Curriculum Vitae

Shardha Jogee

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Education

- Ph.D., Astronomy, Yale University, May 1999
- M.A., Physics, Cambridge University, England, June 1995
- Master of Philosophy (M. Phil.) , Yale University, U.S.A., Dec 1994
- Master of Science (M. S.), Yale University, U.S.A, May 1994
- B.A. Honors in Physics, Cambridge University, England, June 1992

Research Interests

- Galaxy Formation and Evolution.
- Dynamics, Structure, and Central Activity of galaxies
- Star Formation. Gas and Bar Dynamics.
- ISM/Fueling/Evolution of Starbursts, AGN, and Ultra Luminous IR galaxies.

Positions

- July 2002–Present: Assistant Astronomer (tenure-track), Space Telescope Science Institute, U.S.A
- Nov 1998 – June 2002: Postdoctoral Scholar, California Institute, U.S.A of Technology (CalTech)
- 1994 – May 99: Candidate in the Ph.D. program in Astronomy, Yale University, U.S.A
- 1992 – Dec 94: Candidate in the M.S. and M.Phil program, Yale University, U.S.A
- 1997: Summer Research Assistant, Yale University:
  ' The Molecular Gas Dynamics and Starburst-Driven Outflow in NGC 2782'
- 1993: Summer Research Assistant, Yale University.
  'Implementing a new formulation of convection theory for stellar evolution'
- 1989 – 1992: Undegraduate Research, Cambridge University, England
  'Simulations of a Percolation Model for Star Formation in Spirals'

Experience/Collaborations

- July 2002–Present: Contact Scientist Lead, Program Change/Verification Lead, and Instrument Scientist in the Advanced Camera for Surveys (ACS) team, Space Telescope Science Institute
- Sep 2002–Present: Member of the home planning team for the Hubble ACS Ultra Deep Field **(UDF)** *(http://www.stsci.edu/science/udf)*
- Sep 2002–Present: Member of the Great Observatories Origins Deep Survey **(GOODS)** team *(http://www.stsci.edu/science/goods/)*
- Nov 2002–Present: Member of the Galaxy Evolution from Morphology and SEDS **(GEMS)** team *(http://www.mpia.de/homes/barden/gems/gems.htm)*
- Nov 2002: Member of the Scientific Organizing Committee for the STScI May 2003 Symposium *(http://sd.stsci.edu/Astrophysical_Laboratory)*
- Nov 2002– Apr 2003: Member of the Task Force to address the science culture at STScI *(http://sd.stsci.edu/internal/TaskForce/Task_Force_2/TaskForce2Index.html)*
- June 2003–Present: Member of the STScI Working Group on Community Service to address budget constraints in FY05.
- 1999 – 2002: Member of the Time Allocation Committee for the Owens Valley Radio Observatory (OVRO) operated by CalTech.
- 2000 – Present: Referee for articles in ApJ, ApJL, A&A, and conference proceedings.
- 1999 – Present: Member of the American Astronomical Society
- 1999 – 2000: Organizer of the CalTech Astronomy Department Science Talks
- 1996 – 97: Organizer of the seminar series on 'Extragalactic Astronomy', Yale University

Awards

- NASA Long Term Space Astrophysics (LTSA) grant, Jan 2003 ($558,000)
- American Association of University Women Educational Fellowship (AAUWEF), 1996
- Amelia Earheart Fellowship, Zonta International, 1996
- Yale University J. F. Enders Fellowship, Yale University, 1995
- Sigma Xi Grants-in-Aid of Research, Sigma Xi Society, 1995
- Yale University J. F. Enders Research Grant, Yale University, 1995
- Garfinkel Prize, Yale University, 1992
- Elected to status of Fellow, Cambridge University, England, 1990-1992
- Full undergraduate scholarship in Physics, Cambridge University, England, 1989-1992

Oral Presentations

- July 2003 : ESO/CHILE CONFERENCE on "Physics of Active Galactic Nuclei at all Scales" *(http://www.sc.eso.org/santiago/meetings/AGN2003)* **(invited review)**
- Dec 2002: Space Telescope Science Institute Popular Talks sponsored by the Science Division: *'The Violent Nature of Galaxies'*
- Dec 2002: University of Florida colloquim *'Structure and Evoluiton of Disk Galaxies'* **(invited)**

- Nov 2002: Rinberg/MPE/MPIA Workshop, Center of Galaxies: *'Bar-Driven Evolution of the Central Kpc : Density Waves and Nuclear Bars'* **(invited highlight talk)**
- Oct 2002: University of Massachusetts colloquim: *'Structure, Activity, and Evolution of Disk Galaxies'* **(invited)**
- Sep 2002: Goddard Space Flight Center, Starburst Series: *'Evolution of the Inner Kpc: Fueling Central Starbursts and AGN'* **(invited)**
- July 2002: Meudon Conference, 'Active Galactic Nuclei: from Central Engine to Host Galaxy: *'Bar-Driven Spiral Density Wave in NGC 5248: Implications for Central Activity'*
- Feb 2002: San Francisco State University (SFSU) colloquim: *'Dynamics and Evolution of Galaxies'* **(invited)**
- Jan 2002: Space Telescope Science Institute (STScI) colloquim: *'Understanding Evolution in the Inner Kpc: Gas Dynamics and Star Formation'* **(invited)**
- July 2001: Center for Star Formation Studies Workshop, Santa Cruz, ed. D. Hollenbach: *'Starburst: Triggers and Evolution'* **(invited)**
- May 2001: La Palma Conference on The Central kpc of Starbursts and AGN: *'Molecular Gas in The Central Kpc of Starbursts and AGN'*
- Aug. 2000: IAU Symposium 205, Galaxies and their Constituents at the Highest Angular Resolution: *'Probing Circumnuclear Star Formation Efficiency at High Resolution'*
- 1999 – Present: Multiple seminars at CalTech

Teaching/Advising Experience

- June 2003–Present: Research advisor for G. Lubell, STScI summer student
- Sep 2002–Present: Research project advisor for N. Reddy, graduate student at CalTech.
- Nov 2002–Present: Supervisor of STSI data analysts: S. Gonzaga (research) , J. Davies (research), I. Heyer (functional), and C. Pavlovsky (functional).
- 2001: Guest lecturer on 'Gas Dynamics and ISM' for graduate course, CalTech
- 1999 – 2002: Supervision of two graduate students for research projects, CalTech
- 1999 – 2002: Training of new OVRO observers in array operations and data reduction
- 1994 – 96: Lead teaching assistant, guest lecturer, and discussion leader for undergraduate astronomy courses, Yale University
- 1992 – 93: Junior teaching assistant for undergraduate astronomy courses, Yale University

Observing/Data Analysis Experience

- Owens Valley Radio Observatory (mm interferometry)
- Palomar 5-m and 1.5-m (imaging and spectroscopy)
- Keck II 10-m (echelle spectroscopy)
- Kitt Peak National Observatory 0.9-m, 4.0-m, 3.5-m (imaging)
- Isaac Newton 2-5-m, William Herschel 4.2-m (imaging)
- Hubble Space Telescope (ACS+WFPC2)

- VLA (archival 21 cm HI line and 20 cm radio continuum data)
- Routinely use data reduction software such as AIPS, IDL, IRAF, ZODIAC, KARMA
- Programming experience in Fortran, IDL, Meta Language (ML), and Pascal
- Experience in multi-wavelength (mm, near-infrared, optical and X-ray) data analysis, modeling of data and close collaborations with theorists (e.g., Profs. R. Larson and I. Shlosman) for constraining theory.

Selected Bibliography

Refereed Publications

1. Mobasher, M., Jogee, S., Dahlen, T., de Mello, D., Lucas, R. A., Conselice, C. J., Grogin, N. A., & Livio M. 2003, ApJL, accepted: *'Structure and Evolution of Starburst and Normal Galaxies in the GOODS'*
2. Conselice, C. J., Grogin, N. A., Jogee, S., Lucas, R. A., de Mello, D., Gardner, J. P., Mobasher, M., & Ravindranath, S. 2003, ApJL, accepted: *Observing the formation of the Hubble sequence in GOODS Hubble Space Telescope Images*
3. Ravindranath, S., Ferguson, H. C., Conselice, C., Giavalisco, M., Dickinson, M., Chatzichristou, E., de Mello, D., Fall, M., Gardner, J. P., GRogin, N. A., Hronschemeier, A., Jogee, S., Koekemoer, A., Kretchmer, C., Livio, M., Mobasher, M. & Somerville, R. 2003, ApJL, submitted: *'Evolution of Disk Galaxies in the GOODS CDF-S Field: Number densities and size distribution'*
4. Giavalisco et al. 2003, ApJL, submitted: *'The Great Observatories Origins Deep Survey: The Hubble Space Telescope Observing Program'*
5. Bell, E. F., McIntosh, D. H., Wolf, C., Barden, M., Caldwell, J. A. R., Rix, H-W., Beckwith, S. V. W., Borch, A., Jahnke, K., Jogee, S., Meisenheimer, K., Peng, C. Y., Sanchez, S. F., Somerville, R. S., and Wisotzki, L. 2003, ApJL, submittted: *' Red Sequence Galaxies at z 0.7: Dusty or Old'*
6. Jogee, S., Kenney, J. D. P., & Scoville, N. Z. 2003, ApJ, submitted: *'The Origin of Circumnuclear Starbursts: Clues from a Molecular Gas Survey'*
7. Jogee, S., 2002, STScI Annual Report, p. 23: *'Bar-Driven Galaxy Evolution'*
8. Jogee, S., Shlosman, I., Laine, S., Englmaier, P., Scoville, N. Z., Knapen, J. H., & Wilson, C. D. 2002, ApJ, 575, 156 (astro-ph/0202270): *'Gas Dynamics in the Barred Spiral NGC 5248: Fueling a Circumnuclear Starburst Ring of Super Star Clusters'*
9. Jogee, S., Knapen, J. H., Laine, S., Shlosman, I., Scoville, N. Z., & Englmaier, P. 2002, ApJL, 570, L55 (astro-ph/0201208): *'Discovery and Implications of a New Large-Scale Stellar Bar in NGC 5248'*
10. Hartman, R. C., Boettcher, M. et al., 2001, ApJ, 553, 683 (astro-ph/0102127): *'Multi-Epoch Multiwavelength Spectra and Models for Blazar 3C 279'*
11. Shepherd, D. S.; Jogee, S.; Kulkarni, S. R.; Frail, D. A. 1999, GRB CN, 455, 1: *'GRB 991208 - OVRO detection.'*
12. Jogee, S., Kenney, J. D. P., & Smith, B. J. 1999, ApJ, 526, 665 (astro-ph/9907085): *'A nuclear bar feeding molecular gas into a powerful central starburst in NGC 2782'*
13. Smith, B. J., Curtis, S., Kenney, J. D. P., & Jogee, S. 1999, AJ, 117, 1237: *T̀he Molecule-Rich tail of the peculiar galaxy NGC 2782 (Arp 215)' (astro-ph/9811239):*
14. Jogee, S. 1999, Ph.D. thesis, Yale University: *'Molecular gas and Star Formation in the Inner Kpc of Starbursts and Non-Starbursts'*
15. Jogee, S., Kenney, J. D. P., & Smith, B. J. 1998, ApJL, 494, L185: *'The remarkable starburst-driven outflow in NGC 2782'*

16. Bailyn, C. D., Orosz, J. A., Girard, T. M., Jogee, S. et al. 1995, Nature, Vol. 374. p 701: *'The optical counterpart of the superluminal source GRO J1655-40'*

Technical Publications

1. Jogee, S., Ferguson, H., Stiavelli, M., Panagia, N., and Riess, A., 2002: *'Planning of the ACS Ultra Deep Field' (http://www.stsci.edu/science/udf)*
2. Koekomoer, A., Jogee, S., Beckwith, S. V. W., and Stiavelli, M. 2003: *'Radio and Sub-mm Considerations for the ACS Ultra Deep Field' (http://www.stsci.edu/science/udf)*
3. Jogee, S. 2003: *'A primer for ACS instrument reviews of Phase II proposals' (http://www.stsci.edu/hst/acs/phase2support/)*
4. Nota, A., O'Dea, C., Baum, S., Blades, C., Casertano, S., Hauser, M. Jogee, S., Regan, M., Reid, N., Sparks, B., Valenti, J., and Whitmore, B. 2003: *'TF2 Report and Recommendation Package (Science Culture at STScI)' (http://sd.stsci.edu/internal/TaskForce/Task_Force_2/TaskForce2Index.html)*

Conference Proceedings

1. Jogee, S., Conselice, C. J., Barden, M., Beckwith, S. V. W., Bell, E. F., Borch, A., Caldwell, J. A. R., Haussler, B., Jahnke, K., McIntosh, D. H., Meisenheimer, K., Peng, C. Y., Rix, H-W., Sanchez, S. F., Somerville, R. S., Wisotzki, L., Wolf, C., Mobasher, M., Dahlen, T., de Mello, D., & Lucas, R. A 2003, IAU Symposium 216, Maps of the Cosmos: *' Tidal Interactions and Mergers at Early Cosmic Times'*
2. Jogee, S., Knapen, J. H., Shlosman, I., Lubell, G., Davies, J., Barden, M., Beckwith, S. V. W., Bell, E. F., Borch, A., Caldwell, J. A. R., Haussler, B., Jahnke, K., McIntosh, D. H., Meisenheimer, K., Peng, C. Y., Rix, H-W., Sanchez, S. F., Somerville, R. S., Wisotzki, L., Wolf, C., Conselice, C., Laine, S., Ravindranath, S., & Mobasher, M. 2003, IAU Symposium 216, Maps of the Cosmos: *'Bar-Driven Galaxy Evolution at Intermediate Redshifts'*
3. Haeussler B., Rix, H-W., Beckwith, S. V. W., Barden, M., Bell, E. F., Borch, A., Caldwell, J. A. R., Jahnke, K., Jogee, S., McIntosh, D. H., Meisenheimer, K., Peng, C. Y., Rix, H-W., Sanchez, S. F., Somerville, R. S., Wisotzki, L., Wolf, C. 2003, IAU Symposium 216, Maps of the Cosmos: *'Fitting 20,000 galaxies: GALFIT meets GEMS'*
4. Barden, M., Haeussler B. , Rix, H-W., Bell, E. F., Borch, A., Meisenheimer, K., Beckwith, S. V. W., Jogee, S., Somerville, R. S., Caldwell, J. A. R., Wisotzki, L., Jahnke, K., Sanchez, S. F., Wolf, C., Peng, C. Y., & McIntosh, D. H. 2003, IAU Symposium 216, Maps of the Cosmos: *'GEMS: The evolution of disk sizes over the last 10 Gyrs'*
5. Reddy, N., Jogee, S. & Scoville, N. Z. 2003, IAU Symposium JD06, Extragalactic Globular Clusters and their Host Galaxies: *'Young Stellar Clusters in the ULIRG IRAS 17208-0014'*
6. Beckwith, S. V. W., Caldwell, J., Clampin, M., de Marchi, G., Dickinson, M., Ferguson, H., Fruchter, A., Hook, R., Jogee, S., Koekemoer, A. et al. 2003, BAAS, 202.1705: *'The Hubble Ultra Deep Field'*

7. Somerville, R. S., Barden, M., Beckwith, S. V. W., Bell, E., Borch, A., Caldwell, J. A. R., Jahnke, K., Jogee, S., McIntosh, D. H. et. al. 2003, BAAS, 202.1706: *'Morphologies and SEDs for 10,000 Galaxies to z=1.2: Early Results from GEMS'*
8. Jogee, S., Shlosman, I., Englmaier, P., Knapen, J. H., Laine, S., Scoville, N. Z., & Wilson, C. D., 2003, ASP Conf. Series, Vol 290, Active Galactic Nuclei: from Central Engine to Host Galaxy, eds. S. Collin, F. Combes, and I. Shlosman (ASP), p. 437: *'Bar-Driven Disk Evolution: Grand-Design Nuclear Spirals'*
9. Jogee, S., Reddy, N., & Scoville, N. Z. 2002, ASP Conf. Series, Vol. 290, Active Galactic Nuclei: from Central Engine to Host Galaxy, eds. S. Collin, F. Combes, and I. Shlosman (ASP), p. 513: *'IRAS 17208: An Advanced Merger with a Gas-Rich Starburst Evolving towards an Elliptical Galaxy?'*
10. Baker, A. J., Jogee, S. Sakamoto, K., & Scoville N. Z. 2003, ASP Conf. Series, Vol 290, Active Galactic Nuclei: from Central Engine to Host Galaxy, eds. S. Collin, F. Combes, and I. Shlosman (ASP), p. 479: *'The OVRO MAIN survey: Molecular gas in Active and Inactive Nuclei'*
11. Jogee, S., Conselice, C., Ravindranath, S. Shlosman, I., Knapen, J. H., Mobasher, B. Koekemoer, A. M., Lucas, R. A., Laine, S. Hornschemeier, A., and the GOODS Team 2002, BAAS, American Astronomical Society Meeting 201, #06.15: *'Structure and Evolution of Disk Galaxies in the GOODS Fields'*
12. Dahlen, T., Conselice, C. J., de Mello, D., Gardner, J. P., Grogin, N. A., Idzi, R., Jogee, S., Lucas, R. A., Mobasher, B., da Costa, L., et al. 2002, BAAS, American Astronomical Society Meeting 201, #06.10: *'Luminosity Function for Different Spectral Types of Galaxies in the GOODS Southern Field'*
13. Ravindranath, S., Conselice, C., Chatzichristou, E., de Mello, D., Ferguson, H. C., Gardner, J. P., Giavalisco, M., Grogin, N. A., Hornschemeier, A., Jogee, S. et al. 2003, BAAS, American Astronomical Society Meeting 201, #06.11: *'Evolution of Structural Parameters of Galaxies in the GOODS-South field'*
14. Lucas, R. A, Conselice, C. J., Chatzichristou, E., Dahlen, T., de Mello, D., Gardner, J. P., Giavalisco, M., Grogin, N. A., Hornschemeier, A., Jogee, S., Koekemoer, A. M., Mobasher, B., Ravindranath, S., Urry, C. M., and the GOODS Team 2002, BAAS, American Astronomical Society Meeting 201, #06.13: *'Normal Galaxies and Mergers: The Morphological Mix of Galaxies'*
15. Jogee, S., Shlosman, I., Laine, S., Englmaier, P., Scoville, N. Z., Knapen, J. H., & Wilson, C. D. 2002, BAAS, American Astronomical Society Meeting 199, #72.04: *'Gas Dynamics and Star Formation in the Grand-Design Spiral NGC 5248'*
16. Reddy, N. , Jogee, S., & Scoville, N. Z. 2002, BAAS, American Astronomical Society Meeting 199, #49.07: *'The central starburst and young stellar clusters in the Ultra Luminous IR Galaxy IRAS 17208-0014'*
17. Jogee, S., Shlosman, I., Englmaier, P., Knapen, J. H., Laine, S., Scoville, N. Z., & Wilson, C. D., 2002, ASP Conf. Series, Vol. 275, Disks of Galaxies: Kinematics, Dynamics, & Perturbations, eds. E. Athanassoula & A. Bosma (San Francisco: ASP),

p. 275: *'Grand-Design Spiral Structure from 100 pc to 10 kpc Scales: Implications for Disk Evolution'*

18. Jogee, S. Baker, A. J., Sakamoto, K., & Scoville N. Z. 2001, BAAS, American Astronomical Society Meeting 198: *'Molecular Gas in Active and Quiescent Galactic Nuclei'*
19. Jogee, S. 2001, to appear in Proceding of the July 2001 Center for Star Formation Studies Workshop, Santa Cruz, ed. D. Hollenbach: *'Circumnuclear Gas Transport and Star Formation Triggers'* **(invited contribution)**
20. Jogee, S., Baker, A. J., Sakamoto, K., Scovile, N. Z., & Kenney, J. D. P. 2001, ASP Conf. Series, Vol. 249, The Central kpc of Starbursts and AGN: The La Palma Connection, eds. J. H. Knapen, J. E. Beckman, I. Shlosman, & T. J. Mahoney (San Francisco: ASP), 612 (astro-ph/0201209): *'Molecular Gas in The Central Kpc of Starbursts and AGN'*
21. Jogee, S. 2001, in Proceedings of Rinberg Workshop, Starbursts Near and Far, eds L. Tacconi & D. Lutz (Heidelberg: Springer-Verlag), 182 (astro-ph/0201202): *'Starburst: Triggers and Evolution'*
22. Jogee, S., & Kenney, J. D. P. 2001, ASP Conference Series, Vol. 197, Dynamics of Galaxies: from the Early Universe to the Present, ed. F. Combes, G.A. Mamon, & V. Charmandaris (San Francisco: ASP), 193: *'Molecular Gas in Circumnuclear Starbursts'*
23. Jogee, S., Kenney, J. D. P., & Smith, B. J. 1999, in Proceedings of IAU Symposium 186, Galaxy Interactions at Low and High Redshift, ed. D. Sanders, & J. Barnes (Dordrecht: Kluwer Academic Publishers), 357: *'The Interplay between the Nuclear Bars, Central Starburst, and Remarkable Outflow in NGC 2782'*
24. Jogee, S., & Kenney, J. D. P. 1998, in Proceedings of IAU Symposium 184, The Central Regions of the Galaxy and Galaxies, ed. Y. Sofue (Dordrecht: Kluwer Academic Publishers), 223: *'The Central Gas Consumption Timescale in Spirals'*
25. Jogee, S. 1997, BAAS: *'Molecular Gas and Starbursts in the Circumnuclear Region of Spirals'*
26. Kenney, J., & Jogee, S. 1997, in Proceedings of the 7th Annual Maryland Astrophysics Conference: Star Formation Near and Far, eds. S. Holt & L. Mundy, p 247: *'Dynamical Influences on Star Formation in Spiral Galaxies'* **(invited review)**
27. Jogee, S., & Kenney, J. D. P. 1996, in Proceedings of IAU Colloquium 157, Barred Galaxies, ed. R. Buta, D. A. Crocker, & B. G. Elmegreen (San Francisco: ASP), ASP Conference Series 91, 230: *'CO kinematics, star formation, and dynamical evolution of the lensed starburst NGC 4102'*
28. Bailyn, C. D., Jogee, S., Orosz, J. A., & Hjellming, R. M. 1994, IAU Circ., 6060, 1 ed. Green, D. W. E: *'X-Ray Nova in Scorpius'*