CURRICULUM VITAE

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Employment:

4/1996—present General Engineer at the Harvard-Smithsonian Center for Astrophysics, Submillimeter Array.

9/1994—3/1996 Senior Research Fellow at the Harvard-Smithsonian Center for Astrophysics.

1991—1994 Postdoctoral Research Fellow at the Five College Radio Astronomy Observatory, University of Massachusetts.

1985—1990 Graduate student at Raman Research Institute, India.

1981,1982 Summer Research Trainee at the Tata Institute of Fundamental Research, Bombay, India.

Education:

1984—1990	Ph.D., Radio Astronomy	Raman Research Institute, Indian Institute of Science, India
1982—1984	M.S., Physics	University of Bombay, India
1979—1982	B.S., Physics	University of Bombay, India

Member: American Astronomical Society, International Astronomical Union, International Union of Radio Science.

Publications:

1. A collimated, ionized bipolar structure and a high density torus in the young planetary nebula IRAS 17347-3139
   Tafoya, D., Gomez, Y., Patel, N.A., Torrelles, J.M., Gomez, J.F., Anglada, G., Miranda, L.F., de Gregorio-Monsalvo, I.
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2. Infall and Outflow of Molecular Gas in Sgr B2
   Qin, Sheng-Li; Zhao, Jun-Hui; Moran, James M.; Marrone, Daniel P.; Patel, Nimesh A.; Wang, Jun-Jie; Liu, Sheng-Yuan; Kuan, Yi-Jehng
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3. The Rapid Outbursting Star GM Cep: An EXor in Tr 37?
   Sicilia-Aguilar, Aurora; Merin, Bruno; Hormuth, Felix; Abraham, Peter; Henning, Thomas; Kun, Mria; Patel, Nimesh et al.
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4. The massive expanding molecular torus in the planetary nebula NGC 6302
   Peretto, N.; Fuller, G.; Zijlstra, A.; Patel, N.
   A&A (2007), 473, 207

5. The Circumstellar Structure and Excitation Effects around the Massive Protostar Cepheus A HW2.
   Torrelles, J. M.; Patel, N. A.; Curiel, S.; Ho, P. T. P.; Garay, G.; Rodrguez, L. F.
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6. Submillimeter Array Observations of 321 GHz Water Maser Emission in Cepheus A
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7. A Massive Bipolar Outflow and a Dusty Torus with Large Grains in the Preplanetary Nebula IRAS 22036+5306
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8. High-Resolution Observations of Water Masers in Bok Globules
   de Gregorio-Monsalvo, I., Gomez, J. F., Suarez, O., Kuiper, T. B. H., Anglada, G., Patel, N. A., Torrelles, J. M.
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9. Interferometric Observations toward the High-Mass Young Stellar Object IRAS 23139+5939: Radio Continuum and Water Maser Emission
   Trinidad, M., Curiel, S., Torrelles, J., Rodriguez, L. F., Migenes, V., Patel, N.A.
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10. The Distribution of SiO in the Circumstellar Envelope around IRC +10216
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11. Large Proper Motions in the Jet of the High-mass YSO Cepheus A HW2
Curiel S., Ho P. T. P., Patel N. A., Torrelles J. M., Rodriguez L. F., Trinidad M. A., Canto J. Hernandez L., Gomez J. F., Garay G. & Anglada G.
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12. A 1 AU Expanding Water Maser Circular Ring in the W75 N(B)-VLA 2 Shell
Uscanga, L., Canto, J., Curiel, S., Anglada, G., Torrelles, J. Patel, N. A., Gomez, J. F., Raga, A.
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13. Very Large Array Simultaneous 1.3 cm Continuum and H2O Maser Observations toward IRAS 20126+4104
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14. A Disk of Dust and Molecular Gas around a High-mass Protostar
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15. VLBI Water Maser Proper Motion Measurements in Star-forming Regions
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17. High-Velocity Bipolar Outflow and Disklike Envelope in the Carbon Star V Hydrae
Hirano,N., Shinnaga,H., Trung D. V., Fong,D.; KetoE., PatelN.A., Qi C., Young,K., ZhangQ, Zhao,J.
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18. Multiple Outflows in the LkHalpha 234 Region
Trinidad, M.A., Curiel, S., Torrelles, J.M., Rodrguez, L.F., Canto, J.,

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19. Evidence for Evolution of the Outflow Collimation in Very Young Stellar Objects
Torrelles, J.M., Patel, N.A., Anglada, G. , Gomez, J.F. , Ho, P.T.P. , Lara, L., Alberdi, A., Canto, J., Curiel, S.,,Garay, G., and Rodriguez, L.F.
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20. Observations of Water Masers and Radio Continuum Emission in AFGL 2591
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21. Detection of a Candidate for the Exciting Source of the Expanding Water Maser Bubble in Cepheus A
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22. Discovery of Linear "Building Blocks" of Water Masers Shaping Linear/Arcuate Microstructures in Cepheus A
Torrelles,J.M., Patel N.A., Gomez,J.F., Ho, P.T.P.,Rodriguez, L.F., Anglada, G., Garay, G., Greenhill, L., Curiel, S., Canto, J.,
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23. Spherical episodic ejection of material from a Young Star
Torrelles, J.M., Patel N. A., Gomez,J.F., Ho,P.T.P., Rodriguez,L.F., Anglada,G., Garay,G., Greenhill,L., Curiel,S., Canto,J.
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24. Proper Motion of Water Masers Associated with IRAS 21391+5802: Bipolar Outflow and an AU-Scale Dusty Circumstellar Shell
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Astrophysical Journal (2000), 538, 268.

25. Ammonia observations of the nearby molecular cloud MBM 12
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26. Origin and evolution of the Cepheus Bubble
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Astrophysical Journal, (1998), 507,241.

27. HI "Tails" from Cometary Globules in IC1396
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28. The Dense Core, Outflow, and Jet in L810: High-Resolution Haystack Observations at λ3mm
Clemens, D.P., Berkovitch, M., Yun, J.L., Patel N.A., Taoling Xie
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29. The large scale structure and kinematics of IC1396
Patel, N. A., Goldsmith P. F., Snell R., Hezel T. , Xie, T
Astrophysical Journal (1995), 447, 721.

30. Circular and Linear polarization of SiO maser in VY CMa
McIntosh, G.C., Predmore, C.R., Patel, N.A.
Astrophysical Journal (1994), 428,L29.

31. Cometary globules in the southeast quadrant of the Rosette nebula
Patel, N.A., Xie, T., Goldsmith, P.F.
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32. Four CO outflows and dense gas in the dark cloud complex near IC5146
Dobashi, K., Onishi, T., Iwata, T., Nagahama, T., Patel, N.A., Snell, R., Fukui, Y.
Astronomical Journal (1993), 105,1487.

33. A well shaped bipolar outflow in MonR2
Xie, T., Goldsmith, P., Patel, N.A.
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34. SiO Masers and the Intrinsic properties of Mira variables
Patel, N.A., Anthony J., Ganesan, R.
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Conference Proceedings Papers:

1. Submillimeter Wavelength Narrow Line Emission from the inner Circumstellar Envelope of IRC+10216
Patel, N.A., Young, K.H., Wilson, R.W., Bruenken, S., Thaddeus, P., Menten, K., Ried, M., McCarthy M., Van-Trung, D., Gottleib, C., Hedden, A.
BAAS, (2008), 212, 1709

2. Submillimeter Array observations of 321 GHz water maser emission in Cepheus A
Patel, N.A., Curiel, S., Zhang, Q., Sridharan, T.K., Ho, P.T.P., Torrelles, J.M.
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3. SMA Observations of H_2CO Line from Sgr B2: Infalling Molecular Gas onto The Massive Star Formation Cores
Qin, S.; Moran, J.; Zhao, J.; Marrone, D.; Patel, N.; Liu, S.; Kuan, Y.; Wang, J.
IAU Symposium (2006) 237, 198

4. Infall, Fragmentation and Outflow in Sgr B2
Qin, Sheng-Li; Zhao, Jun-Hui; Moran, James M.; Marrone, Daniel; Patel, N.; Liu, Sheng-Yuan; Kuan, Yi-Jehng; Wang, Jun-Jie
Published in J. Physics Conference Series, astro-ph/0608213

5. Elevation angle dependence of the SMA antenna focus position
Matsushita, Satoki; Saito, Masao; Sakamoto, Kazushi; Hunter, Todd R.; Patel, Nimesh A.; Sridharan, Tirupati K.; Wilson, Robert W.
Proceedings of the SPIE, (2006), 6257, 61

6. APEX: the Atacama Pathfinder EXperiment
Gusten, R., Booth, R.S., Cesarsky, C, Menten, K. M. and 62 coauthors
Proceedings of the SPIE (2006), 6267, 37

7. Dual frequency 230/690 GHz interferometry at the Submillimeter Array
Hunter, Todd R.; Barrett, John W.; Blundell, Raymond; Christensen, Robert D.; Kimberk, Robert S.; Leiker, Steven P.; Marrone, Daniel P.; Paine, Scott N.; Cosmo Papa, D.; Patel, Nimesh; and 6 coauthors
it 16th International Symposium on Space Terahertz Technology held at Chalmers University of Technology in Sweden, May 2-4, 2005, astro-ph/0509467

8. A pair of close YSOs with strikingly different outflow ejection geometry
Torrelles J. M., Patel N. A., Anglada G., Gomez, J. F., Ho P. T. P., Lara L., Alberdi A., Canto J., Curiel S., Garay G. & Rodriguez L. F.
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9. Pointing calibration of the SMA antennas
Patel N. A., Sridharan T. K.
Proceedings of SPIE – Volume 5496 Advanced Software, Control, and Communication Systems for Astronomy, Hilton Lewis, Gianni Raffi, Editors, September 2004, pp. 639-648

10. Holographic surface setting of the Sub-millimeter Array antennas
Sridharan T. K., Saito M.,Patel N. A., Christensen R. D.
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11. High Velocity Bipolar Outflow from the Carbon Star V Hydrae Imaged with the SubMillimeter Array
Hirano,N. Shinnaga,H. Zhao,J.-H.. Young,K. Fong,D. Dinh,V.-T. Qi,C.-H. Zhang,Q. Patel,N. A. Keto,E.

Asymmetrical Planetary Nebulae III: Winds, Structure and the Thunderbird, Proceedings of the conference held 28 July - 1 August 2003 at Mt. Rainer, Washington, USA. Edited by Margaret Meixner, Joel H. Kastner, Bruce Balick and Noam Soker. ASP Conference Proceedings, Vol. 313. San Francisco: Astronomical Society of the Pacific, 2004., p.341

12. A Holographic Measurement System for the SMA Antennas at 680 GHz
Sridharan,T.K.; Tong,C.E.; Saito,M.; Patel,N.A.; Blundell,R.
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13. An Enigmatic, Expanding, Spherical Bubble Ejected from Young Stellar Object
Torrelles,J.M., Patel,N.A., Gomez,J.F., Ho,P.T.P., Rodriguez,L.F., Anglada,G., Garay,G., Curiel,S., Canto,J.
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14. Water Maser Microstructures in Cepheus A
Torrelles,J.M., Patel,N.A., Ho,P.T.P., Greenhill,L., Gomez,J.F., Rodriguez,L.F., Anglada,G., Garay,G., Curiel,S., Canto,J.,
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15. Detection of the Exciting Source of the Outflow in LKHA234
Trinidad,M. A., Curiel,S., Rodriguez,L.F., Canto,J, Torrelles,J.M., Gomez,J.F., Patel,N. A., Ho,P.T.P.,
Star Formation at High Angular Resolution, International Astronomical Union. Symposium no. 221, held 22-25 July, 2003 in Sydney, Australia.

16. Interferometric Maser Observations from Outflows/Disks in Star-Forming Regions
Revista Mexicana de Astronoma y Astrofsica (Serie de Conferencias) (2002), 13, 108.

17. Pointing Control Software for the Submillimeter Array Antennas
Patel N. A.
SPIE (2000), 4009,88.

18. Proper motion of water masers associated with IRAS 21391+5802
Patel N. A., Greenhill,L.J.; Herrnstein,J.R.; Zhang,Q.; Moran,J.M.; Ho,P.T.P.; Goldsmith,P.F
Proceedings of Star Formation 1999, Nagoya, Japan, Ed: T. Nakamoto, p 300.

19. Origin and Evolution of the Cepheus Bubble
Patel,N.A.; Goldsmith,P.F.; Heyer,M.H.; Snell,R.; Pratap,P.
Lecture Notes in Physics, (1998),vol 506, p421.

20. A Well-Shaped Outflow in MonR2
Xie, T., Goldsmith, P.F., Patel N. A.
Revista Mexicana de Astronomia Y Astrofisica (1994) 29,63

21. CO Mapping of the Cepheus Bubble
Patel N. A., Heyer M.H., Goldsmith, P.F., Snell, R.L., Hezel, T., Pratap, P.
The Fourth Haystack Observatory Conference (1994), Clouds, Cores and Low Mass Stars, Ed: D. P. Clemens & Richard Barvainis, p81.

22. The Outflow, Dense Core and Jet in L810
Clemens, D., Berkovitch, M., Patel N. A., Taoling Xie
The Fourth Haystack Observatory Conference 1994, Clouds, Cores and Low Mass Stars, Ed: D. P. Clemens & Richard Barvainis, p386.

23. SiO Masers and the Intrinsic properties of Mira variables
Patel, N.A., Antony, J., Ganesan, R., Shukre, C.S.
Astrophysical Masers, 1993, ed: A. W. Clegg & G. Nedoluha, (Springer Verlag) p 445.

Experience:

1985-1989:
Contributed to the development of the 1.5 & 10.4 m millimeter wave telescopes at the Raman Research Institute, Bangalore. (Characterization of telescope mount errors; pointing and gain calibration; beam-switching and chopper-wheel calibration systems; first-light observations).

1991-1994:
Instrumentation:
Pointing and gain calibration of the FCRAO 14m telescope. Pixel offsets measurements of the QUARRY focal plane array receiver. Studied the stability of back-end spectrometers and the variation of antenna gain as a function of elevation of the 14m telescope. Participated in far-field holography measurements of the surface errors of the 14m telescope. Assisted visiting observers at FCRAO.

Science:
Bright rimmed globules, structure and kinematics of Molecular clouds, triggered star formation, SiO maser polarimetry, Bipolar outflows associated with star-forming regions.

1994-present:
Instrumentation & Software: Developed the control software for the SMA antennas and monitoring software for the array. Developed software for the pointing data gathering and reduction. Collaborated on holography measurements and surface adjustments of the SMA antennas. Developed the control software for scripted operations of the array.

Involved in the commissioning, testing and debugging of the SMA, since the very early work on the prototype SMA antennas at Westford, to the final dedication of the array in November 2003. Obtained first-light fringes with the SMA at Westford and at the summit of Mauna Kea.

Science: Submillimeter studies of high-mass star-forming regions, evolved stars and circumstellar molecules with the SMA. Proper-motion measurements of water maser emission associated with star-forming regions using the VLBA.

Personal:
Born: 07/24/1961, Mumbai (Bombay), India.
Marital status: Married to Sonal P. Patel. One son, Rishi N. Patel (age 16 years)
Nationality: Naturalized US citizen (since 24 October 2002).
