forming μJy Radio Sources’ Murphy, E. J., **Momjian, E.**, Condon, J. J., Chary, R.-R., Dickinson, M., Inami, H., Taylor, A. R., & Weiner, B. J. (2017), ApJ, 839, 35.
- ‘Milliarcsecond Imaging of the Radio Emission from the Quasar with the Most Massive Black Hole at Reionization’ Wang, R., **Momjian, E.**, Carilli, C. L., et al. (2017), ApJL, 835, L20.
- ‘The Zeeman Effect in the 44 GHz Class I Methanol Maser Line toward DR21(OH)’ **Momjian, E.**, & Sarma, A. P. (2017), ApJ, 834, 168.
- ‘Highest Redshift Image of Neutral Hydrogen in Emission: A CHILES Detection of a Starbursting Galaxy at $z = 0.376$ ’ Fernández, X., Gim, H. B., van Gorkom, J. H., Yun, M. S., **Momjian, E.**, et al. (2016), ApJL, 824, L1.
- ‘Galaxy pairs in the Sloan Digital Sky Survey - X. Does gas content alter star formation rate enhancement in galaxy interactions?’ Scudder, J. M., Ellison, S. L., **Momjian, E.**, et al. (2015), MNRAS, 449, 3719.
- ‘The spin temperature of high-redshift damped Lyman α systems’ Kanekar, N., Prochaska, J. X., Smette, A., Ellison, S. L., Ryan-Weber, E. V., **Momjian, E.**, et al. (2014), MNRAS, 438, 2131.
- ‘The Highest Redshift Quasar at $z = 7.085$: A Radio-quiet Source’ **Momjian, E.**, Carilli, C. L., Walter, F., & Venemans, B. (2014), AJ, 147, 6.

- ‘Complex Radio Spectral Energy Distributions in Luminous and Ultraluminous Infrared Galaxies’ Leroy, A. K., Evans, A. S., **Momjian, E.**, et al. (2011), *ApJL*, 739, L25.
- ‘Discovery of the Zeeman Effect in the 44 GHz Class I Methanol (CH₃OH) Maser Line’ Sarma, A. P., & **Momjian, E.** (2011), *ApJL*, 730, L5.
- ‘The Arecibo Methanol Maser Galactic Plane Survey. IV. Accurate Astrometry and Source’ Morphologies Pandian, J. D., **Momjian, E.**, Xu, Y., Menten, K. M., & Goldsmith, P. F. (2011), *ApJ*, 730, 55.
- ‘Deep 21 cm H I Observations at $z \approx 0.1$: The Precursor to the Arecibo Ultra Deep Survey’ Freudling, W., Staveley-Smith, L., Catinella, B., Minchin, R., Calabretta, M., **Momjian, E.**, Zwaan, M., Meyer, M., & O’Neil, K. (2011), *ApJ*, 727, 40.
- ‘The Arecibo Galaxy Environment Survey. III. Observations Toward the Galaxy Pair NGC 7332/7339 and the Isolated Galaxy NGC 1156’ Minchin, R. F., **Momjian, E.**, et al. (2010), *AJ*, 140, 1093.
- ‘A Radio Spectral Line Study of the 2 Jy IRAS-NVSS Sample. I’ Fernandez, M. X., **Momjian, E.**, Salter, C. J., & Ghosh, T. (2010), *AJ*, 139, 2066.
- ‘High-sensitivity Array Observations of the $z = 1.87$ Submillimeter Galaxy GOODS 850-3’ **Momjian, E.**, Wang, W.-H., Knudsen, K. K., Carilli, C. L., Cowie, L. L., & Barger, A. J. (2010), *AJ*, 139, 1622.
- ‘Detection of the Zeeman Effect in the 36 GHz Class I CH₃OH Maser Line with the EVLA’ Sarma, A. P. & **Momjian, E.** (2009), *ApJL*, 705, L176.
- ‘The covering factor of high-redshift damped Lyman- α systems’ Kanekar, N., Lane, W. M., **Momjian, E.**, Briggs, F. H., & Chengalur, J. N. (2009), *MNRAS*, 394, L61.
- ‘Formation of a Quasar Host Galaxy through a Wet Merger 1.4 Billion Years after the Big Bang’ Riechers, D. A., Walter, F., Carilli, C. L., Bertoldi, F., & **Momjian, E.** (2008), *ApJL*, 686, L9.
- ‘Very Large Array and Very Long Baseline Array Observations of the Highest Redshift Radio-Loud QSO J1427+3312 at $z = 6.12$ ’ **Momjian, E.**, Carilli, C. L., & McGreer, I. D. (2008), *AJ*, 136, 344.
- ‘Resolving distance ambiguities towards 6.7 GHz methanol masers’ Pandian, J. D., **Momjian, E.**, & Goldsmith, P. F. (2008), *A&A*, 486, 191.
- ‘High Sensitivity Array Observations of the $z = 4.4$ QSO BRI 1335-0417’ **Momjian, E.**, Carilli, C. L., Riechers, D. A., & Walter, F. (2007), *AJ*, 134, 694.
- ‘Sensitive Very Long Baseline Interferometry Studies of the OH Megamaser Emission from IRAS 17208-0014’ **Momjian, E.**, Romney, J. D., Carilli, C. L., & Troland, T. H. (2006), *ApJ*, 653, 1172.
- ‘The Arecibo Legacy Fast ALFA Survey. II. Results of Precursor Observations’ Giovanelli, R., Haynes, M. P., Kent, B. R., Perillat, P., Catinella, B., Hoffman, G. L., **Momjian, E.**, et al. (2005), *AJ*, 130, 2613.
- ‘The Arecibo Legacy Fast ALFA Survey. I. Science Goals, Survey Design, and Strategy’ Giovanelli, R., Haynes, M. P., Kent, B. R., Perillat, P., Saintonge, A., Brosch, N., Catinella, B., Hoffman, G. L., Stierwalt, S., Spekkens, K., Lerner, M. S., Masters, K. L., **Momjian, E.**, et al. (2005), *AJ*, 130, 2598.
- ‘Very Large Array H I Zeeman Observations of NGC 1275 (Perseus A)’ Sarma, A. P., **Momjian, E.**, Troland, T. H., & Crutcher, R. M. (2005), *AJ*, 130, 2566.
- ‘Late-Time Observations of the Afterglow and Environment of GRB 030329’ Taylor, G. B., **Momjian, E.**, Pihlström, Y., Ghosh, T., & Salter, C. (2005), *ApJ*, 622, 986.
- ‘Sensitive VLBI Observations of the $z = 4.7$ QSO BRI 1202-0725’ **Momjian, E.**, Carilli, C. L., & Petric, A. O. (2005), *AJ*, 129, 1809.
- ‘Absorption-Line Study of Halo Gas in NGC 3067 toward the Background Quasar 3C 232’ Keeney, B. A., **Momjian, E.**, Stocke, J. T., Carilli, C. L., & Tumlinson, J. (2005), *ApJ*, 622, 267.

- ‘Starburst activity in the host galaxy of the $z=2.58$ quasar J1409+5628’ Beelen, A., Cox, P., Pety, J., Carilli, C. L., Bertoldi, F., **Momjian, E.**, Omont, A., Petitjean, P., & Petric, A. O. (2004), *A&A*, 423, 441.
- ‘VLBA Observations of $z > 4$ Radio-loud Quasars’ **Momjian, E.**, Petric, A. O., & Carilli, C. L. (2004), *AJ*, 127, 587.
- ‘Sensitive VLBI Continuum and H I Absorption Observations of NGC 7674: First Scientific’ Observations with the Combined Array VLBA, VLA, and Arecibo’ **Momjian, E.**, Romney, J. D., Carilli, C. L., & Troland, T. H. (2003), *ApJ*, 597, 809.
- ‘Very Long Baseline Array Continuum and H I Absorption Observations of the Ultraluminous Infrared Galaxy IRAS 17208-0014’ **Momjian, E.**, Romney, J. D., Carilli, C. L., Troland, T. H., & Taylor, G. B. (2003), *ApJ*, 587, 160.
- ‘Global VLBI Observations of the High-Velocity H I Absorption toward NGC 1275’ **Momjian, E.**, Romney, J. D., & Troland, T. H. (2002), *ApJ*, 566, 195.
- ‘Discovery of radio emission from the brown dwarf LP944-20’ Berger, E., Ball, S., Becker, K. M., Clarke, M., Frail, D. A., Fukuda, T. A., Hoffman, I. M., Mellon, R., **Momjian, E.**, Murphy, N. W., Teng, S. H., Woodruff, T., Zauderer, B. A., & Zavala, R. T. (2001), *Nature*, 410, 338.
- ‘Luminosity Indicators in Dusty Photoionized Environments’ Bottorff, M., Lamothe, J., **Momjian, E.**, Verner, E., Vinković, D., & Ferland, G. (1998), *PASP*, 110, 1040.

Technical Publications/Memoranda

- ‘Real-time RFI excision at the Very Large Array’ Svoboda, B., Demorest, P., Sowiński, K., **Momjian, E.**, Dhawan, V., Rowen, B., Moeser, R., 2023, USNC-URSI NRSMBoulder, CO, USA.
- ‘The Sensitivity of the EVLA at L (1-2 GHz) and S (2-4 GHz) Bands’ **Momjian, E.**, 2017, EVLA Technical Memo 204.
- ‘The Suitability of Cloud, Massive and Moderate Computing Environments for SKA Scale Data’ Dodson, R., Vinsen, K., Wu, C., Popping, A., Meyer, M., Wicenc, A., Quinn, P., van Gorkom, J., **Momjian, E.**, 2016 URSI Asia-Pacific Radio Science Conference (URSI AP-RASC)
- ‘MSUVBIN: A Way to Combine, Average, Flag Visibility Data’ Golap, K., and **Momjian, E.**, 2016, EVLA Technical Memo 198.
- ‘EVLA Ka-band Receiver Down Converter Module Harmonics: The “Mega-Birdie” at 29440 MHz’ Selina, R., **Momjian, E.**, Grammer, W., Jackson, J., 2016, EVLA Technical Memo 194.
- ‘Science Working Group 2 – “Galaxy Ecosystems” : The Matter Cycle in and Around Galaxies’ Leroy, A., Murphy, E., 10 authors, **Momjian, E.** et al., 2015, ngVLA Memo 7.
- ‘The Impact of the New Thermal Gap Receiver Assembly on the Sensitivity of the EVLA at C-Band (4–8 GHz)’ **Momjian, E.** (2014).
- ‘An EVLA Stress Test Primer’ Morris, K., and **Momjian, E.** (2014).
- ‘Clock Signal Harmonics in EVLA Baselines’ Morris, K., and **Momjian, E.** (2014).
- ‘Assessing the Impact of Using Three Cryogenic Compressors on the Performance of the EVLA’ **Momjian, E.**, Durand, S., Perley, R., Gregg, J. (2013).
- ‘Comparison of the Performance of the 3-bit and 8-bit Samplers at C (4-8 GHz), X (8-12 GHz) and Ku (12-18 GHz) Bands’ **Momjian, E.**, Perley, R. (2013).

- ‘The Impact of the New Thermal Gap Receiver Assembly on the Sensitivity of the EVLA at L-Band (1-2 GHz)’ **Momjian, E.**, Perley, R., Hayward, R. (2012).
- ‘Characterization of the EVLA 1-2 GHz Intermediate Frequency Passband’ Morris, K., and **Momjian, E.** (2011).
- ‘Characterizing the Sensitivity of the EVLA at L-band’ **Momjian, E.**, and Perley, R. (2011).
- ‘Frequency-Variable Sensitivity of the EVLA at C-band’ **Momjian, E.**, and Perley, R. (2008).
- ‘Inter-scan Overheads for Sequences of Drifts with ALFA’ Haynes, M., Giovanelli, R., Catinella, B., Hoffman, G. L., **Momjian, E.**, Putman, M. (2004).
- ‘Tsyes of ALFA’ Giovanelli, R., Haynes, M., Hoffman, G. L., Spekkens, K., Catinella, B., **Momjian, E.**, Muller, E. (2004).
- ‘Lessons Learned in the Precursor ALFA Drift Survey A1946’ Giovanelli, R., Haynes, M., Hoffman, G. L., Spekkens, K., Catinella, B., **Momjian, E.**, Muller, E. (2004).

Proceedings and non-refereed publications (Selected)

Authored and co-authored more than 160 non-refereed articles and abstracts for presentations in conferences. More, although incomplete, may be found via the following [link to NASA ADS](#).

- “Interferometric Observations of Spectral-line Polarization toward Low Mass Dense Cores”, Ching, T-C, **Momjian, E.**, et al. (2024), Magnetic Fields from Clouds to Stars (Bfields), NAOJ, Mitaka, Japan.
- “Measuring Magnetic Fields: The Discovery of the Zeeman Effect in 38 GHz Class II Methanol Masers” **Momjian E.** & Sarma, A. (2024), Magnetic Fields from Clouds to Stars (Bfields), NAOJ, Mitaka, Japan.
- “Zeeman Effect of the HI Narrow Self-Absorption Line, a New Systematic Probe of Magnetic Field in Molecular Cloud”, Ching, T-C, **Momjian, E.**, et al. (2023), 39th NM Symposium, NRAO, Socorro, NM.
- “A Highly Variable Radio-Loud Quasar in the Epoch of Reionization”, **E. Momjian** (2023), The Restless Nature of AGN: 10 years later, Napoli, Italy.
- “Resolving the Radio Emission from a $z=7$ Quasar”, **Momjian, E.**, Bañados, E., Carilli, C., Connor, T., & Walter, F. (2023), AAS Meeting, 55, 341.11.
- “Zeeman Effect Observations in Class I Methanol Masers”, **Momjian, E.**, & Sarma, A. P. (2020), IAU General Assembly, 140.
- “Prediction and Detection of High-Mass galaxies in CHILES”, Sanchez-Barrantes, M., Henning, P., **Momjian, E.**, van Gorkom, J., & Chiles Team (2020), The 35th Annual New Mexico Symposium, 19.
- “Discovery of the Zeeman Effect in the 25 GHz Class I Methanol Maser Line”, **Momjian, E.**, & Sarma, A. P. (2020), The 35th Annual New Mexico Symposium, 16.
- “Preliminary results from prebiotic molecules with ALMA in the era of artificial intelligence”, Villicana-Pedraza, I., Walterbos, R., Carreto-Parra, F., Ott, J., **Momjian, E.**, et al. (2020), Uncovering Early Galaxy Evolution in the ALMA and JWST Era, 352, 248.
- “The origins of radio emission from radio-quiet Quasi-Stellar Objects (QSOs)”, Kimball, A. E., **Momjian, E.**, & Condon, J. (2020), American Astronomical Society Meeting, 235, 305.25.
- “Resolving the Radio-Loudest Quasar known to date at $z \sim 6$ ”, **Momjian, E.** (2018), 14th European VLBI Network Symposium & Users Meeting (EVN 2018), 51.
- “Large-Scale Structure Behind The Milky Way with ALFAZOA”, Sanchez Barrantes, M., Henning, P. A., **Momjian, E.**, McIntyre, T., & Minchin, R. F. (2018), American Astronomical Society Meeting, 232, 324.03.
- “Automated Approaches to RFI Flagging”, Garimella, K., Golap, K., & **Momjian, E.** (2017), APS April Meeting Abstracts, 2017, F1.019.
- “EVN VLBI Imaging of the Jet in the Nucleus of the Barred Spiral Galaxy NGC 7479”, Laine, S. J., **Momjian, E.**, Krichbaum, T., Beck, R., & Komossa, S. (2017), American Astronomical Society Meeting, 229, 144.06.
- “SWAN: NGC 253's Nucleated Star Bursting Environment” Gorski, M., Ott, J., Meier, D., **Momjian, E.**, Walter, F., & Rand, R. (2016), From Interstellar Clouds to Star-Forming Galaxies: Universal Processes? 315, E29.

- “The Jansky VLA Frontier Field Public Legacy Survey” **Momjian, E.**, Murphy, E. J., Desai, V., Bhatnagar, S., and the VLA Frontier Field Team, American Astronomical Society Meeting 227, 349.20 (2016)
- “ALMA Pipeline: Current Status” Shinnaga, H., Humphreys, E., Indebetouw, R., Villard, E., Kern, J., Davis, L., Miura, R. E., Nakazato, T., Sugimoto, K., Kosugi, G., Akiyama, E., Muders, D., Wyrowski, F., Williams, S., Lightfoot, J., Kent, B., **Momjian, E.**, Hunter, T., ALMA Pipeline Team, at Revolution in Astronomy with ALMA: The Third Year. Proceedings of a Conference held at the Tokyo International Forum, Tokyo, Japan, 2015, ASP, 499, 355
- “CHILES Con Pol: An ultra-deep JVLA survey probing galaxy evolution and cosmic magnetism” Hales, C., **Momjian, E.**, van Gorkom, J., et al., IAU General Assembly, Meeting 29, 2257449 (2015)
- “A Blind Search for Neutral Hydrogen” Gross, J., **Momjian, E.**, Van Gorkom, J., American Astronomical Society Meeting 225, 427.03 (2015)
- “The Star Formation in Radio Survey: Mapping Star Formation in Nearby Galaxies with 33GHz Emission” Dong, D., Murphy, E., **Momjian, E.**, et al., American Astronomical Society Meeting 225, 256.08 (2015)
- “Spectral Indices of Faint Radio Sources” Gim, H., Hales, C., **Momjian, E.**, Yun, M., American Astronomical Society Meeting 225, 143.40 (2015)
- “Arecibo Discovery and Monitoring of a Radio Continuum and Spectral-Line Outburst in NGC 660” Minchin, R. F., **Momjian, E.**, Ghosh, T., Salter, C. J., Modern Radio Universe Meeting, Bonn, Germany, April 22-26, 2013.
- “Resolving the Nuclear Outburst in NGC 660” **Momjian, E.**, Minchin, R. F., Ghosh, T., Salter, C. J., Modern Radio Universe Meeting, Bonn, Germany, April 22-26, 2013.
- “CHILES: Cosmos HI Large EVLA Survey” **Momjian, E.**, et al., New Mexico Symposium, Socorro, NM, USA, November 8, 2012.
- “Water Maser Polarization in W3(OH)” Merriman, S., **Momjian, E.**, Sarma, A., American Astronomical Society Meeting 219, 349.24 (2012).
- “EVLA Imaging of Methanimine and Hydrogen Cyanide in Arp 220” Rickert, M., **Momjian, E.**, Sarma, A., and the AO Arp 220 Team, American Astronomical Society Meeting 217, 332.01 (2011).
- “VLBI Imaging of OH Satellite Lines in Arp220” Felli, D., Salter, C. J., Ghosh, T., **Momjian, E.**, American Astronomical Society Meeting 217, 245.10 (2011).
- “6.7 GHz Methanol Masers: Signposts of rapidly accreting massive stars” Pandian, J., **Momjian, E.**, Xu, Y., Menten, K., Goldsmith, P., at Great Barriers in High-Mass Star Formation, Townville, Australia, September 13-17, 2010.
- “Discovery of the Zeeman Effect in the 36 and 44 GHz Class I Methanol Maser Lines with the EVLA” **Momjian E.**, Sarma, A., at New golden age for radio astronomy: first results from the new generation of radio telescopes, Assen, The Netherlands, June 10-14, 2010.
- “VLBA Observations Of Polarization In The H₂O Masers Towards W3(OH)” Pastorius, M., Sarma, A. P.; **Momjian, E.**, Weiler, K., Romney, J. D., Troland, T. H. American Astronomical Society Meeting 215, 414.25 (2010).
- “EVLA Spectral Line Science Below 1200 MHz” **Momjian, E.** & Perley, R., The Evolution of Galaxies through the Neutral Hydrogen Window, American Institute of Physics Conference Series, vol. 1035, Arecibo Observatory, Puerto Rico, 2008.
- “The ALFA Ultra Deep Survey (AUDS)” Freudling, W., Catinella, B., Calabretta, M., **Momjian, E.**, Zwaan, M., Linder, S., Minchin, R., O’Neil, K., Staveley-Smith, L., The Evolution of Galaxies through the Neutral Hydrogen Window, American Institute of Physics Conference Series, vol. 1035, Arecibo Observatory, Puerto Rico, 2008.
- “Investigating the effect of environment on neutral hydrogen content and morphology: the Arecibo Galaxy Environment Survey” Minchin, R., **Momjian, E.**, Davies, J., et al. Cortese, L., Auld, R., The Evolution of Galaxies through the Neutral Hydrogen Window, American Institute of Physics Conference Series, vol. 1035, Arecibo Observatory, Puerto Rico, 2008.
- “The starburst-AGN connection: A case study of SMMJ04135+10277 using MERLIN and HSA” Knudsen, K. K., **Momjian, E.**, Walter, F., Carilli, C. L., Yun, M. S., From Planets to Dark Energy: The Modern Radio Universe, Manchester, UK, 2007. eds. R. J. Beswick, P. J. Diamond & R. Schilizzi, 2008 Proceedings of Science.

- “Arecibo Discovery of the Pre-biotic Molecule Methanimine in Arp 220 and New cm-Wavelength Transitions of Other Molecules” **Momjian, E.**, Salter, C. J., Ghosh, T., Lerner, M. S., Minchin, R., Catinella, B., Lebron, M., From Planets to Dark Energy: The Modern Radio Universe, Manchester, UK, 2007. eds. R. J. Beswick, P. J. Diamond & R. Schilizzi, 2008 Proceedings of Science.
- “eVLBI observations with the 305 m Arecibo Radio Telescope” **Momjian, E.**, Ghosh, T., Salter, C. J., Venkataraman, A., American Astronomical Society Meeting 205, 153.10 (2004).
- “Neutral Hydrogen in the Galaxy Cluster, Abell 2390” Zahid, J., DeCesar, M., Kinnaman, L., Rice, M., Saucedo-McQuade, K., Ghosh, T., **Momjian, E.**, Salter, C. J., American Astronomical Society Meeting 205, 147.20 (2004).
- “Sensitive VLBI observations of the ULIRG IRAS 17208-0014” **Momjian, E.**, Troland, T. H., Romney, J. D., Carilli, C. L. & Taylor, G. B., Future Directions in High Resolution Astronomy: The 10th Anniversary of the VLBA, June 8-12, 2003, Socorro, NM, USA. ASP Conference Proceedings, Vol. 340. Edited by J. Romney and M. Reid. San Francisco: Astronomical Society of the Pacific, 2005., p.232.

Press Releases

- Most Distant Cosmic Jet Providing Clues About Early Universe (2021)
<https://public.nrao.edu/news/distant-cosmic-jet/>
- Scientists uncover warehouse-full of complex molecules never before seen in space (2021)
<https://greenbankobservatory.org/scientists-uncover-warehouse-full-of-complex-molecules-never-before-seen-in-space/>
- Gigantic Jet Spied From Black Hole in Early Universe (2021)
https://chandra.si.edu/press/21_releases/press_030921.html
- Distant Quasar Providing Clues to Early-Universe Conditions (2018)
<https://public.nrao.edu/news/distant-quasar-early-universe/>
- New Observational Distance Record Promises Important Tool for Studying Galaxies (2016)
<https://public.nrao.edu/news/hydrogen-distance-record/>
- Strange Galaxy Perplexes Astronomers
<https://public.nrao.edu/news/strange-galaxy-perplexes-astronomers/>
- Massive Outburst in Neighbor Galaxy Surprises Astronomers (2013)
<https://public.nrao.edu/news/massive-outburst-in-neighbor-galaxy/>
- NRAO Astronomer, Wife Become U.S. Citizens at VLA Ceremony
<https://www.nrao.edu/pr/2011/citizens/>
- Arecibo telescope finds critical ingredients for the soup of life in a galaxy far, far away (2008)
<https://news.cornell.edu/stories/2008/01/distant-galaxy-holds-key-ingredients-life-astronomers-report>
- Astronomers Demonstrate the Global Internet Telescope (2004)
- Students Use VLA to Make Startling Brown-Dwarf Discovery (2001)
<https://public.nrao.edu/news/first-radio-emission-seen-from-a-brown-dwarf/>

Invited Talks/Presentations/Colloquia (Selected)

- ‘Milliarcsecond Imaging of the Highest Redshift Quasars’ at the Department of Astronomy, Yonsei University, Seoul, S. Korea, April 2024 (invited Colloquium)
- ‘Class I Methanol Maser Zeeman Effect Studies with the VLA’ at Texas A&M, College Station, TX, December 2023 (invited Seminar)
- ‘Milliarcsecond Imaging of the Highest Redshift Radio-Loud Quasars’ at the URSI-USNC meeting, Boulder, CO, January 2019 (invited Talk)

- ‘Zeeman Effect Studies with the VLA and Interferometric Calibration in Circular Polarization Observations’ at the Polarimetry in the ALMA era: a new crossroads of astrophysics meeting, Tokyo, Japan, March 2019 (invited Talk)
- ‘Measuring Magnetic Fields Through the Zeeman Effect in Class I Methanol Masers’ at New Mexico Tech Physics Department, Socorro, NM, November 10, 2016 (invited Colloquium)
- ‘Resolving High Redshift Sources’ at Korea Astronomy and Space Science Institute, Daejeon, S. Korea, March 24, 2014 (invited Colloquium)
- ‘Measuring Magnetic Fields Through the Zeeman Effect with the VLA’ at the Department of Astronomy, Yonsei University, Seoul, S. Korea, March 20, 2014 (invited Colloquium)
- ‘The Zeeman Effect: A Unique Probe of Star Formation’ at the 61st NMR² Meeting, Socorro, NM, October 6, 2012 (invited Talk)
- ‘High Redshift QSOs and SMGs: A VLBI Perspective’ at ASIAA, Taipei, Taiwan, September 21, 2012 (invited Colloquium)
- ‘Measuring Magnetic Fields in Star Forming Regions through the Zeeman Effect’, ASIAA Workshop on The Karl G. Jansky Very Large Array, Taipei, Taiwan, September 3-4, 2012 (invited Talk)
- ‘The Expanded Very Large Array Project: From the VLA to the JVLA’ at ASTRON, The Netherlands, June 12, 2012 (invited Colloquium)
- ‘EVLA Science Below 1200 MHz’ at The EVLA Vision: Galaxies Through Cosmic Time, Socorro, NM, December 16, 2008 (invited Talk)
- ‘Highest Redshift Quasars: A VLBI Perspective’ at the Department of Physics and Astronomy, University of New Mexico, Albuquerque, NM, November 24, 2008 (invited Talk)
- ‘Very Long Baseline Interferometry with the Arecibo Telescope’ at the Spectrum Users Group Meeting, San Juan, PR, March 29, 2007 (invited Talk)
- ‘Very Long Baseline Interferometry’ at the 40th Anniversary Celebrations of the Arecibo Observatory, Arecibo, Puerto Rico, November 3, 2003 (invited Talk)
- ‘Sensitive VLBI studies of Interacting/merging galaxies: Continuum and H I absorption observations of IRAS 17208–0014, NGC 7674, & NGC 1275’ at the Astronomy Department, Cornell University, Ithaca, NY, February 2003 (invited Colloquium)
- ‘Sensitive VLBI studies of Interacting/merging galaxies: Continuum and H I absorption observations of IRAS 17208–0014, NGC 7674, & NGC 1275’ at Arecibo Observatory, Arecibo, Puerto Rico, February 2003 (invited Colloquium)
- ‘How the stars die?!’ Colloquium at the Department of Physics, Faculty of Sciences, University of Aleppo, Aleppo, Syria, Nov. 21, 1995.

Presentations and Tutorials for the Scientific Community (Selected)

Presented more than 60 talks and tutorials across the globe to promote radio astronomy, radio telescopes, observations, and data processing.

- ‘The current status of the ngVLA’ - Yonsei University (S. Korea), IM&GE Workshop, April 2024
- ‘VLA/VLBA Proposal Preparation’, University of Maryland - Baltimore County NRAO Community Days, June 2019
- ‘VLA Pipeline and Data Products’, Texas Tech University NRAO Community Days, May 2019
- ‘Next Generation VLA (ngVLA)’, Puebla-INAOE NRAO/LBO Community Days, Mexico, September 2018

- 'VLA/VLBA Proposal Preparation', University of Toronto NRAO/LBO Community Days, July 2018
- 'The Next Generation VLA (ngVLA)', Caltech NRAO/LBO Community Days, March 2018
- 'Spectral Line Data Reduction Tutorial', Caltech NRAO/LBO Community Days, March 2018
- 'The VLA & The Next Generation VLA (ngVLA)', Cornell University NRAO/LBO Community Days, July 2017
- 'Proposal Preparation: VLA and VLBA', Cornell University NRAO/LBO Community Days, July 2017
- 'The VLA Pipeline and Data Products', UNAM Morelia NRAO/LBO Community Days, Mexico, April 2017
- 'Introduction To CASA and Data Structure', University of Michigan NRAO/LBO Community Day, March 2017
- 'Data Reduction Techniques - Calibration', at the 5th VLA Data Reduction Workshop, Socorro, NM, March 2016
- 'The Very Long Baseline Array', AAS Meeting Splinter Session, Seattle, WA, January 2015
- 'VLA OPT Intro and hands-on Tutorial', Yonsei University VLA Community Day, Seoul, S. Korea, March 2014
- 'Intro to CASA and VLA CASA Data Reduction hands-on Tutorial', Yonsei University VLA Community Day, Seoul, S. Korea, March 2014
- 'Data Reduction Techniques', at the 3rd VLA Data Reduction Workshop, Socorro, NM, April 2013
- 'CASA data reduction tutorial', UNAM-Morelia NRAO Community Day, Mexico, February 2013
- 'The VLA Observation Preparation Tool Tutorial', University of Guanajuato NRAO Community Day, Mexico, February 2013
- 'VLA OPT Tutorial', at ASIAA Workshop on The Karl G. Jansky Very Large Array, Taiwan, September 2012
- 'CASA Tutorial', at ASIAA Workshop on The Karl G. Jansky Very Large Array, Taiwan, September 2012
- 'VLA OPT tutorial', ASTRON, the Netherlands, June 2012
- 'Data Reduction Techniques', at the 2nd VLA Data Reduction Workshop, Socorro, NM, February 2012
- 'CASA data reduction tutorial', University of Berkeley NRAO Community Day, January 2012
- 'VLA CASA calibration and imaging tutorial', University of Maryland NRAO Community Day, December 2011
- 'Data Reduction Techniques', at the 1st VLA Data Reduction Workshop, Socorro, NM, September 2011.
- 'Interferometry and Synthesis Imaging in Radio Astronomy' REU lecture, Arecibo Observatory, Arecibo, PR, July 2007
- 'Interferometry in Radio Astronomy' REU lecture, Arecibo Observatory, Arecibo, PR, June 2004