

**CURRICULUM VITAE
PRADEEP TALWANI**

Distinguished Emeritus Professor of Geophysics
Department of Earth and Ocean Sciences
University of South Carolina
Columbia, South Carolina 29208
Office Telephone: (803) 777-6449
Office FAX: (803) 777-6610
E-Mail: talwani@geol.sc.edu
Web Page: www.geol.sc.edu/talwani.htm

PERSONAL DATA: Born in India, Naturalized US Citizen

ACADEMIC BACKGROUND: M.Sc. Applied Geophysics, 1962, Indian School of Mines; M.S. Geophysics, 1971, Stanford University; Ph.D. Geophysics, 1973, Stanford University

EXPERIENCE:

A. INDUSTRIAL (1962-68) - Geophysicist in Gravity-Magnetic exploration parties with Oil and Natural Gas Commission India, 1962-68; Party chief 1965-68.

B. ACADEMIC - Assistant, Associate, and Full Professor, Department of Geology, University of South Carolina, September 1973-1977, 1977-1983, 1983 - present; Director of Graduate Studies in Geology, University of South Carolina, 1988-1991.

C. OTHER - Director of the South Carolina Seismic Network, 1990 - 2009; Board of Directors, Earthquake Education Center, 1990-2007; Board of Directors, Drilling, Observation and Sampling of the Earth's Continental Crust (DOSECC), 1996-1998; National Science Foundation panel member on Urban Renewal Initiative, Fall 1998.

CURRENT AND PAST RESEARCH ACTIVITIES

Reservoir and Injection Induced Seismicity—Observations, mechanisms, and hydromechanics.

Fluid Pressure Flow Through Fractures, observations, mechanisms and hydraulic properties.

Neotectonics and Seismotectonics of Stable Continental Regions-- case histories, and mechanisms.

Strain Accumulation in the Charleston, SC area GPS observations

Paleoseismology- Recurrence rates of Intraplate earthquakes from paleoliquefaction observations.

Crustal Structure of the SC Coastal Plain from seismic refraction and potential field data.

The 1886 Charleston Earthquake --its history, causes, mechanisms, seismotectonics, the works!

Past and Current Seismic Activity and Seismic Hazard Analysis in South Carolina.

PROFESSIONAL AFFILIATIONS (current and past)

- American Geophysical Union (AGU)
- Seismological Society of America (SSA)
- Eastern Section Seismological Society of America (ES-SSA) (Former Chairman)
- Geological Society of America (GSA) (Fellow)
- Earthquake Engineering Research Institute (EERI)
- American Association for the Advancement of Science (AAAS)
- United States Committee on Large Dams (USCOLD)

PROFESSIONAL HONORS

• Recipient of the Distinguished Alumni Award, Indian School of Mines on the occasion of its Diamond Jubilee, 1987

• Nominated by CEO of South Carolina Electric and Gas Company for the Edison Electrical Institute's Power Engineering Educator Award, 1987

• Elected a Fellow of the Geological Society of America, 1992

• Recipient of Seismological Society of America (Eastern Section's) JSA Award for Contributions to Observational Seismology, 1999.

Richard Russell Research Award for Science, Mathematics and Engineering, the highest research award given at USC, 2008.

INVITED PAPERS

I have presented invited papers at Indian Science Congress, Penrose (GSA), Chapman (AGU), USGS Redbook, and NATO conferences and at one NSF workshop. Additionally, I have presented invited papers and have chaired sessions at the meetings of AGU, GSA, SSA, ESSSA, EERI, SE-GSA, etc.

KEYNOTE LECTURES (Representative list)

- International Symposium on Reservoir Induced Seismicity, Beijing, China, Nov., 1995.
- Indo-US Workshop on Paleoseismicity, Dehra Dun, India, March, 1997.
- Societe Geologique de France. Symposium on Fluids and Fractures in the Lithosphere, Nancy, France, March, 1999.
- Workshop on Seismic Signatures of Fluid Transport, Berlin, Germany, Feb. 2000.
- Southeastern Section of the Geological Society of America Annual Meeting, Charleston, South Carolina, March, 2000.
- Modern Trends in Geophysical Science and Technology, Celebrating the Golden Jubilee of Geophysics at Indian School of Mines, Dhanbad, India, 2007

CONTRIBUTED PAPERS

My students and I have presented more than 400 talks at various international, national, and regional conferences and published over 100 papers in refereed journals.

INTERNATIONAL MEETINGS (Representative List)

Participated as a US delegate and presented papers at various international meetings including the following:

- First International Symposium on Induced Seismicity, sponsored by UNESCO at Banff, Canada, September 1975;
- Theoretical and Experimental Investigations of Earthquake Precursors, Tokyo, Japan, January 1977;
- International Association of Seismology and Physics of the Earth's Interior, Durham, England, August 1977;
- Twelfth International Conference on Mathematical Geophysics, Caracas, Venezuela, August, 1978; • NATO Conference on Intraplate Seismicity in Greece, June, 1979;
- Ewing Symposium on Earthquake Prediction, New York, May 1980;
- International Association of Seismology and Physics of the Earth's Interior, Hamburg, West Germany, August 17- 25, 1983;
- International Association of Seismology and Physics of the Earth's Interior, Assembly at Hyderabad, India, Nov. 1984;
- International Symposium on Neotectonics in South Asia, Dehra Dun, India, February 1986;
- Indo-US Workshop on Regional Geophysical Lineaments and their Tectonic and Economic Significance, Bangalore, India, April 1987;
- International Geological Congress, Kyoto, Japan, August 1992;
- International Workshop on Seismotectonics and Seismic Hazard in South East Asia, Hanoi, Vietnam, January 1994;
- International Association of Seismology and Physics of the Earth's Interior, Wellington, New Zealand, January, 1994;
- Indian Science Congress, Jaipur, India, January, 1994;

- International Symposium on Reservoir Induced Seismicity, Beijing, China, November, 1995 (Keynote Lecture);
 - 11th International School for Solid Earth Geophysics, Erice, Sicily, September, 1995;
 - 30th International Geological Congress, Beijing, China, August, 1996;
 - Indo-US Workshop on Paleoseismicity, Dehra Dun, India, March, 1997; (Keynote lecture).
 - Penrose Conference (Geol. Soc. Am) Tectonics of Continental Interiors, Brian Head, Utah, September, 1997;
 - Workshop on Field Testing and Associated Modeling of Potential High-level Nuclear Waste, Lawrence Berkeley National Laboratories, Berkeley, California, December, 1997;
 - AGU Chapman Conference on Tectonics of Stable Continental Interiors, Hyderabad, India, January, 1998;
 - 4th International Hot Dry Rock Forum, Strasbourg, France, September-October, 1998;
 - Société Géologique de France, Fluids and Fractures in the Lithosphere, Nancy, France, March, 1999 (Keynote Lecture).
 - *Seismic Signatures of Fluid Transport, Berlin, Germany Feb. 2000. (Keynote lecture).
- Indian Science Congress, Annamalai University, Tamil Nadu, India, January, 2007.

INVITED SEMINARS

Presented invited seminars at various universities and research organizations including the USGS Office of Earthquake Studies; University of Ruhr, Bochum, Germany, Institute de Physique du Globe, Strasbourg, France, Stanford, MIT, University of California at Santa Barbara and Riverside, University of Mexico, University of North Carolina, Clemson, North Carolina State, Duke, Cornell, Northwestern, Louisiana State, Virginia Polytechnic Institute, UNC Charlotte, University of Nevada at Reno, Pittsburgh section of the American Society of Civil Engineers, National Geophysical Research Institute, India, Indian School of Mines, Indian Meteorological Department, Tata Institute of Fundamental Research, Wadia Institute of Himalayan Geology, Dehra Dun, India, Nuclear Regulatory Commission, and many more....; and at colleges (College of Charleston, Coker College), high schools and middle and elementary schools, and local civic clubs (Society of Army Engineers, Charleston, Charleston Manufacturers Club, Charleston Civitan, Optimist, and Kiwanas Clubs, etc.).

OUTSIDE REVIEWING

Have regularly reviewed research proposals for USGS, NSF, NASA, DOE, ACS, Canadian Government, US-Israel Science Foundation, and various US agencies.

Have reviewed papers for the *Journal of Geophysical Research*, *Science*, *Engineering Geology*, *Earthquake Notes*, the *Bulletin of the Seismological Society of America*, *Geology*, *Bulletin of the Geological Society of America*, *Geophysical Research Letters*, Special Volumes of *DNAG*, *American Geophysical Union*, *Tectonics*, *J. Royal Astronomical Society*, *Proceedings of Internal Conferences on Basement Tectonics*, *Tectonophysics*, *Physics of the Earth and Planetary Interiors*, *Current Science*, *Academy of Indian National Sciences*, *Seismological Research Letters*, *Journal of Seismology*, *Earth and Planetary Science Letters* etc.

CONSULTING

Consultant to E. I. du Pont de Nemours & Co., review of seismic data and presentation of additional data before the Savannah River Plant seismic studies review panel (1980).

Consultant to Oak Ridge National Laboratory regarding seismicity in the southeastern United States. Study done for the Crystalline Repository Development (1982-83).

Consultant on Rondout team for the EPRI study, "An Evaluation of Seismic Source Zones in the Eastern United States, East of 105 Degrees" (1984-85).

Consultant to Lawrence Livermore National Labs on Seismic Hazards in Eastern U.S., (1988 to 1997). (Attended various workshops).

Ex Officio Member of the Earth Science Advisory Committee to Westinghouse SRL on the restart of the K-reactor, (1989-1994).

Consultant to Canadian Atomic Energy Control Board on Seismic Issues associated with Darlington and Pickering Reactors, (1990-1992).

Advisory Panel Member to Geological Survey of Canada on the Seismic Zonation Map of Canada, (1992). Served on the Senior External Events Review Group - a group of senior scientists and engineers to advise DOE on the New Production Reactor, (1990-1993).

Lawrence Livermore National Laboratories. Expert evaluator for "SSHAC Recommendations Trial Implementation Project", (1996-1997).

Atlanta Testing and Engineering. "Seismic Hazards in Eastern U.S." (Summer 1997 and Spring 1998).

Parsons Brinckerhoff, Inc., New York. "Seismic Hazard Estimation for the Proposed New Bridges on the Cooper River (SC-DOT)", (1999).

EPRI regarding seismic hazard assessment in South and Eastern US.

PUBLICATIONS

1. **Talwani, P.**, and Kovach, R.L. Geomagnetic observations and fault creep in California, In E.F. Savaretsky and T. Rikitake (ed.), "Forerunners of Strong Earthquakes," *Tectonophysics*, **14** (3/4), 245 - 256, 1972.
2. Kovach, R.L., Watkins, J.S., and **Talwani, P.** Active seismic experiment, Apollo 16 Preliminary Science Report, NASA SP, 315, p. 10-1/10-14, 1972.
3. Kovach, R.L., Watkins, J.S., and **Talwani, P.** Lunar seismic profile experiment, Apollo 17 Preliminary Science Report, NASA SP, 330, p. 10-1/10-12, 1973.
4. **Talwani, P.**, Nur, A., and Kovach, R.L. Compressional and shear wave velocities in granular materials to 2.5 kilobars, *J. Geophys. Res.*, **78**, 6899 - 6910, 1973.
5. Nur, A., Bell, M.L., and **Talwani, P.** Fluid flow and faulting, 1: A detailed study of the dilatancy mechanism and premonitory velocity changes, Proc. Conf. on Tectonic Problems of the San Andreas Fault System, ed. R.L. Kovach and A. Nur, Stanford, 391 - 404, 1973.
6. **Talwani, P.**, Nur, A., and Kovach, R.L. Implications of elastic wave velocities for Apollo 17 rock powders, Proc. of Fifth Lunar Sci. Conf. (Supplement 5), *Geochimica et Cosmochimica Acta*, **3**, 2929 - 2936, 1974.
7. **Talwani, P.**, Secor, D.T., and Scheffler, P. Preliminary results of aftershock studies following the 2 August 1974 South Carolina earthquake, *Earthquake Notes*, **45**, 21 - 28, 1975.
8. **Talwani, P.** and others. Gravity and magnetic profiles across the Georgetown Gravity Low, *Geologic Notes*, **19** (2), 24 - 32, 1975.
9. **Talwani, P.**, Long, L.T., and Bridges, S.R. Simple Bouguer anomaly map of South Carolina, MS-21, South Carolina State Development Board Div. Of Geology, 27 p. and map, 1975.
10. Bagwell, J.b., Celebi, M., Elling, r., Lindbergh, C., Maley, R.P., Pool, R., Radzinski, J., Simmons, C., Smits, D., Sparks, P., **Talwani, P.**, Report on Recommended list of structures for seismic instrumentation in Southeastern United States, U.S. Geological Survey Open File Report OF 86-0398, 1976.
11. **Talwani, P.** Earthquakes associated with the Clark Hill reservoir, South Carolina -- A case of induced seismicity, *Engg. Geol.*, **10**, 239 - 253, 1976.

12. **Talwani, P.** Stress distribution near Lake Jocassee, South Carolina, *Pure and Applied Geophysics*, **114**, No. 1/2, 275 - 281, 1977.
13. **Talwani, P.** An intensity survey of the April 28, 1975, Summerville earthquake, *Bull. Seis. Soc. Am.*, **67** (2), 547 - 549, 1977.
14. Hatcher, R.D., Howell, D.E., and **Talwani, P.** The Eastern Piedmont fault system: Speculations on its extent, *Geology*, **5**, 636 - 640, 1977.
15. **Talwani, P.** A preliminary shallow crustal model between Columbia and Charleston, South Carolina, determined from quarry blast monitoring and other geophysical data, in: Studies Related to the Charleston, South Carolina Earthquake of 1886--A Preliminary Report, ed. D.W. Rankin, U.S.G.S. Prof. Paper 1028, 177 - 187, 1977.
16. **Talwani, P.**, Stevenson, D., Amick, D., and Chiang, J. An earthquake swarm at Lake Keowee, South Carolina, *Bull. Seis. Soc. Am.*, **68**, 825 - 841, 1979.
17. **Talwani, P.** An empirical earthquake prediction model, *Phys. Earth and Planetary Interiors*, **18**, 288 - 302, 1979.
18. Sauber, J., and **Talwani, P.** Application of Keilis-Borok and McNally prediction algorithms to earthquakes in the Lake Jocassee area, South Carolina, *Phys. Earth and Planetary Interiors*, **21**, 267 - 281, 1980.
19. **Talwani, P.**, Moore, W.S., and Chiang, Jin. Radon anomalies and microearthquakes at Lake Jocassee, South Carolina, *J. Geophys. Res.*, **85**, No. B6, 3079 - 3088, 1980.
20. Rastogi, B.K., and **Talwani, P.** Relocation of Koyna earthquakes, *Bull. Seis. Soc. Am.*, **70**, 1849 - 1868, 1980.
21. Rastogi, B., and **Talwani, P.** Spatial and temporal variations in ts/tp at Monticello Reservoir, South Carolina, *Geophys. Res. Let.*, **7**, 781 - 784, 1980.
22. **Talwani, P.** Earthquake prediction studies in South Carolina, An International Review, Maurice Ewing Series 4, ed. D.W. Simpson and P.G. Richards, Am. Geophys. Un., Washington, D.C., 381 - 393, 1981.
23. Tarr, A., **Talwani, P.**, Rhea, S., Carver, S., and Amick, D. Results of recent South Carolina seismological studies, *Bull. Seis. Soc. Am.*, **71** (6), 1883 - 1902, 1981.
24. Hutchenson, K., and **Talwani, P.** Gravity survey of the Irmo Quadrangle, South Carolina, *South Carolina Geology*, **26** (1), 25 - 38, 1982.
25. **Talwani, P.** Internally consistent pattern of seismicity near Charleston, South Carolina, *Geology*, **10** (12), 654 - 658, 1982.
26. Robinson, A., and **Talwani, P.** Building damage at Charleston, South Carolina, associated with the 1886 earthquake, *Bull. Seis. Soc. Am.*, **73**, (2), 633 - 652, 1983.

27. **Talwani, P.** Tectonic models - old and new, in Hays, W.W., and Gori, P.L., eds., A workshop on "The 1886 Charleston, South Carolina, earthquake and its implications for today" - Proceedings of Conference XX, U.S. Geological Survey Open File Report 83-843, p. 88 - 99, 1983.
28. Rastogi, B.K., and **Talwani, P.**, Reservoir-induced seismicity at Lake Jocassee in South Carolina, USA in Proc. Indo-German Workshop on Rock Mechanics, eds. T.N. Gowd and F. Rummel, Publ. by National Geophysical Research Inst., Hyderabad, India, 225 - 232, 1983. (Book appeared in 1984.)
29. **Talwani, P.**, and Acree, S. Pore pressure diffusion and the mechanism of reservoir-induced seismicity, *Pageoph*, **122**, 947 - 965, 1984.
30. **Talwani, P.**, and Cox, J. Paleoseismic evidence for recurrence of earthquakes near Charleston, South Carolina, *Science*, **229**, 379 - 381, 1985.
31. SEUSSN contributors, Availability of a six-year (1977-1983) earthquake catalog for the southeastern United States derived from network monitoring, *Bull. Seis. Soc. Am.*, **75**, 629 - 633, 1985.
32. **Talwani, P.**, Rawlins, J., and Stevenson, D.E. The Savannah River Plant, South Carolina, Earthquake of June 9, 1985, *Earthquake Notes*, **56** (4), 101 - 106, 1985.
33. **Talwani, P.** Current thoughts on the cause of the Charleston, South Carolina, Earthquakes, *South Carolina Geology*, **29**, 19 - 38, 1985. (Invited).
34. Poley, C.M., and **Talwani, P.** Vertical tectonics in the Charleston, South Carolina, area, *J. Geophys. Res.*, **91**, 9056 - 9066, 1986.
35. **Talwani, P.** Seismotectonics of the Charleston region, in Proc. of 3rd Nat. Conf. on Earthquake Engineering, EERI, Charleston, **1**, 15 - 24, 1986.
36. Amick, D., and **Talwani, P.**, Earthquake recurrence rates and probability estimates for the occurrence of significant seismic activity in the Charleston area, the next 100 years, in Proc. of 3rd Nat. Conf. on Earthquake Engineering, EERI, Charleston, **1**, 55 - 64, 1986.
37. Smith, W.A., and **Talwani, P.** A gravity and magnetic study across the Dutchmans Creek gabbro pluton, Fairfield Co., South Carolina, *South Carolina Geology*, **31**, 99 - 108, 1987.
38. Smith, W.A., **Talwani, P.**, and Colquhoun, D. J. Results of a refraction survey in the Bowman Seismic Zone, South Carolina, *South Carolina Geology*, **31**, 83 - 98, 1987.
39. **Talwani, P.** The use of geophysical lineaments in the search of locations of intraplate seismicity, *Geol. Soc. India Bull.*, Special Volume on the US - India Workshop on "Regional Geophysical Lineaments and their Tectonic and Economic Significance," 229 - 235, 1987.
40. Stevenson, D.A., and **P. Talwani.** Anomalous changes in ts/tp ratios and two successful earthquake predictions at Lake Jocassee, South Carolina, USA, in Proc. of Symposium on Earthquake Prediction, Pune, India, p. 117 - 134, 1987.

41. Acree, S.D., Acree, J.R., and **Talwani, P.** The Lake Keowee, SC, earthquakes of February through June 1986, *Seis. Res. Lett.*, **9**, no 2, 63 - 70, 1988.
42. **Talwani, P.** and K. Collinsworth. Recurrence intervals for intraplate earthquakes in eastern North America from paleoseismological data. *Seis. Res. Lett.*, **59** (4), 207 - 211, 1988.
43. **Talwani, P.** The intersection model for intraplate earthquakes. *Seis. Res. Lett.* **59** (4), 305 - 310, 1988.
44. **Talwani, P.** Seismotectonics in the southeastern United States. In "Earthquakes at North-Atlantic Passive Margins: Neotectonics and Postglacial Rebound," S. Gregersen and P. Basham, eds., NATO ASI series. Series C, *Mathematical and Physical Sciences*, **226**, 563 - 579, 1989. (Invited)
45. **Talwani, P.** Characteristic features of intraplate earth quakes and the models used to explain them. In "Earthquakes at North-Atlantic Passive Margins: Neotectonics and Post-glacial Rebound," S. Gregersen and P. Basham, eds., NATO ASI series. Series C, *Mathematical and Physical Sciences*, **226**, 229 - 235, 1989. (Invited)
46. **Talwani, P.** Neotectonics in the Southeastern United States with emphasis on the Charleston, South Carolina, area. In Krinitzsky, E.L., and Slemmons, D. B., "Neotectonics in earthquake evaluation: Boulder, Colorado," *Geological Society of America Reviews in Engineering*, **V. 8**, p. 111 - 129, 1990. (Invited).
47. Bollinger, G.A., Johnston, A.C., **Talwani, P.**, Long, L.T., Shedlock, K.M., Sibol, M.S. and Chapman, M.C. Seismicity of Southeastern United States 1698-1986; In *Neotectonics of North America*, Slemmons, *et al* (eds), p. 291 - 308, 1991.
48. **Talwani, P.**, and Rajendran, K. The January 4, 1989, earthquake in Bluffton, South Carolina, and its tectonic implications. *Seis. Res. Letters.* **62**, 139 - 142, 1991.
49. **Talwani, P.** and Rajendran, K. Some seismological and geometric features of intraplate earthquakes, *Tectonophysics*, **186**, 19 - 41, 1991.
50. **Talwani, P.** Book Review: The Mechanics of Earthquake Faulting by Christopher H. Scholz, Cambridge University Press in *Bull. Seis. Soc. Am.*, **81**, 1042 - 1043, 1991.
51. Widdowson, M.A., Meadows, M.E., Dickerson, J.R., **Talwani, P.**, Schaffer, M., Orne, W.H., Hydrologic impact of reservoir filling on a fractured crystalline rock aquifer, Proc. of the 1991 national Conf. on Irrigation and Drainage Engineering, Ed. Ritter, W.F., Am. Soc. Civil Engineers, New York, pp.161-167, 1991.
52. Rajendran, K., and **Talwani, P.** The role of elastic, undrained, and drained responses in triggering earthquakes at Monticello Reservoir, South Carolina. *Bull Seis. Soc. Am.*, **82**, 1867 - 1888, 1992.
53. Marple, R., and **Talwani, P.** The Woodstock lineament: A possible seismogenic fault of the 1886 Charleston, South Carolina, Earthquake. *Seis. Res. Lett.*, **63**, 153 - 160, 1992.
54. Rajendran, K., **Talwani, P.**, and Gupta, H. K. State of stress in the Indian subcontinent: a review. *Current Science*, **62**, 86 - 93, 1992.

55. Madabhushi, S. and **Talwani, P.** Composite fault-plane solutions and relocations of recent earthquakes near Charleston, South Carolina. *Bull. Seis Soc. Am.* , **83**, 1442 - 1466, 1993.
56. Marple, R.T. and **Talwani, P.** Evidence of possible tectonic upwarping along the South Carolina Coastal Plain from an examination of river morphology and elevation data. *Geology*, **21**, 651 - 654, 1993.
57. C.P. Rajendran, R. Ehrlich, **P. Talwani** and K. Collinsworth. Recognition of seismically induced liquefaction features: Application of Fourier grain shape analysis to two sites in the Charleston, South Carolina area. *Sedimentary Geology*, **87**, 129 - 138, 1993.
58. **Talwani, P.** Book Review: Reservoir-Induced Earthquakes by H.K. Gupta, Elsevier in *Pageoph*, **140**, 150 - 154, 1993.
59. C.P. Rajendran and **P. Talwani**. Paleoseismic Indicators Near Bluffton, South Carolina: An Appraisal of Their Tectonic Implications. *Geology*, **21**, 987 - 990, 1993.
60. **Pradeep Talwani**. Speculations on the Cause of Continuing Seismicity Near Koyna Reservoir, India. *Pure and Applied Geophysics.*, **145**, (1), 167 - 174, 1995.
61. **Pradeep Talwani** and Lalit Kshirsagar. Trenching in the Koyna Area *Current Science*, **68**, (7), 739 - 742, 1995
62. **Pradeep Talwani** and David Amick. Study of Paleoliquefaction Features for Seismic Hazard Assessment International School of Solid Earth Geophysics, 11th Course. Active Faulting Studies for Seismic Hazard Assessment, (Extended Abstract). Eds. G. Valensise and D. Pantosti, 9 pgs., Erice, Sicily, Italy, September 1995.
63. **Pradeep Talwani**. Two categories of Reservoir Induced Seismicity in Proceedings of International Symposium on Reservoir Induced Seismicity, 44 - 64, Beijing, China, 1995.
64. D.A. Stevenson and **Pradeep Talwani**. August 8, 1993 Aiken, South Carolina Earthquake, *Seis. Res. Letters.*, **67**, 43 - 50, 1996.
65. **Pradeep Talwani**, J.N. Kellogg and R. Trenkamp. Validation of Tectonic Models for an Intraplate Seismic Zone, Charleston, South Carolina, with GPS Geodetic Data. NUREG/CR-6529, U.S. Nuclear Regulatory commission, 42 pp., 1997.
66. **Pradeep Talwani**. Seismic Hazard Assessment by a Study of Liquefaction and Other Secondary Effects of Earthquakes, Extended Abstracts, Indo-US Workshop on Paleoseismicity, Dehra Dun, India, p. 24 - 28, 1997.
67. **Pradeep Talwani**. Study of Paleoliquefaction Features for Seismic Hazard Assessment, Proceedings of Workshop on Seismic Hazard in the Himalayas, Dehra Dun, India, March 1997.
68. **Pradeep Talwani**. On the Nature of Reservoir-induced Seismicity, *Pure and Applied Geophysics*, **150**, 3/4, p. 473 - 492, 1997.
69. **Pradeep Talwani**. Seismotectonics of the Koyna-Warna Area, India, *Pure and Applied Geophysics*, **150**, 3/4, p. 511 - 550, 1997.

70. **Pradeep Talwani** and Ronald T. Marple. Evidence of Neotectonic Activity in the South Carolina Coastal Plain, Proceedings of the 30th International Geological Congress, **Vol. 5**, p. 49 - 61, 1997.
71. Linyue Chen and **Pradeep Talwani**. Reservoir-induced Seismicity in China, *Pure and Applied Geophysics*, **153**, p. 133 - 149, 1999.
72. **Pradeep Talwani**. Fault Geometry and Earthquakes in Continental Interiors, *Tectonophysics*, **305**, p. 371 - 379, 1999.
73. **Pradeep Talwani** and Navin Sharma. Re-evaluation of the Magnitudes of Three Destructive Aftershocks of the 1886 Charleston Earthquake, *Seis. Res. Letters*, **70**, No. 3, 360 - 367, 1999.
74. **Pradeep Talwani**, Jason S. Cobb and Malcolm F. Schaeffer. *In Situ* Measurements of Hydraulic Properties of a Shear Zone in Northwestern South Carolina, *J. Geophys. Res.*, **104**, No. B7, 14,993 - 15,003, 1999.
75. **Pradeep Talwani**, D.C. Amick, and W.T. Schaeffer. Paleoliquefaction Studies in the South Carolina Coastal Plain, U.S. Nuclear Regulatory Commission. Final Report, NUREG/CR-6619, 109 pp., 1999
76. **Pradeep Talwani**, Seismogenic properties of the crust inferred from recent studies of reservoir-induced seismicity - Application to Koyna. *Current Science*, **79**, 1327 – 1333, 2000.
77. Ronald T. Marple and **Pradeep Talwani**, Evidence for a buried fault system in the Coastal plain of the Carolinas and Virginia - Implications for neotectonics in the southeastern United States. *Bull. Geol. Soc. Am.*, **112**, 200 - 220, 2000.
78. Linyue Chen and **Pradeep Talwani**, Renewed Seismicity near Monticello, South Carolina, 1996-1999. *Bull. Seis. Soc. Am.*, **91**, 94 - 101, 2001.
79. Linyue Chen and **Pradeep Talwani**, Mechanism of Initial Seismicity Following Impoundment of the Monticello Reservoir, South Carolina. *Bull. Seis. Soc. Am.*, **91**, 1582 - 1594, 2001.
80. **Pradeep Talwani** and William T. Schaeffer, Recurrence rates of large earthquakes in the South Carolina Coastal Plain based on paleoliquefaction data. *J. Geophys. Res.*, **106**, 6621 - 6642, 2001.
81. **Pradeep Talwani** and Abhijit Gangopadhyay, Tectonic Framework of the Kachchh earthquake of 26 January 2001. *Seis. Res. Lett.*, **72**, 336 - 345, 2001.
82. Thomas G. Hildenbrand, W. D. Stuart and **Pradeep Talwani**, Geologic Structures related to New Madrid earthquakes near Memphis, Tennessee, based on gravity and magnetic interpretations. *Engg. Geol.*, **62**, 105 - 121, 2001.
83. Silva, W., Wong, I., Siegel, T., Gregor, N., Wright, D., Shapiro, R., Lee, R. and **Talwani, P.** Comprehensive seismic vulnerability and loss evaluation of the state of South Carolina using

HAZUS: Part II ground motion hazard. 7th U.S. National Conference on Earthquake Engineering, Boston, MA (USA), 21-25 Jul 2002. (World Meeting Number 000 6083).

84. **Pradeep Talwani**, *In Situ* Determination of Hydraulic Properties In A Shear Zone In Northwestern South Carolina, USA. *Geologisches Jahrbuch Sonderhefte*, **SE1**, 195 - 200, 2002.
85. **Pradeep Talwani**, Active Tectonics and Alluvial Rivers By Stanley A. Schumm, Jean F. Dumont, and John M. Holbrook: Book Review, *EOS, Transactions, Am. Geophys. Union*, **83**, 550, 2002.
86. Ke Hu, Sarah L. Gassman and **Pradeep Talwani**, *In-situ* Properties of Soils at Paleoliquefaction Sites in the South Carolina Coastal Plain. *Seis. Res. Lett.*, **73**, 964 - 978, 2002.
87. Ke Hu, Sarah L. Gassman and **Pradeep Talwani**, Magnitudes of Prehistoric Earthquakes in the South Carolina Coastal Plain from Geotechnical Data. *Seis. Res. Lett.*, **73**, 979 - 991, 2002.
88. **Pradeep Talwani**, Eric Wildermuth and Chris D. Parkinson, An Impact Crater in Northeast South Carolina Inferred from Potential Field Data. *Geophys. Res. Lett.*, 30(7), 1366, doi:10.1029/2003GL017051, 2003.
89. Martin C. Chapman, **Pradeep Talwani**, and Richard C. Cannon, Ground-Motion Attenuation in the Atlantic Coastal Plain near Charleston, South Carolina. *Bull. Seis. Soc. Am.*, **93**, 998 - 1011, 2003.
90. Abhijit Gangopadhyay and **Pradeep Talwani**, Symptomatic Features of Intraplate Earthquakes. *Seis. Res. Lett.*, **74**, 863 - 883, 2003.
91. Donald Stevenson and **Pradeep Talwani**, 2001 - 2002 Upper Three Runs Sequence of Earthquakes at the Savannah River Site, South Carolina. *Seis. Res. Lett.*, **75**, 107 - 116, 2004.
92. Abhijit Gangopadhyay, John Dickerson and **Pradeep Talwani**, A two-dimensional Numerical Model for current seismicity in the New Madrid Seismic Zone. *Seis. Res. Lett.*, **75**, 406 - 418, 2004.
93. Ronald Marple, and **Pradeep Talwani**, Proposed Shenandoah Fault and East-Coast Stafford Fault System and their implications for Eastern U.S. Tectonics. *Southeastern Geology*, 43, 57 - 80, 2004.
94. **Pradeep Talwani** and Michael Katuna, Macroscopic effects of the 1886 Charleston earthquake, Carolina geological society Field Trip Guide, pp.18, 2004.
95. Abhijit Gangopadhyay, and **Pradeep Talwani**, Fault intersections and intraplate seismicity in Charleston, South Carolina: Insights from a 2-D numerical model. *Current Science*, **88**, 1,609 - 1,616, 2005.

96. Leon, E., Gassman, S. L., and **Pradeep Talwani**, Effect of Soil Aging on Assessing Magnitudes and Accelerations of Prehistoric Earthquakes. *Earthquake Spectra*, **21**, 737 - 759, 2005.
97. Leon, E. Gassman, S.L. and Talwani, P. "Accounting for Soil Age when Assessing Liquefaction Potential," *Journal of Geotechnical and Geoenvironmental Engineering*, American Society of Civil Engineers,,**132**, 363-377,2006..
98. Trenkamp, R., and **Pradeep Talwani**, GPS Derived Strain and Strain Zonation near Charleston, South Carolina. *J. Geophys. Res.*, (In Revision), 2006.
99. Stevenson, D., Gangopadhyay, A., and **Pradeep Talwani**, Booming Plutons: Source of Microearthquakes in South Carolina. *Geophys. Res. Lett.* 33, L03316, doi:10.1029/2005GL024679. 2006
100. I. Durá Gómez, J.J. Giner Caturla, **P. Talwani**. Preliminary tectonic interpretation of the Bajo Segura Basin by the integration of geophysical and seismological data. 5^a Asamblea Hispano-Portuguesa de Geodesia y Geofísica, Seville, 2006.
101. Ron Marple and **Pradeep Talwani**, Possible Connection between the Norumbega and the East Coast –Strafford Fault Systems in Southern New England. *Northeastern Geology and Environmental Science* .28, no.3, 215-230, 2006.
102. Gangopadhyay, A., **Talwani, P.** Two-dimensional Numerical Modeling suggests that there is a preferred geometry of intersecting faults that favors Intraplate Earthquakes. "Continental Intraplate Earthquakes: Science, Hazard, and Policy Issues" Eds.Seth Stein and Stephane Mazzotti, *Geological Society of America Special Paper*, 425. 87-99, 2007.
103. **Pradeep Talwani**, Linyue Chen and Kalpna Gahalaut, SEISMOGENIC PERMEABILITY, ks. *J. Geophys. Res.* **112**, B07309, doi:10.1029/2006JB004665, 2007.
104. A.Gangopadhyay and **P. Talwani**. Fault intersections as stress concentrators; A possible cause of ongoing intraplate seismicity in New Madrid and Middleton Place Seismic Zones, (*Jour. Geophys. Res.*), 2007.
105. H. Hayati Ronald D. Andrus, Sarah L. Gassman, Michael Hasek, William M. Camp, and **Pradeep Talwani**. Characterizing the Liquefaction Resistance of Aged Soils. (Submitted to Geotech. Earthquake Engineering and Soil Dynamics Conference IV), 2007.
106. A. Gangopadhyay and **P. Talwani**. Local stress concentrators in the crust, a possible cause of Intraplate earthquakes. Modern Trends in Geophysical Science and Technology, Dhanbad, India, 2007
107. M. Hasek, S. Gassman, **P.Talwani**. R. Andrus and W. Camp. Geotechnical Characterization of Fort Dorchester Site in South Carolina for Paleoliquefaction Evaluation. 6 National Seismic Conference. Proceedings, 12 pp, 2008.
108. **P. Talwani** and S. Gassman, The use of Paleoliquefaction features in Seismic hazard Assessment- the Charleston experience. 6 National Seismic Conference. Proceedings. 6pp. 2008.

109. I. Dura-Gomez and **P. Talwani**, [Hydromechanics of the Koyna-Warna region, India.](#) Pure and Applied Geophysics doi:10.1007/s00024-009-0012-5, 2009.

111. Inmaculada Dura-Gomez, and **Pradeep Talwani**, [Finding Faults in the Charleston Area, South Carolina. 1. Seismological Data.](#), Seis. Res. Letters, Volume 80, Number 5 p.883-900, doi: 10.1785/gssrl.80.5.883 September/ October 2009.

112. **Pradeep Talwani**, and Inmaculada Dura-Gomez, [Finding Faults in the Charleston Area, South Carolina. 2. Complementary Data.](#), Seis. Res. Letters, Volume 80, Number 5 p.901-918, doi: 10.1785/gssrl.80.5.901 September/ October 2009.

113. I. Dura-Gomez and **Pradeep Talwani**, Reservoir Induced Seismicity associated with the Itoiz Reservoir, Spain: a case study. Geophysical Journal International, 2010.

TECHNICAL REPORTS

Over the years I have written over a hundred technical reports. These were usually the annual or final reports to various funding agencies. We also bring out the annual Bulletin of the South Carolina Seismic Network.

GRANTSMANSHIP

I have been successful in obtaining external research funding from various funding agencies, such as, U.S. Geological Survey, National Science Foundation, Nuclear Regulatory Commission, American Chemical Society, SCUREF,US-Israel Bi-national Science Foundation, S.C. Department of Transportation etc for more than eight million dollars.

03/16/2010