

Missouri University of Science and Technology Scholars' Mine

International Conference on Case Histories in Geotechnical Engineering

(2013) - Seventh International Conference on Case Histories in Geotechnical Engineering

29 Apr 2013 - 04 May 2013

SOAP-1: Clyde N. Baker, Jr.

Clyde N. Baker Jr.

Follow this and additional works at: https://scholarsmine.mst.edu/icchge

Part of the Geotechnical Engineering Commons

Recommended Citation

Baker, Clyde N. Jr., "SOAP-1: Clyde N. Baker, Jr." (2013). International Conference on Case Histories in Geotechnical Engineering. 12.

https://scholarsmine.mst.edu/icchge/7icchge/session00c/12

This Article - Conference proceedings is brought to you for free and open access by Scholars' Mine. It has been accepted for inclusion in International Conference on Case Histories in Geotechnical Engineering by an authorized administrator of Scholars' Mine. This work is protected by U. S. Copyright Law. Unauthorized use including reproduction for redistribution requires the permission of the copyright holder. For more information, please contact scholarsmine@mst.edu.



Clyde N. Baker, Jr. SOAP-1

Clyde N. Baker, Jr. grew up in Flushing, New York, son of general surgeon Clyde N. Baker, Sr and Muriel Esty Baker. He graduated from Flushing High School and received his BS and MS degrees in Civil Engineering from Massachusetts Institute of Technology and a B.S. degree in Physics from William and Mary College in Williamsburg, VA. He ran Track and Cross Country at all three schools. He joined the staff of STS Consultants, Ltd. (formerly Soil Testing Services) in the fall of 1954. Over the past 55 years he has served as the geotechnical engineer on the major portion of high rise construction built in Chicago during that time frame. He has also served as geotechnical engineer or consultant on eight of the twenty tallest buildings in the world including the four tallest in Chicago (Sears, Trump, Hancock, and Amoco) and the current four tallest buildings in the world, the Petronas Towers in Kuala Lumpur, Malaysia, 101 Financial Center inTaipei, Taiwan and Burj, Dubai in Dubai.. He is currently working as a consultant on several super tall buildings currently under construction (circa 2008) including the Spire in Chicago, Doha Convention Center and Tower in Qatar and Incheon 151 in Incheon, Korea.

As a result of his experience, Mr. Baker has developed an international reputation in the design and construction of deep foundations. He has been a leader in using in-situ testing techniques correlated with past building performance to develop more efficient foundation designs. In the Chicago soil profile this has facilitated economical use of belled caissons on hard pan for major structures in the 60 to 70 story height range (such as Water Tower Place, 900 North Michigan, and AT&T) which normally would have required extending caissons to rock at significant cost premium.

Mr. Baker credits his success to his early university teachers who taught him to think, particularly Donald Taylor, T.W. Lambe, and Harl P. Aldrich at M.I.T. and Karl Terzaghi and Arthur Cassagrande at Harvard, to John P. Gnaedinger who gave him his start, to professor consultants Ralph B. Peck and Jorj Osterberg, who are known to combine theory and practice, and to his colleagues at work both former and present, who have helped him and from whom he has learned much. Former colleagues Robert G. Lukas and Safdar A. Gill and current colleagues Bill Walton, Tony Kiefer and Bernie Hertlein are top examples.

Mr. Baker has shared his knowledge and experience with his peers through numerous Conference and University lectures, technical articles, papers and publications. He is the recipient of the Deep Foundation's Institute Distinguished Service Award, the ADSC Outstanding Service Award, ASCE's Thomas A. Middlebrooks and Martin S. Kapp awards and of three Meritorious Publication Awards from SEAOI including the "History of Chicago Building Foundations 1948 to 1998" and is the author of "The Drilled Shaft Inspectors' Manual" sponsored jointly by the Deep Foundation Institute and the International Association of Foundation Drilling (ADSC).

Mr. Baker has been very active professionally on both the local and national scene. He is an Honorary Member of ASCE. He is a past President of SEAOI and the Chicago Chapter of ISPE. Nationally he has served as Chairman of the Geotechnical Engineering Division of ASCE and is a past Editor of the Geotechnical Engineering Journal and is a Past Chairman of ACI Committee 336 on Footings, Mats and Drilled Piers. He is a member of the National Academy of Engineering and was the recipient of the ASCE Ralph B. Peck Award for the year 2000.

More recently he received the 2007 Engineering News Record Award of Excellence and the ASCE Opal Lifetime Achievement Design Award in April, 2008. He received the 2009 Washington Award in February and presented the Terzaghi Lecture at the Congress at Lake Buena Vista, FL March, 2009.

Mr. Baker is a past Chairman of STS Consultants, Ltd., a 550 person consulting engineering firm, headquartered in Vernon Hills, Illinois which is now part of AECOM Technology Corporation and currently serves as Senior Principal Engineer.

On a personal note, he gives most credit to his wife of 54 years, Jeanette, for their happy marriage and their flourishing nuclear family of 3 children, 6 grandchildren and 2 great grandchildren. They are both active in the Religious Society of Friends (Quaker) and have served as Clerk of the Evanston Meeting of Friends. Mr. Baker is also a past treasurer and board member of the Quaker organization "Right Sharing of World Resources". For relaxation, Mr. Baker says he likes to read and to run, albeit very slowly (he ran his last full length marathon at age 70), and to kayak on Lake Champlain where his family has a log cabin. Travel where he can visit and reminisce with old friends is also high on his list.



Jonathan D. Bray, Ph.D., P.E. SOAP-2

Jonathan Bray is a Professor of Geotechnical Engineering at the University of California, Berkeley. He earned engineering degrees from West Point (B.S.), Stanford University (M.S. in Structural Engineering), and the University of California, Berkeley (Ph.D. in Geotechnical Engineering). Before coming to Berkeley in 1993, he served as an assistant professor at Purdue University. Dr. Bray has been a registered professional civil engineer since 1985 in Virginia and 1990 in California. He has served as a consultant on several engineering projects and peer review panels, and he has served as an expert geotechnical engineer in several legal cases. Professor Bray has authored more than 200 research publications. His expertise includes the seismic performance of earth and waste fills, earthquake fault rupture propagation, seismic site response, liquefaction and ground failure and its effects on structures, and post-earthquake reconnaissance. He has received a number of honors, including the Shamsher Prakash Research Award, ASCE Huber Research Prize, Packard Foundation Fellowship, NSF Presidential Young Investigator Award, and two North American Geosynthetics Society awards.



George Gazetas SOAP-3

Professor of Soil Mechanics / Dynamics School of Civil Engineering, National Technical University, Athens, Greece Tel.: 0030 210 772 40 75, Fax : +30 210 772 24 05 / e-mail: gazetas@ath.forthnet.gr, gazetas@central.ntua.gr http://civil.ntua.gr/gazetas/, http://ideas-dare.com/, http://ssi.civil.ntua.gr/

EDUCATION

Diploma in Civil Engineering National Technical University of Athens, Greece (NTUA): [1973]M.S. Massachusetts Institute of Technology (MIT): [1975]Ph.D. Massachusetts Institute of Technology (MIT) : [1976]

ACADEMIC POSITIONS:

- Case Western Reserve University, Cleveland, Ohio, Assistant Professor, [1978-81]
- Rensselaer Polytechnic Institute (RPI), Troy, NY, Associate Professor, [1981-85]
- State University of New York at Buffalo, Professor of Civil Engineering [1989-93]
- National Technical Univ., Athens, Professor of Soil Mechanics, [1985-present]

HONORS and AWARDS:

- Selected as the next " *Ishihara Lecturer*" for the 18th International Conference on Soil Mechanics and Geotechnical Engineering, Paris 2013
- T. K. Hsieh Award 2009 (Institution of Civil Engineers, London)
- The "Coulomb Lecturer" for 2009 (French Association of Soil Mechanics and Foundation Engineering)
- Distinguished Lecture Award of the Japanese Society of Civil Engineers (JSCE)
- T. K. Hsieh Award (Institution of Civil Engineers, London)
- Shamsher Prakash Research Award (S. Prakash Research Foundation)
- Walter L. Huber Civil Engineering Research Prize [American Society of Civil Engineers (ASCE)]
- James Croes Medal (ASCE)
- Alfred Noble Prize (ASCE, ASME, AIM, IEEE)
- Hrysoverghis Award (National Tech.University)
- 1973, 1972 Technical Chamber of Greece : First Prize

• 1973, 1972 D. Thomaides Award (National Tech.University)

RESEARCH and PUBLICATIONS:

Researcher in the fields of Geotechnical Earthquake Engineering, Soil Mechanics and Foundations. Author of over **400** research publications in journals and conference proceedings.

ENGINEERING PROJECTS:

Consultant, Designer, Referee in public and private engineering projects in Greece, in U.S.A., Japan, U.K., Canada, Germany, Venezuela, Italy, and middle-East. Topics related to earthquake and foundation engineering.

KEYNOTE and SPECIAL LECTURES:

State-of- the-art and Keynote Speaker in 50 international and national conferences and symposia.

- President of the Hellenic Society for Earthquake Engineering (2003–2009)
- 1999 2005, Board of Directors of the Organization of AntiSeismic Protection (OASP) of Greece
- Member, drafting Committees of the Greek (EAK), European (EC-8), and US (NEHRP) Seismic Codes



Buddhima Indraratna SOAP-4

Prof. Buddhima Indraratna, PhD FTSE, FIEAust, FASCE, FGS, FAusIMM, CEng, CPEng, DIC.

Since his PhD from the University of Alberta in 1987, Professor Buddhima Indraratna's significant contributions to geotechnical and railway research have been acknowledged through numerous national and international awards, including the 2009 E.H. Davis Memorial lecture, regarded as the highest accolade within the Australian Geomechanics Society, 2009 Business-Higher Education award by the Australian Government for rail track innovation, and the 2011 Engineers Australia Transport Medal.

He currently leads numerous projects funded by the Australian Research Council. He has published over 400 peer-reviewed articles and 5 research-based books, and successfully supervised about 40 PhD graduates. He is the Founding Director of the Centre for Geomechanics and Railway Engineering, which is one of three research centres forming the ARC Centre of Excellence for Geotechnical Science and Engineering, of which he is a Program Leader. He is also a coordinator of the Cooperative Research Centre for Rail Innovation, in charge of several rail track projects.

Prof. Indraratna is a Fellow of the prestigious Australian Academy of Technological Sciences and Engineering. He is also a Fellow of American Society of Civil Engineers and Fellow of the Geological Society of UK.



Edward Kavazanjian, Jr. SOAP-5

Edward Kavazanjian, Jr., Ph.D., P.E., D.GE, NAE Edkavy@asu.edu

Dr. Edward Kavazanjian, Jr. is a Professor of Civil Engineering at Arizona State University (ASU). He joined the faculty at ASU in August 2004 after 20 years as a practicing geotechnical engineer. Dr. Kavazanjian has Bachelor and Master of Science degrees from M.I.T. and a Ph.D. from the University of California at Berkeley. He is recognized for his work on earthquake engineering and on design and construction of waste containment systems. He is recipient of the 2009 Ralph B. Peck, 2010 Thomas A. Middlebrooks, and 2011 Karl Terzaghi Awards from the American Society of Civil Engineers for his contributions to landfill engineering. In February 2013 he was elected to the National Academy of Engineering.



Suzanne Lacasse SOAP-6

Dr. Lacasse was born in the small mining town of Noranda in northern Québec, Canada. She completed first her Bachelor of Arts, and in 1971, her studies in Civil Engineering at Ecole Polytechnique of Montréal. Graduate studies followed at the Massachusetts Institute of Technology in the USA and Ecole Polytechnique. She obtained her Ph.D. in 1976. She was Lecturer at Ecole Polytechnique (1973-1975), and on the faculty of the Civil Engineering Department at MIT (1975-1983), where she also was Head of the Geotechnical Laboratory. Dr. Lacasse went to the Norwegian Geotechnical Institute (NGI) as a post-doctoral fellow in 1978. She became permanent employee in late 1980, and worked on research and consulting assignments, both in Norway and abroad. She became NGI's Managing Director in 1991, a position she held until December 2011. Since 2012, she acts as Technical Director at NGI. She served as President of the Canadian Geotechnical Society in 2003-2004.

During the early part of her professional career, Dr. Lacasse concentrated her work in the field of geotechnical laboratory techniques, soil behaviour studies and in-situ investigation methods. She published several often referred to articles and reports within these fields. Subsequently, she worked in the area of foundation engineering and design, both for structures on land and offshore, projects involving slope stability evaluation and improvement, and development of calculation procedures. In her work, Dr. Lacasse concentrated on combining mathematical and numerical analyses with practical geotechnical engineering design considerations. She was a key member of the NGI-team developing practical design analysis procedures for offshore platforms subjected to storm loading. The procedures are today widely recognised and accepted. In recent years, she developed and applied probabilistic analysis to assist in the foundation design and decision process and is well known for her contributions on hazard and risk assessment and risk management. As Managing Director of the Norwegian Geotechnical Institute, she maintained a keen interest for the technical aspects of NGI's work, and conducted research and consulting work. During her career she has given keynote lectures in over 30 countries.

Dr. Lacasse received many awards, including doctorates *Honoris Causa* from the University of Dundee (Scotland) and the Norwegian University of Trondheim, the Robert Legget Award of the Canadian Geotechnical Society, the K.Y. Lo Medal of the Engineering Institute of Canada for excellence in engineering, and the Effective Teaching Award in Civil Engineering at MIT. She is member of the U.S. National Academy of Engineers, the Canadian Academy of Engineers, the French Academy of Sciences - Section Technologies, the Norwegian Academy of Engineering and Sciences, the Norwegian Engineering Academy, the Norwegian Academy of Sciences and Letters, and the Royal Norwegian Society of Sciences and Technology. Dr. Lacasse is a fellow of the Royal Society of Canada, a fellow of the Engineering Institute of Canada, a fellow of the American Society of Civil Engineers (ASCE), and an honorary member of the Norwegian Geotechnical Society. She gave in 2001 the 37th Terzaghi Lecture at the American Society of Civil Engineers, and will be giving the Terzaghi Oration in Paris in September 2013.



Pedro Simão Sêco e Pinto SOAP-7

Pedro Simão Sêco e Pinto

E-mail: pspinto@lnec.pt pinto.pss@gmail.com

EDUCATION

- 1965 1971 Licenciated in Civil Engineer (6 years course)(with honors).
- 1975 1977 Master of Engineering (with honors)
- 1979 1983 Specialist in Geotechnique (Ph.D Degree) (with honors)
- 1992 Director of Research (Full Professor degree) (with high honors)

POSITIONS

- ISSMGE President (2005-2009)
- ISSMGE Vice President for Europe (2001-2005)
- Full Professor of Geotechnical Engineering of University of Coimbra.
- Invited Professor of Master Courses "Soil Mechanics" and "Engineering Geology" of New University of Lisbon (1983-1995).
- United Nations Consulting for Design and Instrumentation for Dams (1988-1992).
- Invited Lecturer of University of California, USA, (1992-1994).
- Chairman of TC4 "Earthquake Geotechnical Engineer "Committee of ISSMGE (1994-2000).
- President of Portuguese Society for Geotechnique (1996-2000).

PROFESSIONAL EXPERIENCE

Consulting Engineer of major projects in Dams, Power plants, Bridges, Tunnels and Quay Walls, in Portugal, Angola, Argelie, Brazil, Cabo Verde, China, Dominican Republic, Ecuador, Guine- Bissau, Guinea, India, Lebanon, Morocco, Mozambique, Senegal, Syria, Tunisia, Venezuela, covering field and laboratory testing, dynamic analyses, earthquake engineering, numerical analyses, ground improvement, slopes, special foundations, instrumentation and safety evaluation.

CONFERENCES

He has presented more than 300 State-of-the Art Lectures and Special Lectures in 76 countries of the 5 Continents.

AWARDS AND HONNORS

He has received more than 50 international Awards including American Biographical Institute USA, "Special Volume for the Contributors of Earthquake Engineering, Nagadi Lecture by Indian Geotechnical Society, Széchy Lecture by Hungarian S M Society and Hungarian Academy of Sciences, Nonveiller Lecture- by Croatia Geotechnical Society, Sukle Lecture by Slovenia Soil Mechanics Society, Chin Lecture by Huanzhou University (China), Qian Jia Huan Lecture by Hohai University (China) and Chin Fung Kee Memorial Lecture by Institute of Engineers of Malasia.

EDITORIAL BOARDS AND REVIEWER

- Editor of International Journal of Case Histories
- Co-editor of Geotechnical and Geological Engineering Journal, Springer Publisher

Pedro Simão Sêco e Pinto SOAP-7 – cont.

- Member of Editorial Board of several Journals, namely "Geotecnia", "Bulletin of Earthquake Engineering", "Acta de Geotecnia", "International Journal of Geotechnical Engineering".
- Editor of Proceedings of 4 International Conferences.

PUBLICATIONS

He is author or co-author of 400 technical and scientific reports, more than 180 papers for national and international conferences and journals and has contributed for 10 books.



Harry Poulos SOAP-8

Harry Poulos joined the Department of Civil Engineering at Sydney University in 1965, and was appointed a Professor in 1982, a position he held until his retirement in 2001. In 1989, he joined Coffey Partners International, and is currently a Senior Principal. He is also an Emeritus Professor at the University of Sydney.

He has been involved in a large number of high-rise projects in Australia and overseas.

He was selected as the Australian Civil Engineer of the Year for 2003 by the Institution of Engineers Australia, and in 2010, was elected a Distinguished Member of the American Society of Civil Engineers.



Rodrigo Salgado SOAP-9

Prof. Rodrigo Salgado entered the Federal University of Rio Grande do Sul first as a chemical engineering major, then transferred to civil engineering. He graduated in 1986. After several years working first as an intern, then as an engineer with a geotechnical specialty contractor and with PETROBRÁS, the Brazilian oil company, he came to the U.S. for graduate school. He obtained an M.S. in 1990 and a Ph.D. in 1993 at the University of California, Berkeley. Immediately upon graduation, he joined the faculty at Purdue University, where he is today a Professor. He has been a Visiting Scholar at the Technical University of Turin, a Visiting Professor at the University of Newcastle and a Gledden Senior Fellow at the University of Western Australia. Professor Salgado is the recipient of numerous awards, including the Shamsher Prakash Research Award for the rigorous solutions of problems in geotechnical engineering using advanced analysis methods in 2005, the ASCE Casagrande Award in 1999 for his contributions in the fields of foundation engineering and earthquake engineering. He was an invited participant to the National Academy of Engineering Frontiers of Engineering Symposium in 2005. His research, sponsored by, among others, NSF, FHWA, INDOT and INTEL, has led to the publication of many journal and conference papers. He serves on ACI, ASCE and ABMS technical committees and is currently writing "The Engineering of Foundations", a book that will be published by McGraw-Hill by the end of 2006.



Ikuo Towhata SOAP-10

Ikuo Towhata towhata@geot.t.u-tokyo.ac.jp Department of Civil Engineering, Faculty of Engineering, University of Tokyo, 7-3-1, Hongo, Bunkyo-Ku, Tokyo, JAPAN Tel.+81-3-5841-6121 Fax.+81-3-5841-8504 http://geotle.t.u-tokyo.ac.jp/index-j.html

Ikuo Towhata received his B.E, M.E. and Doctor of Engineering from the University of Tokyo in 1977, 1979 and 1982 respectively. He has taught at the University of British Columbia, the Asian Institute of Technology, and Chulalongkom University in Bangkok as well as the University of Tokyo, where he is presently a Professor of Civil Engineering.

In addition to authoring one book, "Geotechnical Earthquake Engineering", Towhata has presented numerous invited lectures and has served on a number of editing boards and committees for professional journals internationally. He holds membership in the Japanese Geotechnical Society, the Southeast Asian Geotechnical Society, the International Society of Soil Mechanics and Geotechnical Engineering, the Japan Society of Civil Engineers (Fellow), the Japan Association for Earthquake Engineering and the Japan Landslide Society, and served on the board of directors for the Japanese Society of Geotechnical Engineering (1999-2002, 2005-2008), the Japan Association for Earthquake Engineering (2004-2006) and the Japan Landslide Society (2004-2008).

Towhata has received many awards from 1985 to present, including several "best paper" awards and the Shamsher Prakash Research Award in 1999. His fields of major interest include deformation characteristics of cohesionless soils, dynamic analysis of earth structures during earthquakes, permanent displacement of ground caused by seismic liquefaction, soil improvement by densification and grouting, stability of seabed in static and dynamic manners, thermal effects on mechanical behavior of clays, microscopic observation of granular behavior of sand subjected to shear, dynamics of landslide and debris flow, mechanical properties of municipal waste ground and seismic performance-based design of geotechnical structures.



J. P. Singh SOAP-11

Dr. Jogeshwar Preet Singh born, in January 1944, in the distinguished Patiala family of the Prime Minister of Patiala State, General Raja Gurdit Singh of Retgarh, after having his schooling at Yadavindra Public School, Patiala, graduated in Civil Engineering from Thapar Institute of Engineering and Technology, Patiala in 1964. His pursuit for higher education took him to the USA in 1965 where he received his MS in Soil Mechanics in 1966 and Ph.D. in Earthquake Engineering in 1981, both from the University of California at Berkeley.

Following his MS in 1966, he joined the world famous geotechnical engineering firm Dames & Moore where he worked on many USA and international projects. His exceptional work on the first two nuclear power plants in Iran earned him a paid sabbatical for Ph.D. by Dames & Moore. Upon completion of his doctoral dissertation in engineering seismology he became a Director of Special Services and New Technology with Harding Lawson Associates in 1980. In 1987, Dr. Singh founded his own firm named Geospectra Incorporated. In a seven-year period Geospectra excelled to new heights with world prestigious projects such as the Golden Gate Bridge and was acquired as Geospectra a Division of Kleinfelder in 1994. Dr. Singh remained with this merger until 1996 as a Principal, Senior Consultant and Manager, Seismic & Innovative New Technology. In 1996, Dr. Singh founded another firm named J.P. Singh & Associates in Richmond, California.

An international leader in earthquake engineering and seismology, Dr. Singh has been invited as expert speaker/participant in over 60 Conferences, Seminars and Workshops in USA and abroad. He has authored more than 100 technical papers and chaired numerous committees related to seismic risk reduction and building code related issues.

Dr. Singh has participated in many post-earthquake investigations of devastating earthquakes throughout the world to include 1985 Mexico Earthquake, 1985 Chile Earthquake, 1992 Costa Rica Earthquake, 1995 Kobe, Japan earthquake and more recently the 2001 Republic Day Bhuj, India Earthquake to learn how man made structures and geotechnical improvements stand and fall when the earth shakes and moves and implement lessons learned into the earthquake resistant design.

Dr. Singh, with unflagged energy, has participated in numerous activities pertaining to geologic hazards and seismic code issues sponsored by U.S. Geological Survey, U.S. Nuclear Regulatory Commission, National Science Foundation, Federal Emergency Management Agency, California Seismic Safety Commission, Earthquake Engineering Research Institute, National Center of Earthquake Engineering Research, American Petroleum Institute, National Institute of Standards and Technology, National Research Council, National Academy of Sciences, Structural Engineers Association of California, State of California Building Safety Board, State of California Division of Mines and Geology, State Mining and Geology Board, California Department of Transportation, Washington State Department of Transportation, San Francisco Bay and Conservation and Development Commission, United Nations Educational, Scientific and Cultural Organization and the Secretariat of the International Decade for National Disaster Reduction.

J. P. Singh SOAP-11 – cont.

Not only this, Dr. Singh has worked on many world prestigious projects such as Bank of America World Headquarters and Transamerica Pyramid – the tallest buildings and landmarks of San Francisco; Golden Gate Bridge – the world famous landmark in San Francisco; Tacoma Narrows Bridge – a classic resonance failure cited in every Physics text book; Trans Alaska Pipeline – World's largest and the most difficult project; Port of Oakland and Port of Los Angeles – World's two largest Container Ports.

In recognition of his exceptional achievement, leadership, unselfish and dedicated service to the community, Dr. Singh has received many awards and honors over the years such as Outstanding Immigrant Award in 1980; included in the Who's Who in California in 1983; and Who's Who in Frontiers of Science and Technology in 1985; and, in 1992, Richmond Chamber of Commerce/West County Times conferred on him the "Entrepreneur of the Year Award".

His alma mater feels genuinely honored in presenting, Dr. J. P. Singh the 'Distinguished Alumnus Award' for the year 2002 for his significant achievements and contributions in the areas of 'Seismology and Geotechnical Earthquake Engineering towards 'Mitigating Earthquake Losses and Improving Seismic Safety of the World Community'.