

## BIOGRAPHICAL SKETCH

Costas Emmanuel Synolakis ‡

Professor of Civil, Environmental, Aerospace and Mechanical Engineering  
UNIVERSITY OF SOUTHERN CALIFORNIA

### EDUCATION :

Ph.D., Civil Engineering, California Institute of Technology. 1986  
M.S., Civil Engineering, California Institute of Technology. 1979  
B.S., Engineering and Applied Science, California Institute of Technology. 1978

### POSITIONS :

Professor of Civil, Environmental, Mechanical and Aerospace Engineering. 2/97–present  
Associate Professor of Civil, Environmental and Aerospace Engineering. 5/91 to 2/97  
Visiting Professor, University of California, Berkeley. 4/94–7/94  
The Prime Minister’s Advisor on Science and Technology, Greece. 5/93–10/93  
Assistant Professor of Civil and Environmental Engineering, USC. 10/85–9/91

### AWARDS AND HONORS :

*Presidential Young Investigator, the White House.* 1989–1994  
*The Alexander Onassis Public Benefit Foundation Fellowship.* 1981–1983

### JOURNAL PUBLICATIONS IN REVERSE CHRONOLOGICAL ORDER:

- 1.– Okal, E.O., Borrero, J., Synolakis, C.E., 2004, The earthquake and tsunami of 17 November 1765 : Evidence for far-field tsunami hazard from Tonga, *Geophysical Journal International*, –Accepted for publication.
- 2.– Liu, P. L–F, Lynett, P., Synolakis, C.E., 2003, Analytical solutions for forced long waves on a sloping beach, *Journal of Fluid Mechanics* **478**, 101–109.
- 3.– Bardet, J–P., Synolakis, C.E., Davies, H.L., Imamura, F., Okal, E. A., 2003, Landslide Tsunamis : Recent Findings and Research Directions, *Pure and Applied Geophysics*, **160**, 10–11, 1793–1810.

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‡ Statistics–at–a–glance : 49 peer reviewed papers, 28 book chapters or full–length papers, four books, 84 abstracts, 1420 references in Google, research home page with 248,000 hits, five DISCOVERY, three BBC, and one National Geographic documentaries, 15 TV national and local news appearances in US, Canadian, Turkish, Japanese, Vanuatu, PNG and Greek TV prime time interviews; news stories written in the LA Times, New York Times, SCIENCE, the ECONOMIST, KATHIMERINI; graduated 5 Ph.D. students; over US\$ 3.6 million in individual research grants; 44 invited seminars, led or co–organized 16 international tsunami surveys. In 2002, USC’s School of Engineering was ranked 8th among all US schools by the US News and World Report , and second in research activity.

- 4.– Lynett P., Borrero, J.C., Liu, P.L–F., Synolakis, C.E., 2003, Field survey and numerical simulation; a review of the 1998 Papua New Guinea tsunami, *Pure and Applied Geophysics* **160**, 10–11, 2119–2146.
- 5.– Okal, E.O., Plafker, G., Synolakis, C.E., Borrero, J.C., 2003, Near field survey of the 1946 Aleutian tsunami on Unimak and Senak islands, *Bullitin of the Seismological Society of America*, **93**, 1226–1234.
- 6.– Okal, E.O., Synolakis, C.E., 2003, A theoretical comparison of tsunamis from dislocations and landslides, *Pure and Applied Geophysics* **160**, 10–11, 2177–2188.
- 7.– Borrero, J.C., Bu., J., Saiang, C., Uslu, B., Freckman, J., Gomer, B., Okal, E.O., Synolakis, C.E., 2003, Field survey and preliminary modeling of the Wewak, Papua New Guinea earthquake and tsunami of 9 September 2002, *Seismological Research Letters*, **74**, 393–405.
- 8.– Synolakis, C.E, Bardet, J.P, Borrero, J., Davies, H., Okal, E., Silver, E., Sweet, J., Tappin, D., 2002, Slump origin of the 1998 Papua New Guinea tsunami, *Proceedings of the Royal Society of London A* **458**, 763–769.
- 9.– Okal, E.A., Synolakis, C.E., Fryer, G.J., Heinrich, P., Borrero, J.C., Ruscher, C., Arcas, D., Guille, G., Rousseau, D., 2002, A field survey of the 1946 tsunami in the far field, *Seismological Research Letters* **73**, 490–503.
- 10.– Okal, E.A., and Synolakis, C.E., 2001, Comment on "Origin of the 17 July 1998 Papua New Guinea Tsunami" by E.L. Geist, *Seismological Research Letters* **72**, **3**, 362–365.
- 11.– Synolakis, C.E., and Fryer, G., 2001, Tsunami the Underrated Hazard, (Book review), *EOS*, **82**, 48, 588.
- 12.– Caminade, J.P., Charlie, D. , Kanoglu, U., Koshimura, S., Matsutomi, H., Moore, A., Ruscher, C. , Synolakis, C. and Takahashi, T., 2001, Vanuatu survey data aids study of earthquake and tsunami *Earth in Space* , **13** (8) 4–7.
- 13.– Borrero, J., Dolan J., Synolakis, C.E., 2001, Tsunami sources within the Eastern Santa Barbara Channel, *Geophysical Research Letters* **28**, 643–647.
- 14.– Caminade, J.P., Charlie, D. , Kanoglu, U., Koshimura, S., Matsutomi, H., Moore, A., Ruscher, C. , Synolakis, C. and Takahashi, T., 2000, Vanuatu earthquake and tsunami cause much damage, few casualties, *EOS, Transactions American Geophysical Union* **81** (52) 641, 646–647. (EOS Cover Article).
- 15.– Yalciner, A.C., Altinok, Y. and Synolakis, C.E., Tsunami Waves in Izmit Bay after the Kocaeli earthquake , 2000, *Earthquake Spectra, Special Volume on the 1999 Koaceli, Turkey*, **16**, 55–62.
- 16.– Bourgeois, J., Petroff, C., Yeh, H., Titov, V., Synolakis, C.E., Benson, B., Kuroiwa, J., Lander, J., Norabuena, E., 1999, Geologic setting, field survey and modeling of the Chimbote, northern Peru, tsunami of 21 February 1996, *Pure and Applied Geophysics* **154**, 3/4.

- 17.– Kawata, Y., Benson, B.C., Borrero, J., Davies, H., de Lange, W., Imamura, F., Synolakis, C.E., 1999, Tsunami in Papua New Guinea, *EOS, Transactions American Geophysical Union* **80** (9) 101–105. (EOS Cover Article).
- 18.– Kanoglu, U. and Synolakis, C.E., 1998, Long wave runup on piecewise linear topographies, *Journal of Fluid Mechanics* **374**, 1–28.
- 19.– Titov, V.V. and Synolakis, C.E., 1998, Numerical modeling of tidal wave runup, *Journal of Waterways, Port, Coastal and Ocean Engineering, ASCE*, **124**, (4), pp 157–171.
- 20.– Titov V.V. and Synolakis, C.E., 1997, Extreme inundation flows during the Hokkaido Nansei Oki tsunami, *Geophysical Research Letters* **24** (11), 1315–1318.
- 21.– Borrero, J., Ortiz, M., Titov, V.V., Synolakis, C.E., 1997, Field survey of mexican tsunami, *EOS, Transactions American Geophysical Union* , **78** (8). 85, 87–88. (EOS Cover Article).
- 22.– Synolakis, C.E., Liu, P. L–F. Yeh, H., Carrier, G., 1997, Tsunamigenic seafloor Deformations, *SCIENCE* **278**, 598–600.
- 23.– Kitto, A., Pirbazari, M., Badriyha B., Ravindran, V., Synolakis, C.E., 1997, Emissions of volatile and semi-volatile organic compounds and particulate matter from hot asphalts, *Environmental Technology* **18**, 121–138.
- 24.– Tadepalli S. and Synolakis, C.E., 1996, Model for the leading waves of tsunamis, *Physical Review Letters* **77**, 2141–2145.
- 25.– Zhou Z. , Synolakis, C.E., Leahy, R.M., Song S.M., 1995, Calculation of 3–D Internal Displacement Fields form 3–D X–ray Computer Tomographic Images, *Proceedings of the Royal Society, London, Series A* **449**, 537–554.
- 26.– Briggs, M.J., Synolakis, C.E., Harkins, G.S., Green, D.R. 1995, Laboratory experiments of tsunami runup on a circular island, *Pure and Applied Geophysics* **144**, 3/4, 569–593.
- 27.– Titov, V.V., and Synolakis C.E., 1995, Evolution and Runup of Breaking and Non-breaking waves using VTSC–2. *Journal of Waterway, Port , Coastal and Ocean Engineering, ASCE* **121**, 6, 308–325.
- 28.– Tsuji, Y., Matsutomi, S., Imamura, F., Synolakis C.E., 1995, Field survey of the East Java Earthquake and tsunami. *Pure and Applied Geophysics* **144**, 3/4, 839–855.
- 29.– Imamura, F., Synolakis, C.E., Titov, V., and Lee, S. 1995, Field survey of the 1994 Mindoro island, Philippines tsunami *Pure and Applied Geophysics* **144**, 3/4, 875–890.
- 30.– Synolakis, C.E., 1995, Tsunami Prediction. *SCIENCE* **270**, 15–16.
- 31.– Liu, P.L–F, Cho, Y–C., Briggs, M., Kanoglu, U., Synolakis, C.E, 1995, Solitary wave runup on a conical island, *Journal of Fluid Mechanics*, **302**, pp. 259–285.
- 32.– Tadepalli, S. and Synolakis, C.E., 1994, The Runup of N–waves. *Proceedings of the Royal Society, London, Series A* **445**, pp. 99–112.

- 33.– Yeh H., Liu, P.L-F., Briggs M., Synolakis, C.E., 1994, Tsunami Catastrophe in Babi Island, *Natur*, **372**, 6503–6508.
- 34.– Synolakis, C.E., Imamura, F., Tsuji, Y., Matsutomi, S., Tinti, B., Cook, B., and Ushman, M. 1995 Damage, Conditions of East Java tsunami of 1994 analyzed, *EOS, Transactions, American Geophysical Union*, **76**, (26), 257 and 261–262.
- 35.– Tadepalli, S. and Synolakis, C.E., 1994, Roots of  $f(z) = J_n(z) \pm iJ_{n+1}(z)$  and the evaluation of integrals with cylindrical function kernels. *Quarterly of Applied Mathematics*, **LII**, (1), 103–112.
- 36.– Synolakis, C.E. and Skjelbreia, E.J., 1993, The four zones in the evolution of solitary waves on plane beaches. *Journal of Waterways, Ports and Coastal Engineering*, ASCE, **118**, (3), 252–266.
- 37.– Yeh, H., Imamura, F., Synolakis, C.E., Tsuji, Y., Liu, P., Shi, S., 1995, The Flores Island Tsunamis, *Eos, Transactions, American Geophysical Union*, **74**, (33), 369, 371–373.
- 38.– Brewell, B. D., Tegulapalle, M. , Chih-Ming Ho and Synolakis, C.E., 1993, Passive control of delta wing rock. *Journal of Aircraft*, AIAA, **30**, (1), 131–133.
- 39.– Liu, P.L.-F., Synolakis, C.E., Yeh, H., 1991, Impressions from the First International Workshop on Long Wave Runup. *Journal of Fluid Mechanics*, **229**, pp. 675–688.
- 40.– Synolakis, C.E., 1991, Tsunami Runup on Steep Slopes. How good linear theory really is. *Natural Hazards* **4**, 221–234.
- 41.– Synolakis, C.E., 1991, Green's law and the evolution of solitary waves. *Physics of Fluids A* **3**, (3), 490–492.
- 42.– Synolakis, C.E., 1990, On the generation of long waves in the laboratory. *Journal of Waterways, Ports and Coastal Engineering*, ASCE, **116**, (2), 252–266.
- 43.– Synolakis, C.E., 1989, Determining the hydrodynamic force on an accelerating plate in a fluid with a free surface. *Journal of Engineering Mechanics*, ASCE, **115**, (11), pp. 2480–2492.
- 44.– Synolakis, C.E., 1989, Discussion on Wave reflection and runup on rough slopes, by Kobayashi et al. *Journal of Waterways, Ports and Coastal Engineering*, ASCE, **115**, (1), 139–143.
- 45.– Synolakis, C.E. and Badeer, S.H., 1989, On combining the Bernoulli and the Poiseuille equations. *American Journal of Physics*, **57**, (11), pp. 1013–1019.
- 46.– Badeer, S.H. and Synolakis, C.E., 1989, The Bernoulli and the Poiseuille equations. *The Physics Teacher*, APS, **30**, 598–601.
- 47.– Synolakis, C.E., Deb, M.K. and Skjelbreia, E.J., 1988, On the anomalous behavior of the runup of cnoidal waves. *Physics of Fluids*, **31**, 1–4.
- 48.– Synolakis, C.E., 1988, On the roots of  $f(z) = J_0(z) - iJ_1(z)$ . *Quarterly of Applied Mathematics*, **XLVI**, (1), 105–108.
- 49.– Synolakis C.E., 1987, The runup of solitary waves. *Journal of Fluid Mechanics*, **185**, 523–545.

## BOOKS EDITED OR WHERE LISTED AS AUTHOR ON THE COVER

- *Landslide tsunamis, recent findings and research directions*, Bardet, J.P., Synolakis, C.E., Davies, H.L., Imamura, F., Okal, E.O., Special issue of Pure and Applied Geophysics, 2003, Birkhauser, 0033-4553(200310)160:10-11;1-9.(Editors).
- Submarine Landslides and tsunamis, Yalciner, A.C., Pelinovsky, E., Okal, E., Synolakis, C.E., 2003, Kluwer Academic Publishers, Dordrecht, 329pp. In press.
- *Furious Earth : The Science of Earthquakes, Volcanoes and Tsunamis* , Hutton, K., Synolakis, C.E and Williams, S., 1999, McGraw Hill, 235pp, ISBN 0-07-135161-2.
- *Long Wave Runup Models*, Yeh H., Liu, P.L.-F., and Synolakis, C.E., 1997, World Scientific, Singapore, 405pp.

## MONOGRAPHS

- 50.– Synolakis, C.E., 2003, Tsunami and Seiche, in *Earthquake Engineering Handbook*, edited by Chen, W-F and Scawthorn, C., CRC Press, 9-1-9-90.
- 51.– Synolakis, C.E., 1999, Exact Solutions of the Shallow Water Wave Equations, *Advances in Coastal Engineering*, **4**, World Scientific, Singapore.

## CHAPTERS IN BOOKS

### AND IN PEER REVIEWED FULL-LENGTH CONFERENCE PROCEEDINGS

- 52.– Raichlen, F., Synolakis, C.E., 2003, Runup from three dimensional sliding mass, *Long Waves Symposium*, Briggs, M., Koputitas .Ch. (Eds). 247-256, ISBN 960-243-593-3.
- 53.– Borrero J.C., Yalciner, A.C., Kanoglu, U., Titov, V., McCarthy, D., Synolakis, C.E., 2003, Producing tsunami inundation maps in California, *Submarine landslides and tsunamis*, Kluwer Academic Publishers, Dordrecht, 315-329, – In press.
- 54.– Synolakis, C.E., Raichlen, F., 2003, Waves and runup generated by a three dimensional sliding mass, *Submarine mass movements and their consequences*, Locat, J., Mienert, J. (Eds), Kluwer, Dordrecht, 113-120, ISBN 1-4020-1244-6.
- 55.– Okal, E.A., Borrero, J.C., Synolakis, C.E., 2002, Solving the puzzle of the 1998 Papua New Guinea tsunami: the case for the slump *Solutions to Coastal Disasters*, Ed: L. Wallendorf and L. Ewing, ISBN 0-7844-0605-7, Proc. ASCE, 863-877.
- 56.– Synolakis, C.E., Yalciner, A.C., Borrero, J.C., Plafker, G. 2002, Modeling of the November 3, 1994 Skagway, Alaska tsunami, *Solutions to Coastal Disasters*, Ed: L. Wallendorf and L. Ewing, ISBN 0-7844-0605-7, Proc. ASCE, 915-927.
- 57.– Synolakis, C.E., Borrero, J.C., Eisner, R., 2002, Developing inundation maps for the State of California, *Solutions to Coastal Disasters*, Ed: L. Wallendorf and L. Ewing, ISBN 0-7844-0605-7, Proc. ASCE, 848-862.
- 58.– Eisner, R., K., Borrero, J.C., Synolakis, C.E., 2001, Inundation maps for the State of California, *Proceedings International Tsunami Symposium, ITS-2001*, 55-68, published by NOAA-PMEL, Seattle, Washington. (Also available from [www.pmel.noaa.gov/its2001](http://www.pmel.noaa.gov/its2001).)

- 59.– Synolakis, C.E., McCarthy, D., Titov, V.V., Borrero, J., 1997, Evaluating tsunami risk in California, *California and the World Oceans 97*, Proc. ASCE, San Diego, California, 1225–1236, ASCE, NY.
- 60.– Briggs, M.J., Synolakis, C.E., Harkins, G.S., Green, D., 1996, Runup of Solitary waves on a Circular island, in *Long Wave Runup Models*, Yeh H., et al (ed) 375–383, World Scientific, Singapore.
- 61.– Titov, V.V. and Synolakis, C.E., 1996, Numerical modeling of long wave runup using VTCS–3, in *Long Wave Runup Models*, Yeh H., et al (ed), 242–248, World Scientific, Singapore.
- 62.– Kanoglu, U. and Synolakis, C.E., 1996, Analytic Solutions of Solitary Wave Runup on a Conical island and on the Revere beach, in *Long Wave Runup Models*, Yeh H., et al (ed) 214–220, World Scientific, Singapore.
- 63.– Tadepalli, S. and Synolakis, C.E., 1996, A realistic model for the 1992–1996 tidal waves, *Coastal Engineering*, Proc. 25th Conf. Coast. Eng, ASCE, Orlando, Florida, 1478–1490, ASCE, NY.
- 64.– Kanoglu, U. and Synolakis, C.E., 1996, Long wave runup on coastal structures, *Coastal Engineering*, Proc. 25th Conf. Coast. Eng, ASCE, Orlando, Florida, 1452–1464, ASCE, NY.
- 65.– Briggs, M.J., Synolakis, C.E., Harkins, G.S., Hughes, S.A. 1995, Large Scale Three Dimensional Experiments of Tsunami Indundation, in *Tsunami : Progress in Prediction, Disaster prevention and Warning*, Tsuchiya Y. and Shuto, N. (eds), 129–149. This is Volume 4, of the *Series of Advances in Natural and Technological Standards*, Kluwer Academic Publishers, Boston.
- 66.– Synolakis, C.E., and Imamura, F., 1995, The November 12, 1994 Mindoro Tsunami, Proceedings Joint US/Japan Wind and Wave Engineering Symposium. Berkeley, California, Smith, C.E. (ed), Minerals Management Service, US Dept. of Interior.
- 67.– Synolakis, C.E., Zhou, Z., Leahy, R.E., Masri, S.F. 1994, A transducer for determining internal deformations using X–ray computer tomography, Proceedings 1st World Congress on Structural Control, Dept. of Civil Engineering, USC, Vol. 1, WA13–22, ISBN 0–9628908–3–9, Los Angeles, California.
- 68.– Briggs, M.J., Synolakis, C.E. and Harkins, G.S., 1994, Tsunami runup on a conical island, Proc. International Symposium WAVES – PHYSICAL AND NUMERICAL MODELING, M. Isaacson (ed), Dept. of Civil Engineering, University of British Columbia, 446–456.
- 69.– Titov, V.V. and Synolakis, C.E. 1993, A numerical study of the 9/1/92 Nicaraguan Tsunami Proc. of the IUGG/IOC International Tsunami Symposium, Wakayama, Japan. Proceedings published by the Japan Society of Civil Engineers, 627–636.
- 70.– Tadepalli, S. and Synolakis, C.E. 1993, The runup of dipole waves, Proceedings of the IUGG/IOC International Tsunami Symposium, Wakayama, Japan. Proceedings published by the Japan Society of Civil Engineers, 175–187.

- 71.– Leahy, R.E., Zhou, Z., Synolakis, C.E., Song, S.M., 1993, Three dimensional multi-resolution motion estimation for incompressible continuous media, *Proceedings 1993 International Conference Neural Networks and Signal Processing*, Guangzhou, China, 875–880.
- 72.– Briggs, M.J., Synolakis, C.E. and Hughes, S.A., 1993, Laboratory measurements of 3-D tsunami runup. *Proceedings of the IUGG/IOC International Tsunami Symposium*, Wakayama, Japan. Proceedings published by the Japan Society of Civil Engineers, 585–598.
- 73.– Synolakis, C.E., Papanicolaou P., Hodge, D., Merculief, P., 1993, The maximum height of rise of asymmetric buoyant jets in stratified fluids, NATO Advanced Workshop on Turbulent Jets, Oporto, Portugal (INVITED PAPER – peer reviewed short paper, but full-length paper never sent in final form anticipating journal publication )
- 74.– Abdel-Ghaffar, A.M., Leahy, R.M., Masri, S.F., Synolakis, C.E., 1992, A feasibility study fo a Concrete Core Tomographer, in *Nondestructive Testing of Concrete Elements and Structures*, Proceedings ASCE, San Antonio, Texas, 37–48.
- 75.– Ruscher, Cristophe and Synolakis, C.E., 1992, Asymptotic solutions for the reflection of solitary waves off plane beaches. *Proceedings ASCE, 23rd International Conference on Coastal Engineering* , Venice, Italy. (Two-page extended abstract).
- 76.– Synolakis, C.E., 1988, Are solitary waves the limiting waves in long wave runup ?, *Proc. ASCE, 21st International Conference on Coastal Engineering* , Torremolinos, Spain.
- 77.– Deb, M.K. and Synolakis, C.E., 1988, On the maximum runup of cnoidal waves, *Proc. ASCE, 21st International Conference on Coastal Engineering*, Torremolinos, Spain. (Two-page extended abstract).
- 78.– Synolakis, C.E., 1987, The runup and reflection of solitary waves . *Coastal Hydrodynamics*, Proceedings ASCE, Newark, Delaware, 533–547.
- 79.– Synolakis, C.E. and Raichlen, F.R., 1984, The generation of arbitrary waves in the laboratory. *Proceedings ASCE, 19th International Conference on Coastal Engineering*, Houston, Texas. (Two-page extended abstract).

#### THESES AND REPORTS IN REVERSE CHRONOLOGICAL ORDER:

- Jose C. Borrero, 2002 *Tsunami Hazards in Southern California*, Ph.D. Thesis, University of Southern California, Los Angeles, California, 220pp.
- Christophe Ruscher, 1998 *The sloshing of trapezoidal reservoirs*, Ph.D. Thesis, University of Southern California, Los Angeles, California, 99pp.
- Titov V.V., 1997 *Numerical Modeling of Long Wave Runup*, Ph.D. Thesis, University of Southern California, Los Angeles, California, 150pp.
- Kanoglu, U., 1996 *Analytical solutions of Long Wave Runup over Piecewise Linear Bathymetries*, Ph.D. Thesis, University of Southern California, Los Angeles, California, 180pp.
- Zhou, Z., 1995, *Maximum likelihood hyper-parameter estimation for Gibbs priors from incomplete data with applications in image processing*, Ph.D. Thesis, University of Southern California, Los Angeles, California, 181pp. (Dr. Zhou was a joint Ph.D. student with professor R.E. Leahy.)

- Pirbazari M., Synolakis, C.E., 1993–1996, Emission of organic pollutants from asphalt, Research Contract Reports S-C 93081. SCAQMD, Diamond Bar, Ca. (About 700 pages in three volumes.)
- Agbabian, M, Abdel-Ghaffar, A., Anderson, J., Masri S., Wellford, C. and Synolakis, C. 1994 Volumes 1-4 Innovative testing methods for reinforced concrete structures. FINAL REPORT. Department of Civil Engineering, USC. (About 2200 pages.)
- Synolakis, C.E., Chang V., Yen, D. Leahy, R. Singh, M., 1989–1990, Quarterly Progress Report, Volumes 1–8, Asphalt Research Program, Department of Civil Engineering University of Southern California. – Each volume is a quarterly progress report for the work of Professors Chang, Yen, Leahy, Singh and Synolakis. (About 1200 pages).
- Synolakis, C.E., 1986, *The runup of long waves*, Ph.D. Thesis, California Institute of Technology, Pasadena, California, 228pp.

### CONFERENCE PROCEEDINGS – SHORT ABSTRACTS

- 1.– Synolakis, C.E., 1986, The runup of solitary waves, *EOS, Bulletin of the American Geophysical Union*, **67** (16), Baltimore, Maryland.
- 2.– Synolakis, C.E., 1986, The runup of solitary waves. Linear and nonlinear theory, *Bulletin of the American Physical Society*, **31** (10), Columbus, Ohio.
- 3.– Synolakis, C.E., 1986, The climb of solitary waves up sloping beaches, *EOS, Bulletin of the American Geophysical Union*, **67** (44), San Francisco, California.
- 4.– Synolakis, C.E., 1987, The reflection of solitary waves, *EOS, Bulletin of the American Geophysical Union*, **68** (16), Baltimore, Maryland.
- 5.– Synolakis, C.E., 1987, The breaking of solitary waves, *Bulletin of the American Physical Society*, **32** (10), Eugene, Oregon.
- 6.– Synolakis, C.E., 1987, The breaking of long waves, *EOS, Bulletin of the American Geophysical Union*, **68** (44), San Francisco, California.
- 7.– Synolakis C.E., 1988, The runup of cnoidal waves, *Eos*, **69**, (16), San Francisco, California, *EOS, Bulletin of the American Geophysical Union*, **69** (16), San Francisco, California.
- 8.– Synolakis C.E., 1988, The runup of cnoidal waves, *Bulletin of the American Physical Society*, **32** (8), Buffalo, New York.
- 9.– Synolakis C.E., 1989, On the maximum runup of cnoidal waves, *3rd National Theoretical Mechanics Conference*, Athens, Greece.
- 10.– Synolakis C.E., 1989, On the maximum runup of tsunamis using linear theory. *International Tsunami Symposium, ITSU, XII*, November, USSR.
- 11.– Hodge D., Synolakis, C.E. and Papanicolaou, P. ,1990, The maximum height of rise of elliptical jets in stratified fluids, *Bulletin of the American Physical Society*, **35** (10), Ithaca, NY.
- 12.– Synolakis, C.E. 1990, Asymptotic results in wave runup, *International Workshop on Long Wave Runup*, Catalina Island, California.

- 13.– Synolakis, C.E. 1990, Limiting values in wave runup, *10th US–Japan Joint Tsunami Workshop*, Honolulu, Hawaii.
- 14.– Synolakis, C.E. and Skjelbreia, J.E. 1990, The evolution of the maximum height of solitary waves, *Bulletin of the American Physical Society*, **35** (10), Ithaca, New York
- 15.– Tadepalli, S. and Synolakis, C.E., 1991, Roots of  $J_n(z) \pm iJ_{n+1}(z)$  and the evaluation of integrals with cylindrical function kernels, *Bulletin of the American Physical Society*, **36** (10), page 2706, Phoenix, Arizona.
- 16.– Tadepalli, S. and Synolakis, C.E., 1992, The runup of dipole waves *Bulletin of the American Physical Society*, **37** (8), page 1737 Tallahassee, Florida.
- 17.– Briggs, M. and Synolakis, C.E., 1992, Large scale model tests of tsunami runup, *EOS, Bulletin of the American Geophysical Union*, **73** (43), page 267, San Francisco, California.
- 18.– Tadepalli, S. and Synolakis, C.E., 1993, The evolution of dipole waves, *Bulletin of the American Physical Society*, **38** (8), Albuquerque, New Mexico.
- 19.– Tadepalli, S. and Synolakis, C.E., 1993, The evolution of dipole waves, *EOS, Bulletin of the American Geophysical Union*, **74**, 43, page 333, San Francisco, California.
- 20.– Titov, V.V., Synolakis, C.E., 1993, Numerical study of the 1992 Nicaragua tsunami, *EOS, bulletin of the American Geophysical Union*, **74**, 43, page 350, San Francisco, California.
- 21.– Tadepalli, S. and Synolakis, C.E., 1993, The Runup of N–waves, *EOS, Bulletin of the American Geophysical Union*, **74**, 43, page 333, San Francisco, California.
- 22.– Titov, V.V., Synolakis, C.E., 1994, Numerical study of the 1992-93 tsunami events *Seism. Res. Let.*, **65** (1), page 25, Pasadena, California.
- 23.– Briggs, M.J., Synolakis, C.E., Harkins, G.S., Kanoglu, U., and Collidge, A., 1994, Measurements of Tsunami Runup on a Circular Island, *Seism. Res. Let.*, **65** (1), page 26, Pasadena, California.
- 24.– Synolakis, C.E., 1994, The runup of dipole waves, *European Union Workshop on Genesis and Impacts on the European Coasts, GITEC-2*, Santorini, Greece.
- 25.– Synolakis, C.E., Imamura, F., Tsuji, Y., Matsutomi, H., Cook, B., Tinti, S., 1994, Field Survey of the June 3, 1994 East Java Tsunami, *EOS, Bulletin of the American Geophysical Union*, **75** (44), page 355, San Francisco, California. (INVITED TALK)
- 26.– Tadepalli, S. and Synolakis, C.E., 1994, A generalized model profile for long wave runup, *Bulletin of the American Physical Society*, **39**, Atlanta, Georgia.
- 27.– Kanoglu U., and Synolakis, C.E., 1994, Solitary wave runup on piecewise linear 1–D and 2–D Topographies, *EOS, bulletin of the American Geophysical Union*, **75** (44), page 358, San Francisco, California.
- 28.– Briggs, M.J. and Synolakis, C.E., 1994, Tsunami evolution and runup on an island, *EOS, Bulletin of the American Geophysical Union*, **75** (44), page 358, San Francisco, California.

- 29.– Tadepalli, S. and Synolakis, C.E., 1994, A family of N–waves for modeling tsunami runup, 1994 Western Pacific Geophysics Meeting, Hong Kong, supplement to EOS, page 63, June 21, 1994.
- 30.– Titov, V. and Synolakis, C.E., 1994, A study of the July 12, 1993 Hokkaido–Nansei–Oki using a 3–D runup model 1994 Western Pacific Geophysics Meeting , Hong Kong, supplement to EOS, page 66, June 21, 1994.
- 31.– Tadepalli, S. and Synolakis, C.E., 1994, A generalized model profile for long wave runup, *EOS, Bulletin of the American Geophysical Union*, **75** (44), page 358, San Francisco, California.
- 32.– Titov, V. and Synolakis, C.E., 1994, Estimation of the source parameters of the Hokkaido–Nansei–Oki tsunami using runup data and VTSC-3, *EOS, Bulletin of the American Geophysical Union*, **75**, 44, page 357, San Francisco, California.
- 33.– Synolakis, C.E., 1995, Field survey of the 11/14/94 Mindoro earthquake, *US–Japan Joint Workshop on Wind Earthquake Engineering*, Berkeley, California.
- 34.– Titov V. and Synolakis C.E., 1995, Field Survey of the Kuril Islands tsunami, *EERI Annual Meeting*, San Francisco, California.
- 35.– Briggs, M.J. and Synolakis, C.E., 1995, Physical processes of tsunami wave evolution and runup on an island, *Proc. XXI General Assembly of IUGG*, Boulder, Colorado, page A341.
- 36.– Bottero, A., Maramai, A., Rivai, T., Synolakis, C.E., Tinti, S., 1995, The 3 June 1994 Java tsunami, *Proc. XXI General Assembly of IUGG*, Boulder, Colorado, page A332.
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- 39.– Kanoglu U., and Synolakis, C.E., 1995, Wave runup on a conical island, *Bulletin of the American Physical Society*, **40** (12), page 1954, Irvine, California.
- 40.– Tadepalli, S. and Synolakis, C.E., 1994, A generalized model profile for tsunami- wave runup, *Bulletin of the American Physical Society*, **40** (12), page 1982, Irvine, California.
- 41.– Kanoglu U., and Synolakis, C.E., 1995, Wave runup on piecewise linear topographies. *EOS, Bulletin of the American Geophysical Union*, **76** (46), page F288, San Francisco, California.
- 42.– Tadepalli, S. and Synolakis, C.E., 1995, A model profile for tsunami wave propagation, *EOS, Bulletin of the American Geophysical Union*, **76** (46), page F288, San Francisco, California.
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- port of the ITST The Western and Island Coasts, 1998, *EOS, Bulletin of the American Geophysical Union*, **79** San Francisco, California.
44. – Watts, P., Synolakis, C.E., Grilli, S.T., 1998 Simulation of an Underwater Landslide Scenario for the 1998 Papua New Guinea Event, 1998, *EOS, Bulletin of the American Geophysical Union*, **79**, San Francisco, California.
45. – Watts, P., Synolakis, C.E., Gonzalez, F., 1998, An Evaluation of Underwater Landslide Tsunami Hazards, *EOS, Bulletin of the American Geophysical Union*, **79**, San Francisco, California.
46. – Watts, P., Borrero, J.C., Tappin, D.R., Bardet, J.P., Grilli, S.T., Synolakis, C.E., 1999, Novel simulation technique employed in the 1998 Papua New Guinea Tsunami, Proc. IUGG, Birbingham, England.
47. – Tappin, D.R., Watts, P., Borrero, J., Okal, E., Bardet, J.P., Grilli, S.T., Matsumoto, T., and Synolakis, C.E., 1999, Submarine Slump Generation of the 1998 Papua New Guinea Tsunami: the Evidence so Far , *EOS, Bulletin of the American Geophysical Union*, **80**, S51C–01, San Francisco, California.
48. – Yalciner, A.C., Jose Borrero, J., Utku Kanoglu, U., Watts, P., Synolakis, C.E., and Imamura F., 1999, Field Survey of 1999 Imit Tsunami and Modeling Effort of New Tsunami Generation Mechanism, *EOS, Bulletin of the American Geophysical Union*, **80**, S51C–09, San Francisco, California.
49. – Watts, P., Borrero, J., Synolakis, C.E., Probability Predictions of Tsunami Generation by Mass Failure Off of Southern California, 1999, *EOS, Bulletin of the American Geophysical Union*, **80**, S51C–12, San Francisco, California.
50. — Sweet, S., Silvevr, E., Davies, H., Watts, P., Synolakis, C., 1999, Seismic Reflection Images of the Source Region of the Papua New Guinea Tsunami of July 17, 1998 *EOS, Bulletin of the American Geophysical Union*, **80**, S51C–02, San Francisco, California.
51. Grilli, S.T., Watts, P., Guinard, S., Synolakis, C.E., Wave Amplitude and Runup Predictions for Tsunamis Generated by Underwater Landslides *EOS, Bulletin of the American Geophysical Union*, **80**, OS32D–11, San Francisco, California.
52. – Borrero, C., Kanoglu, U., Synolakis, C.E., 1999, Tsunami Generation Mechanisms Along the California Coast and the Inundation Mapping Effort, *EOS, Bulletin of the American Geophysical Union*, **80**, OS12B–30 San Francisco, California.
53. – Grilli, S.T., Watts, P., Guignard, S., Synolakis, C.E., 1999, Wave Amplitude and Runup Predictions for Tsunamis Generated by Underwater Landslides *Bulletin of the American Geophysical Union*, **80**, San Francisco, California.
54. – Okal, E., Fryer, G., Synolakis, C.E., Borrero, J., Ruscher, D., Rousseau, D., Heinrich, P., Guille, G., 2000, 1946 Aleutian tsunami field survey in the Marquesas, *Bulletin of the American Geophysical Union*, **81** (48), San Francisco, California., **81** (48), San Francisco, California.

55. – Borrero, J.C., Synolakis, C.E., Yalciner, A.C., McCarthy, D., 2000, Tsunami inundation maps for Santa Barbara and Santa Monica Bay, *Bulletin of the American Geophysical Union*, **81** (48), San Francisco, California.
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57. – Plafker, G., Greene, H., Maher, N., Synolakis, C., Mechanism of the November 3, 1994, submarine landslide and associated landslide generated tsunami at Skagway Alaska, *Bulletin of the American Geophysical Union*, **81** (48), San Francisco, California.
58. – Watts, P., Grilli, S.T., Synolakis, C.E., 2000, Predicting tsunami amplitudes, *Bulletin of the American Geophysical Union*, **81** (48), San Francisco, California.
59. – Kanoglu, U. and Synolakis, C.E., 2000, Propagation and runup of landslide generated waves over continental shelf and slope bathymetry, *Bulletin of the American Geophysical Union*, **81** (48), San Francisco, California.
60. – Synolakis, C.E., Borrero, J., Yalciner A<sub>j</sub>, Plafker, G, Greene, H.G., Watts, P., Modeling of the 1994 Skagway, Alaska tsunami, *Bulletin of the American Geophysical Union*, **81** (48), San Francisco, California.
61. – McCoy, F.W., Synolakis, C.E., Papadopoulos, G.A., 2000, Tsunami generated during the LBA Eruption of Thera – Evidence from modeling and tsunami deposits, *Bulletin of the American Geophysical Union*, **81** (48), San Francisco, California.
62. – Badriyha, B.N., Kitto, A.M., Synolakis, C.E., and Pirbazari, M., 2000, Emissions of reactive organic gases and particulate matter from rubberized asphalt and bitumen, *Annual Conference, American Institute of Chemical Engineers*.
63. – Okal, E. and Synolakis, C.E., 2001, Identification of the source of the 1998 PNG tsunami as a slump, Abstracts, NATO Advanced Technology Workshop on Underwater Ground Failures on Tsunami Generation, Modeling, Risk, and Mitigation, 37–38, Istanbul, Turkey. ISBN 975–93455–0–1.
64. – Plafker, G., Greene, H.G., Maher, N., Synolakis, C.E., Borrero, J., Yalciner, A., 2001, The destructive 1994 submarine landslide and tsunami at Skagway Alaska : an example of a nearshore submarine failure, in, Abstracts, NATO Advanced Technology Workshop on Underwater Ground Failures on Tsunami Generation, Modeling, Risk, and Mitigation, 39–4, Istanbul, Turkey. ISBN 975–93455–0–1.
65. – Synolakis, C.E., Borrero, J., Yalciner, A., 2001, Developing inundation maps for the State of California, in Abstracts, NATO Advanced Technology Workshop on Underwater Ground Failures on Tsunami Generation, Modeling, Risk, and Mitigation, 37–38, Istanbul, Turkey. ISBN 975–93455–0–1.
66. – Plafker, G., Okal, E., Synolakis, C.E., 2001, New near source tsunami field data for the April 1, 1946 Aleutian tsunami, *Bulletin of the American Geophysical Union*, S12B-0603 **82**. San Francisco, California.

67. – Synolakis, C.E., Inundation maps for the State of California, 2002, 4th EQTAP Annual Meeting, Kobe, Japan.
68. – Okal, E. A. and Synolakis, C. E., Plafker, G., 2002, Field Surveys of the 1946 Aleutian Tsunami, TRIRAP 2002, International Workshop on Tsunami Risk and its Reduction in the AsiaPacific Region, Badung Indonesia.
69. – Synolakis, C.E. and Okal E.O., 2002, The 1998 Papua New Guinea Tsunami : Evidence for an Underwater Slump, TRIRAP 2002, International Workshop on Tsunami Risk and its Reduction in the AsiaPacific Region, Badung Indonesia.
70. – Okal, E. A. and Synolakis, C. E., 2002, Far-field theoretical models of tsunamis generated by dislocations and landslides, Abstract EGS02-A-03715, EGS Assembly, Nice, France, April 2002.
71. – Raichlen, F and Synolakis, C.E., 2002, Waves and run-up generated by a three-dimensional sliding mass, EGS02-A-01564, EGS Assembly, Nice, France, April 2002.
72. – Yalciner, A. C., Imamura F., Synolakis, C. E., 2002, Simulation of tsunami related to caldera collapse and a case study of the volcano in Aegean sea, EGS02-A-05450, EGS Assembly, Nice, France, April 2002.
73. – Landslide waves and the spell of Bob Wiegel, 2002, Association of Coastal Engineers/California Shore and beach Protection Association, Annual meeting, ASCE, San Francisco, California.
74. – Synolakis, C.E., Okal, E.O., 2002, Far-Field Theoretical Models of Tsunamis Generated by Dislocations and Landslides, IX INTERNATIONAL SYMPOSIUM ON NATURAL AND HUMAN-MADE HAZARDS Disaster Mitigation in the Perspective of the New Millennium, Natural Hazards Society, Attalya, Turkey.
75. – Raichlen, F., Borrero, J., Uslu, B., and Synolakis, C.E., 2002, Modeling Landslides in the Laboratory, IX INTERNATIONAL SYMPOSIUM ON NATURAL AND HUMAN-MADE HAZARDS Disaster Mitigation in the Perspective of the New Millennium, Natural Hazards Society, Attalya, Turkey. (<http://www.hazards2002.metu.edu.tr/program.htm>)
76. – Borrero, J, Okal, E.O., Synolakis, C.E., 2002, Tonga as a possible source of destructive transpacific tsunamis: The case of the 1865 earthquake, Western Pacific Geosciences Meetings, AGU, Session OS51C–11, Wellingford, New Zealand.
77. – Hoffman, I., Synolakis, C.E., Okal, E.O., Systematics of the distribution of tsunami run-up along coastlines in the near-field for dislocation sources with variable parameters Western Pacific Geosciences Meetings, AGU, Session OS51C–09, Wellingford, New Zealand. (<http://www.agu.org/meetings/waiswp02.html>).
78. – Raichlen, F. and Synolakis, C.E., Large Scale Laboratory Experiments for Landslide Generation, 28th International Conference on Coastal Engineering, ASCE, Cardiff, England.
- 79.– Borrero, J.C., Davies, H., Uslu, B., Okal, E., Synolakis, C., 2002, Preliminary Modeling of Tsunami Waves Generated by the Earthquake of 9 September 2002 Offshore of

Northern Papua New Guinea, Fall Meeting, Session S62C–1213, AGU, San Francisco, California.

80.– Synolakis, C.E., Okal, E.O., Titov, V. V., Bernard, E.N., 2002, A seismic dislocation model for the 1946 Aleutian tsunami in the far–field, Fall Meeting, Session OS51A–0146, AGU, San Francisco, California.

81.– Legg, M.R., Borrero, J.C., Synolakis, C.E., 2002, Tsunami Generation From the Santa Catalina Island Restraining Bend Offshore of Los Angeles, California, Fall Meeting, Session NG62A–0940, AGU, San Francisco, California.

82.– Synolakis, C E, Okal, E A, Hoffman, I. The search for source discriminants in the near field Abstract Ni EAE03-A-13229, EGS – AGU – EUG Joint Assembly, Nice, France, April 2003.

83.– Okal, E. A. and Synolakis, C. E., The search for source discriminants in the near field Abstract EAE03-A-13159, EGS – AGU – EUG Joint Assembly, Nice, France, April 2003.

84.– Raichlen, F. and Synolakis, C. E., Waves and runup generated by a three dimensional sliding mass Abstract EAE03-A-13328, EGS – AGU – EUG Joint Assembly, Nice, France, April 2003.

#### RESEARCH GRANTS LISTED BY START DATE

*All multi–year grants are listed under one heading.*

– Coop. Research : Generation Mechanisms of Near-and-Far Field Tsunamis 6/03–6/04  
Funding Agency : The National Science Foundation.  
Amount : \$ 78,000 (Year one of a three–year grant)

– Field survey of the 2002 Papua New Guinea Tsunami 11/02–11/03  
Funding Agency : The National Science Foundation.  
Amount : \$ 32,000

– Cooperative Research : Three–dimensional runup effects. 3/01-3/04  
Funding Agency : The National Science Foundation.  
Amount : \$ 190,000.

– NEES Grid : A distributed virtual laboratory for advanced earthquake  
experimentation and simulation 3/01–3/06  
Funding Agency : The National Science Foundation, with another 20+ co–investigators.  
Amount : \$10,000,000

– Tsunami inundation maps for Monterey Bay, California. 2/01–2/02  
Funding Agency : Governor’s Office of Emergency Services.  
Amount : \$ 52,000

– Field survey of Easter Island, Chile 2/01–2/02  
Funding Agency : The National Science Foundation.  
Amount : \$ 23,000

– Field survey of the Marquesas, French Polynesia. 8/00–8/01

- Funding Agency : The National Science Foundation.  
Amount : \$ 25,000
- Workshop on submarine landslides in Southern California. 1/00–1/01  
Funding Agency : The National Science Foundation. With Prof. Bardet.  
Amount : \$ 35,000
  - Probabilistic Hazard Assessment for Southern California. 9/99–9/02  
Funding Agency : Federal Emergency Management Agency  
Amount : \$ 610,000
  - Tsunami standards and guidelines for the ports of LA/LB. 9/98–9/01  
Funding Agency : Federal Emergency Management Agency.  
Amount : \$ 640,345.
  - Tsunami inundation maps for Southern California. 2/99–6/00  
Funding Agency : Governor’s Office of Emergency Services.  
Amount : \$ 98,000
  - Workshop on Tsunamigenic Seafloor Deformations. 4/97–4/98  
Funding Agency : The National Science Foundation. With Profs. G. Carrier, P. Liu, H. Yeh.  
Amount : \$ 35,000
  - Three–dimensional runup effects. 9/96–9/01  
Funding Agency : The National Science Foundation.  
Amount : \$ 189,718.
  - Presidential Young Investigator. 8/90–1/97  
Funding Agency : The National Science Foundation.  
Amount : \$ 321,559.
  - Field Survey of the Irian Jaya Tsunami. 4/96–3/97  
Funding Agency : The National Science Foundation.  
Amount : \$ 14,000.
  - International Workshop on Long Wave Runup Models. 5/95–5/96  
A workshop organization proposal. With Profs. P. Liu and H. Yeh.  
Funding Agency : The National Science Foundation.  
Amount : \$ 62,500.
  - The sloshing of the LA dam during the 1/17/94 Northridge eq. 10/94–6/96  
Funding Agency : The National Science Foundation.  
Amount : \$ 50,300.
  - Three–dimensional tsunami runup effects. 3/92–3/96  
Funding Agency : The National Science Foundation.  
Amount : \$ 210,338.
  - Emission of VOCs from asphalt paving. 1/94–1/96  
Funding Agency : SCAQMD, with Prof. Mike Pirbazari.

Amount : \$ 438,986.

– Integrated anal. and exper. approaches in the evaluation of RCs. 1/91–1/95

Funding Agency : The Contactors'/Carpenters' Cooperative Council, 1 of 8 co-pi/s.

Amount : \$ 2,450,000.

– International Workshop on Long Wave Runup. 4/90–4/91

A workshop organization proposal. With Profs. P. Liu and H. Yeh.

Funding Agency : The National Science Foundation .

Amount : \$ 36,400.

– The development of an asphalt core tomographer. 1/89–1/92

Principal investigator with another 4 co-PIs.

Funding Agency : The Strategic Highway Research Program of the NAS.

Amount : \$ 954,000.

– The runup of cnoidal waves. 3/89–3/91

Funding Agency : The National Science Foundation.

Amount : \$ 129,993.

– LdV measurements in wave–structure interactions. 3/89–3/90

Funding Agency : The National Science Foundation, with Prof. J.J. Lee.

Amount : \$ 47,500.

– The runup of cnoidal waves. 6/87–6/88

Funding Agency : The Faculty Research and Innovations Fund, USC.

Amount : \$ 15,000.

– The forces on an accelerating plate in a fluid with a free surface. 6/86–6/87

Funding Agency : The Faculty Research and Innovations Fund, USC.

Amount : \$ 18,000.

– Graphics software for analysis of deformation of fluid elements. 6/86–6/87

Funding Agency : IBM–ACIS.

Amount : \$ 12,000.

#### CURRENT DOCTORAL STUDENTS WITH EXPECTED GRADUATION DATES:

– Irina Hofman, June 2005 *The effects of source parameters in tsunami inundation.*

– Salim Palumcku, June 2005 *Tsunami hazards mitigation in the Aegean Sea.*

– Burak Uslu, June 2006 *Numerical and laboratory modeling of landslide tsunamis.*

#### FORMER DOCTORAL STUDENTS :

– Jose Borrero, August 2002, *Tsunami hazards in Southern California.* Jose is now a Research Associate at USC.

– Christophe Ruscher, September 1997, *The sloshing of trapezoidal reservoirs.* Christophe has recently returned from a position of visiting Professor at DPRI, Kyoto University and he is an independent consultant to our tsunami hazards mitigation program.

- Vasily Titov, December 1996, *Hydrodynamic modeling of 3-D tsunami runup*. Vasily is currently research scientist with NOAA/PMEL.
- Utku Kanoglu, June 1996, *The runup of long waves on piece-wise linear 2-D and 3-D topographies*. Utku is currently a senior Scientist at Applied Sciences.
- Zhenyou Zhou, May 1995, *Maximum likelihood hyper-parameter estimation for Gibbs priors from incomplete data with applications in image processing*. Zhenyou started with Rockwell International, "moved on", and just sold his .com company for \$15million.

### TEACHING :

*The semester when a particular class was taught is indicated by an f or s for fall and spring respectively. The average teaching evaluation score for CE309 over 11 years is 4.23; the School of Engineering average is believed to be 3.8.*

CE 451 Water Resources Engineering.	2003
CE 309 Introduction to Fluid Mechanics.	1985–2001
CE 106 Introduction to Civil Engineering.	1995–2003
AE 525a Engineering Mathematics – Complex variables.	f1990
CE 525b Engineering Mathematics – Intro. to PDEs.	f1991 & 1995–2002
AE 441 Experimental Methods in Aerospace Engineering.	f1988,f1989,f1990
CE 410 Environmental Fluid Mechanics.	1993, 2003
CE 510a Coastal Engineering.	s1987, 2001, 2003
CE 470 Hydrologic Design.	s1986
CE 466 Open Channel Flow and Sediment Transport, USC.	s1988

As a teaching assistant at Caltech: Coastal Engineering, Hydrologic Transport Processes, Laboratory Methods in Engineering and Applied Science, Fluid Mechanics and Gas Dynamics (1977–1985).

### OTHER PROFESSIONAL ACTIVITIES – INVITED SEMINARS :

– Department of Earth Sciences, Northwestern University.	11/03
– Stromboli Volcanic Observatory, Stromboli, Italy.	6/03
– Aquarium of the Pacific keynote Lecture, Long Beach, California.	10/02
– Southern California Earthquake Center, Los Angeles, California.	1/01
– Dept. of Civil Engineering, Middle East Technical University, Ankara, Turkey.	1/01
– Department of Geophysics, University of Chile, Santiago.	11/00
– Pacific Marine Environmental Laboratory, NOAA.	5/00
– Santa Monica Planetarium, Santa Monica, California.	3/00
– Department of Civil Engineering and Applied Mechanics, Caltech.	1/00
– Department of Mechanical and Aerospace Engineering, Arizona State University.	10/99
– The Waterways Ports, Coastal and Ocean Engineering Division, ASCE Los Angeles Technical Group.	9/99

– US Coast Guard.	6/99
– Department of Aeronautical Engineering, Caltech.	4/99
– Engineering Honors Colloquium, USC.	4/99
– Structural Engineering Association of Southern California.	3/99
– Division of Natural Hazards Mitigation, National Science Foundation.	3/99
– Department of Environmental Engineering Science, Caltech.	12/98
– State of California, Seismic Safety Commission.	9/98
– Disaster Research Prevention Institute, Kyoto University.	7/98
– Governor’s Office of Emergency Services, State of California	4/97
– Department of Geological Sciences, University of California, Los Angeles.	1/98
– Bureau of Meteorology and Geophysics, Government of Indonesia.	6/96
– Department of Mechanical and Aerospace Engineering, Arizona State University.	4/96
– Department of Civil Engineering and Geological Sciences, Notre-Dame.	11/95
– Department of Civil Engineering, Imperial College, London.	6/95
– Department of Aerospace Engineering, Stanford University.	1/95
– Joint - Department of Ocean Sciences and Geology, USC.	12/94
– Department of Civil and Environmental Engineering, UCLA.	10/95
– Hawaiian Society of Professional Engineers, Kahului, Maui.	5/95
– US Army Corps of Engineers, Waterways Experiment Station.	2/94
– Bureau of Meteorology and Geophysics, Jakarta, Indonesia.	6/93
– Department of Aerospace Engineering, USC.	3/93
– Department of Environmental Engineering Science, Caltech.	2/93
– Department of Ocean Engineering, UC Berkeley.	1/93
– US Army Corps of Engineers, Waterways Experiment Station.	11/92
– Department of Mechanical Engineering, USC.	10/92
– Department of Civil Engineering, University of Washington.	2/92
– Department of Civil Engineering, University of Washington.	4/90
– Department. of Mathematics and Computer Science, Clarkson University.	11/90
– Department of Civil Engineering, University of Washington.	4/90
– Department of Mathematics and Computer Science, Clarkson University.	11/87
– Department of Civil Engineering, Columbia University.	9/86
– Department of Civil Engineering, University of Southern California.	5/85
– Department of Mechanical Engineering, UC, Santa Barbara.	5/84

PROFESSIONAL EXPEDITIONS – FIELD SURVEYS :

- The 12/29/02 Stromboli, Italy tsunami . 6/18–6/24/03
- The 9/9/02 Papua New Guinea tsunami (Led by Dr. Jose Borrero). 9/15–9/25/02
- The Unimak, Island field survey of the 1946 tsunami. 8/10–8/20/01
- The Easter and Juan Fernandez Islands field survey of the 1946 tsunami. 11/17–12/2/00
- The Marquesas and Society Islands field survey of the 1946 tsunami. 7/29–8/28/00
- The 11/17/99 Penetcost Vanuatu earthquake and tsunami. 12/10–12/22/99
- The 8/17/99 Izmit, Turkey earthquake and tsunami. 8/19–8/26/99
- The 7/17/98 Sissano, Papua New Guinea earthquake and tsunami. 7/28–8/10/98.
- The 2/21/96 Chimpote, Peru earthquake and tsunami. 3/15–3/24/96
- The 2/14/96 Biak, Irian Jaya earthquake and tsunami. 3/2–3/14/96
- The 10/9/95 Manzanillo, Mexico earthquake and tsunami. 10/4 –10/18/95
- The June 1995, Aigion, Greece earthquake and tsunami. 1995.
- Post–event survey of the Nicaraguan coastline. 3/15–3/31/95
- The 11/14/94 Mindoro, Philippines earthquake and tsunami. 11/24–12/2/94
- The 10/4/94 Kuril islands, Russia earthquake and tsunami. 10/20–10/27/94  
(Student Vasily Titov attended.)
- The 6/2/94 East Java, Indonesia earthquake and tsunami. 6/18–7/2/94
- The 1/17/94 Northridge earthquake dam motions. 1/18–1/21/94
- The 12/12/92 Flores, Indonesia earthquake and tsunami. 12/21/92–1/6/93
- The 9/1/92 Nicaraguan earthquake and tsunami. 9/15–9/20/92

**OTHER PROFESSIONAL ACTIVITIES – UNIVERSITY GOVERNANCE :**

- University Search Committee for the Dean of the School of Engineering. 2000–2001
- Senator, Academic Senate of the University of Southern California. 1998–2000  
(The Academic Senate is the elected faculty governing body of USC).
- Chairman of the Engineering Faculty Council (EFC). 1998–1999  
(The EFC is the elected faculty governing body of the School of Engineering
- Secretary of the Engineering Faculty Council. 1998–1999  
(The EFC is the elected faculty governing body of the School of Engineering
- University Committee on Promotions and Tenure. 1997–1999  
(The 6 person UCAPT votes on all promotion files throughout USC, after the promotion committees of departments and Schools submit their recommendations. )
- Representative at Large, School of Engineering, APT Committee. 1995  
(The Appointments, Promotions and Tenure Committee has one member elected from each department and ratifies all new appointments and promotions.)
- Executive Committee, Department of Civil Engineering. 1995
- University Athletic Facilities Advisory. 1994–1996
- Coordinator, USC-SHRP Asphalt Research Program.1988–1992
- Senator, Academic Senate . 1991–1993
- CE representative, Engineering Faculty Council. 1992–1993

- University Student Affairs. 1988–1991
- University Student Retention. 1989–1990
- University Bookstore Advisory. 1992–1993
- Faculty Center Board of Directors. 1988–1990
- Recruitment, Seminar, Computing Facilities, Civil Engineering. 1988–1991

#### California Insitute of Technology

- Chairman, Graduate Student Council (GSC). 1982–1984  
(The GSC is elected body of the graduate students of Caltech.)
- Faculty Board. 1982–1984
- Graduate Standing. 1980–1985
- Convocations. 1982–1984
- Housing. 1982–1984
- Programs. 1982–1984
- Alumni Board of Directors. 1982–1984
- Secretary, Graduate Student Council. 1980–1982

#### OTHER PROFESSIONAL ACTIVITIES – SOCIETIES :†

- American Association for the Advancement of Sciences, since 1980
- American Society of Civil Engineers, since 1979
- American Geophysical Union, since 1979
- Association of Asphalt Paving Technologists, since 1988
- American Physical Society, since 1986
- Society of Theoretical and Applied Mechanics, since 1993
- Armenian Academy of Sciences, since 1995
- Earthquake Engineering Research Institute, since 1994
- New York Academy of Sciences, since 1986
- International Association for Hydraulic Research, since 1980
- New York Academy of Sciences, since 1986
- Sigma Xi, The Scientific Research Society, since 1985
- Chi Epsilon, The Engineering Honors Society, since 1997

#### OTHER PROFESSIONAL ACTIVITIES – JOURNAL PAPER REVIEWS :

- Proceedings of the Royal Society, three reviews, since 1995.
- Quarterly of Applied Mathematics, four reviews, since 1993.
- Geophysical Research Letters, 21 reviews, since 1992.
- Physics of Fluids, 23 reviews, since 1989.
- American Journal of Physics, 2 reviews, since 1989.
- Journal of Fluid Mechanics, 23 reviews, since 1988.

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† I do my best to pay dues, but the membership in some societies may not be current, as occasionally my office delays payments.

- Journal of Wat/ways, Harbors, Coastal and Ocean Eng., 30 reviews, since 1988.
- Natural Hazards, 3 reviews, since 1988.
- National Science Foundation, 30 reviews, since 1988.

OTHER PERSONAL INFORMATION :

Languages : Greek, German

Professional Examinations : EIT (1982), registered PE in the European Union (1988).

Citizenship : USA