

## CURRICULUM VITAE

### PAOLO BAZZURRO

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## EDUCATION

### **Stanford University** (1995-1998)

- Ph.D. Civil and Environmental Engineering (Structures)  
*Dissertation:* Probabilistic Seismic Damage Analysis

### **Stanford University** (1991-1993)

- Engineer Degree Civil Engineering (Structures)  
*Thesis:* Seismic Hazard Analysis of Nonlinear Structures with Application to Jacket-type Offshore Platforms

### **Stanford University** (1990-1991)

- M.S. Civil Engineering (Structures)

### **Università degli Studi di Genova (Italy)** (1981-1987)

- Laurea Civil Engineering (Italian M.S.) (Structures)  
*Thesis:* Applicazione del Principio della Massima Entropia all'Analisi Affidabilistica con Informazioni Incomplete (Application of the Maximum Entropy Method to Reliability Analysis with Imperfect State of Knowledge)

## PROFESSIONAL SOCIETIES

- Earthquake Engineering Research Institute (EERI)
- Seismological Society of America (SSA)
- Structural Engineering Association of California (SEAOC)
- American Society of Civil Engineers (ASCE)
- Consortium of Organizations for Strong-Motion Observation Systems (COSMOS)
- Ordine degli Ingegneri della Provincia di Genova (Italy) (Professional Engineers Society of Genoa)

## HONORS, AWARDS, AND MEMBERSHIPS

- Graduated Magna cum Laude and with perfect GPA at the Università degli Studi di Genova (Italy).

- Awarded one of five fellowships in engineering offered by the Italian National Science and Foundation (Consiglio Nazionale delle Ricerche, C.N.R.) in 1992.
- Co-author of the Earthquake Spectra article that received the EERI 1998 Outstanding Paper Award
- Selected by EERI as the team leader to investigate the Molise Earthquakes of October 31, November 1 2002.
- Selected by EERI as the team leader to investigate the Abruzzo Earthquake of April 6 2009
- Recipient of the SEAONC 2009 Excellence in Structural Engineering Award, Study/Research Guidelines Category, for the project Advanced Seismic Assessment Guidelines.
- Former deputy Chair (2011-2015) of the Scientific Board of the Global Earthquake Model (GEM) (<http://www.globalquakemodel.org/>)
- Member of the FIB Task Group 7.7 Performance Based Seismic Design (<http://fib.epfl.ch/about/organisation/commtg/>) under the leadership of Prof. Paolo Pinto
- Member of the Scientific Board of International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP) (<http://www.ibk.ethz.ch/fa/icasp11/>)
- Member of the Scientific Board of International Forum on Engineering Decision Making (IFED) (<http://www.ifed.ethz.ch/organisation/organisation.html>)
- Member of the “*Commissione Grandi Rischi*” (Great Risk Advisory Committee) appointed by the Italian Government to provide guidance to the Italian Department of Civil Protection in case of Seismic activity in Italy.
- Member of the World Bank/GFDRR Disaster Risk Financing and Insurance Program (DRFIP) Working Group in assistance to the financial protection section for the 2015 Global Assessment Report (GAR).

## REGISTRATION

- Registered Professional Civil Engineer, Reg. No. 6017, Province of Genoa, Italy.

## INDUSTRY EXPERIENCE

**RED -- Risk Engineering and Design, Pavia, Italy (2012-2014)**

*Director – Hazard and Risk Analyses*

**EuropaRE Reinsurance Facility Ltd., Zurich, Switzerland (2012-2015)**

*Risk Modeling Advisor*

**AIR Worldwide Corporation, San Francisco, CA (2001-2012).***Senior Principal Engineer & Director, Engineering Analysis and Research*

- Project Leader of the *Flood and Earthquake Risk Modeling Effort for Albania, Serbia and Macedonia in support of the EuropaRE Reinsurance Facility Operations*. Prepared for the World Bank, 2011-2012.
- Project Leader of the Implementation of the *Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI): Phase III*, Prepared for the World Bank, 2011-2012.
- Technical Project Manager of the update of the AIR's Earthquake Loss Assessment Model for the State of Hawaii, 2011-2012.
- Project Leader of the *Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI): Phase II*, Prepared for the World Bank, 2009-2011.
- Technical Project Manager for the development of the AIR's Earthquake and Tropical Cyclone Loss Assessment Model for Industrial Facilities in the United States, 2009-2010
- Principal Investigator of the 2009-10 USGS-funded research project on "Vector-valued Probabilistic Seismic Hazard Analysis of Correlated Ground Motion Parameters".
- Project Manager of the AIR's development of the Earthquake Real Time Loss Estimation (EARLE) System prepared for the California Earthquake Authority (CEA), 2008-2009.
- Project Leader of the Global Catastrophe Mutual Bond Risk Modeling Study (Country Modeled: Mexico; Perils: Earthquake and Hurricanes) Prepared for the World Bank, 2008-2009. This work is the technical foundation for the \$290m MultiCat catastrophe bonds issued in 2009.
- Co-Project Manager of the Hurricane Risk Assessment for Planned Offshore Developments in the Extra-deep waters of the Gulf of Mexico, prepared for Devon Corporation, 2008-09.
- Technical Project Manager of the update of the AIR's Earthquake Loss Assessment Model for the United States, 2008-09.
- Project manager of the *Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI): Phase I -- Feasibility Study* prepared for the World Bank, 2008.
- Project manager of the 2008 Seismic Risk and Loss Analysis of all the Endesa South America Assets in Chile, Colombia, and Peru.
- Project manager of the Hurricane Risk Analysis for the Dow Chemical Plant in Freeport, TX, 2007-08.
- Principal Investigator of the 2007-08 SCEC-funded research project on "*Efficient Approach to Vector-Valued Probabilistic Seismic Hazard Analysis of Multiple Correlated Ground Motion Parameters*".
- Principal Investigator of the 2007-08 USGS-funded research project on "*Effects of spatial correlation of ground motion parameters for multi-site seismic risk assessment: Collaborative Research with Stanford University (Prof. Jack Baker) and AIR*".
- Project Manager of the 2007 Correlated Ground Motion Scenarios for the Seismic Risk Assessment of the Levees in the Sacramento River Delta prepared for the California Department of Water Resources.

- Principal investigator of a 2006-07 SCEC-funded research project on *Development of a Database of Nonlinear Ground Motion Amplification Functions for Soil Deposits of Various NEHRP Soil Categories*.
- Technical Project Manager for the development of the Hurricane Risk Model for Offshore Platforms in the Gulf of Mexico (2006-2009).
- Principal investigator of a 2006-07 USGS-funded project on *Multidirectional Seismic Excitation Effects in Building Response Estimation: Collaborative Research with USGS (Dr. Nicolas Luco) and AIR*
- Project Manager of the study: *“Recompiling, Analyses, Quantification, and Modeling of Seismic Risk of the United Mexican States, due to Earthquakes of Major Proportions”*. This project provided the technical background that allowed the Mexican Ministry of Finance to buy in 2006 protection for \$450m of earthquake losses via both the CATMEX “catastrophe bonds” and reinsurance.
- Technical Project Manager of the 2004-2005 AIR-funded project on *Effects of earthquake rupture directivity on performance of woodframe buildings*
- Principal Investigator of the 2004-05 COSMOS/USGS-funded study: *Effects of Strong Motion Processing Procedures on Time-Histories, Elastic and Inelastic Spectra*.
- Principal Investigator of the 2003-05 EERI-funded study: *Examination of structural vulnerability, damage, and post-earthquake practices for recent Italian earthquakes -- Case studies and comparisons to US practice*. This study generated a report distributed to EERI members
- Principal investigator of a 2004 COSMOS/USGS-funded research project on *Effects of Strong Motion Processing Procedures on Time-Histories, Elastic and Inelastic Spectra*.
- Principal investigator of a 2003 USGS-funded research project on *Correlation of Damage of Steel Moment-resisting Frames to a Vector-valued Ground Motion Parameter Set That Includes Energy Demands*.
- Principal investigator (PI) of a 2002 Pacific Earthquake Engineering Research (PEER) Center-funded research project on *Parameterization of Non-Stationary Acceleration Time Histories*. PI of the 2003 Addendum to the previous project.
- Co-Principal Investigator of a 2001-02 PEER/Stanford University-funded research project on *Advanced seismic assessment guidelines for more rational post-earthquake building occupancy assessment”*.
- Multiple projects on site-specific estimation of damage and losses on structures subject to seismic ground motions (Clients’ name confidential).
- Project manager for the Risk Study for Global Catastrophe Insurance Facility (GCIF) prepared for the World Bank in 2006. This study involved the Seismic Risk Assessment for a group of countries in the Caribbean, Asia, and Europe.
- Project manager of four seismic risk analyses performed for General Motor’s plants in Japan, Mexico, Colombia, and Venezuela.
- Project Manager of the study: *“Seismic Risk Analysis of the Sacramento Municipal Utility District (SMUD) Portfolio”*.
- Project Manager of the studies: *“Seismic loss analysis for a portfolio of woodframe residential houses in California”* and of *“PROSIT: Probabilistic Risk Analysis System”* for a major California insurance company.

**EW Blanch/K2 Technologies, Inc., San Jose, CA (1999-2001).***Principal Engineer*

- Developed the methodology for loss estimation of large portfolios of properties due to natural hazards (earthquakes, hurricanes, and tornadoes) adopted by K2 Technologies.

**Geodeco Consulting Engineers, S.p.A., Genoa, Italy (1997-2011).***Associate and Director*

- Developed the methodology for the Ministry of the University and of the Scientific Research (MURST) on regional PSHA projects (e.g., regional seismic hazard assessment for Northwest Italy).
- Technical Leader of the Site Response Analyses for the Beznau, Goesgen, and Leibstadt Nuclear Power Plants in Switzerland – PEGASOS Project, 2003 and 2010.
- Technical supervision for several risk assessment projects in Italy, Egypt, Switzerland, etc. (Client Names' confidential).
- Designed a road enlargement flanking the Petronio River in Sestri Levante, Italy, by a cantilever reinforced-concrete platform founded on 150 grout-injected micropiles.

**ISEC, Inc., San Francisco, CA (1996-1999)***Engineer Consultant & Senior Staff Engineer*

- Led the hazard/damage/loss assessment in many high-profile site- and structure-specific projects both onshore (e.g., the AT&T baseball stadium in San Francisco, two Sun Microsystems campuses in California and in Colorado, the Pier 39 including superstructures and parking garage in San Francisco, the YMCA Central building in San Francisco, the Xicor semiconductor headquarter in Milpitas, CA, etc.) and offshore (the Unocal Chirag 1 offshore platforms in the Caspian Sea).
- Developed the methodology for assessing the likelihood of business interruption and the risk of material damage and financial losses due to hurricane surge for the Chevron refinery located at Pascagoula, MS. The approach used a combination of risk and decision analysis procedures aiming at the selection of the most cost-effective remediation strategy.

**D'Appolonia Engineering Consulting, S.p.A., Genoa, Italy (1987-1990 and 1993-1995)***Project Engineer & Project Manager*

- Involved in static, dynamic, fatigue, and thermal analyses of several structures such as buildings, offshore platforms (for AGIP), war tanks (for Oto Melara), parts of military airplanes, automobiles (for FIAT), European Space Agency satellites (including the European Spacelab and the Tethered Satellite), earth dams (e.g. Vetto, Italy) and piers of industrial ports (e.g., Jijel, Algeria).

- Project engineer and project manager of about 15 probabilistic seismic hazard assessment studies for different on-shore (including the study for the town of Venice and its lagoon) and offshore sites in Italy, Egypt, and Indonesia. The latter studies were performed for the design/requalification of offshore platforms and were performed for Agip, Total and British Petroleum.
- Project Manager and Principal Engineer of the BREU-5935 RESTRUCT project funded by the European Community on requalification of offshore platforms, bridges, and power plants.
- Project engineer in a risk analysis of ship collision for the Zeepipe Pipeline installation in the North Sea (for SnamProgetti).
- Principal engineer on the transportation modeling project “Rome year-2000”, aimed at evaluating and accommodating the tourist impact on the railway-road-metro transportation network in Rome for the year 2000 Jubilee.

## ACADEMIC EXPERIENCE

### **Istituto Universitario di Studi Superiori - IUSS (University Institute for Advanced Studies) Pavia, Italy**

*Full Professor (2012-present)*

#### **Eucentre, Pavia, Italy**

### **European Center for Training and Research in Earthquake Engineering, Pavia, Italy**

*Head of the Hazard and Risk Assessment Department (2012-present)*

### **Stanford University, Stanford, CA**

*Consulting Assistant Professor (part-time) (2001-2005)*

- Technical Co-Leader of the PEER/PG&E-funded *Advanced Seismic Assessment Guidelines* research project aiming at establishing modern guidelines for assessing operability of PG&E buildings after an earthquake.

*Research Assistant (1990– 1993, 1995-1998)*

- Developed theory and applications of probabilistic methodologies to engineering problems, such as estimation of seismic damage in nonlinear structures (forerunner of both the SAC project and current PEER work in probabilistic demand analysis), ground motion amplification at the surface of nonlinear soil columns (adopted by the Nuclear Regulatory Commission as recommended technique for site-specific seismic hazard assessment of nuclear power plants), seismic hazard disaggregation for identification of earthquake scenarios (procedure adopted by the U.S. Geological Survey in their National Seismic Hazard Mapping Project website) and vector-valued seismic hazard assessment (currently considered for use in PEER work). Elaborated a novel approach based on inverse of First and Second Order Reliability Methods (FORM and SORM)

for earthquake hazard and damage assessment based on environmental contours. The assistantship was awarded by the Reliability of Marine Structures (RMS) Program directed by Prof. C. Allin Cornell. (Supporting Agencies: Mineral Management Service, Southern California Earthquake Center, Industrial sponsors of the Reliability of Marine Structures Program, Stanford University).

### **Università degli Studi di Genova (Italy) (1986-1987)**

#### *Research Assistant*

- Developed a maximum entropy method for assessing the optimal joint probability distribution of dependent random variables under imperfect state of knowledge with application to structural reliability.

## **TEACHING EXPERIENCE AND SPEAKING ENGAGEMENTS**

#### *Lecturer*

- Courses on Probability & Statistics applied to Engineering Problems, Risk Assessment and Reliability offered to Undergraduate, Graduate and Ph.D. Students at the IUSS and Eucentre/ROSE School, Pavia, Italy, 2012-present.

#### *Invited Lecturer*

- Lecture on “*Seismic Hazard Assessment: Procedure, Purposes and Misunderstandings*”, presented at the German Research Center for Geosciences, Potsdam, Germany, November 7, 2014.
- Short course on “*Seismic Hazard and Risk of Structures*”, offered to Graduate and Post-Graduate Students at the University Federico II, Naples, Italy, June 2014.
- Short course on “*Earthquake Engineering for Nuclear Facilities*”, offered at the Eucentre, Pavia, Italy, May 2014.
- Lecture on “*The Multiple Facets of Seismic Risk Assessment*”, presented at the Institut de Radioprotection et Sûreté Nucléaire, Fontenay-aux-Roses, France, May 2014.
- Short course on “*Seismic Hazard and Risk of Structures*”, offered to Graduate and Post-Graduate Students at the University Federico II, Naples, Italy, June 2014.
- Short course on “*Assessment and Reduction of Risk Caused by Natural Catastrophes*”, offered to Graduate and Post-Graduate Students at the Centre for Resilience of Critical Infrastructures, University of Toronto, Ontario, Canada, June 2014.

- Short course on “*Evaluation and Reduction of Risk Induced by Natural Hazards*”, offered to Graduate and Post-Graduate Students at North Carolina State University, Department of Civil, Construction and Environmental Engineering, Raleigh, NC, USA, February 2014.
- Lecture on “Characterization of Long-term Earthquake Occurrence Rates in Italy”, presented at the Guy Carpenter Research Seminar Series, London, October 2013.
- Short course on “*Earthquake Risk Assessment and Earthquake-Resistant Design*”, offered to Graduate Students at Fachhochschule Regensburg University of Applied Sciences, Regensburg, Germany, December, 2004.
- Short course on “*Environmental Contours: A Tool for Prediction of Extreme Responses*”, offered to Ph.D. Students and Faculty at the Federico II University of Naples, September, 2002.
- Special Industry Course on Structural Reliability (Topic of lectures: *Assessment of Structural Response subject to Stochastic Extreme Loads*) offered to engineers and scientist of AGIP, S.p.A (Milan, Italy), 1994.
- Course on *Stochastic Structural Load Models and Nonlinear Dynamic Response* offered to Ph.D. Students at University of Ålborg, Dept. of Building Technology and Structural Engineering, Denmark, 1992.

#### *Speaking Engagements*

- Invited speaker and expert panelist at the 62<sup>nd</sup> *Congresso Nazionale Ordine degli Ingegneri d'Italia, Assisi, June 27-30, 2017.*
- Invited speaker and expert panelist at the 4<sup>th</sup> *CAT Risk Management & Modelling Europe* (London, 1-2 March 2017) London, UK, March 1-2, 2017.
- Invited Key Note speaker “*Ground Motion Selection in Seismic Risk Assessment: the Link Between Seismology and Engineering*”, 9<sup>e</sup> Colloque National AFPS, Marne-la-Vallée, France, November 30-December 2, 2015.
- Invited Speaker “*Modellizzazione e quantificazione dell’impatto economico dei rischi climatici estremi*”, presented at the Convegno ANRA al FERMA Forum, Venezia Lido, Palazzo del Cinema, Venice, Italy, October 5, 2015.
- Invited Key Note Speaker at the SMART 2014 WORKSHOP, with a talk on “*The Multiple Facets of Seismic Hazard and Risk Assessment*”, presented at the German Research Center for Geosciences, Potsdam, Germany, November 25-27, 2014.
- Invited Key Note Speaker at the “*Post-Earthquake Data Collection Workshop*”, with a talk on “*The Role of Insurance as a Complementary Tool for Risk Mitigation*“, Saclay, France, November 25-27, 2014.



- Invited Key Note Speaker at the Theme Session “The Role of Scenarios and Loss Modeling in Understanding and Managing the Unknown”, with a talk on “Catastrophe Risk Modeling: recent past, present and future”, 10th NCEE, July 21-25 2014, Anchorage, Alaska.
- Invited Key Note Speaker at the workshop “La Direttiva Europea Alluvioni: Verso Una Nuova Gestione Del Rischio Idraulico In Ambito Montano”, Bolzano, 21-22 November, 2013, Italy.
- Invited Key Note Speaker at the “IX Italian Forum on Earth Sciences – GeoItalia 2013”, Pisa, 16-18 September 2103, Italy.
- Invited Speaker at the “Pacific Platform for Disaster Risk Management”, Forum supported by the World Bank, Asian Development Bank, and the Global Facility for Disaster Reduction and Recovery (GFDRR), August 1-5, 2011, Auckland, New Zealand.
- Invited Speaker at the “Sustainable Development Network Week – Session on Disaster Risk Management”, Forum supported by the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR), January 31-February 4, 2011, Washington D.C.
- Invited Speaker at “Earthquake Science Center –U.S.G.S. Seminar Series”, Topic of the Presentation: Vector-Valued PSHA and Correlated Ground Motion Random Fields: Tools for Hazard and Risk Assessment, October 4-5, 2010, Reno, NV.
- Invited Speaker at “Workshop on the Applications of Precarious Rocks and Related Fragile Geological Features to US National Hazard Maps”, Workshop Organized by the U.S.G.S., Testing the Survival of PBRs via Random Fields of Spatially Correlated Ground Motion Intensities, October 13, 2010, Menlo Park, CA.
- Invited Speaker at “Houston Marine Insurance Seminar”, Topic of the Presentation: Quantitative Risk Assessment and Mitigation for Onshore and Offshore Assets, September 19-20, 2010, Houston, TX.
- Invited Speaker at “Global Facility for Disaster Reduction and Recovery (GFDRR) Policy Forum, Risk Financing Initiative and Shizuoka Seminar”, Forum supported by the World bank, May 18-21, 2010, Kyoto, Japan.
- Invited Speaker at the “Lloyds Market Academy Earthquake Seminar”, May 23-27, 2010, San Francisco, CA.
- Invited Speaker at “Engineering Seminar Series –Stanford University and U.C.L.A.”. Department of Civil Engineering, Stanford University and University of California Los Angeles, Topic of the Presentation: Engineering-Based Approach to Risk Assessment of Industrial Facilities, February 4 and October 6, 2009, Stanford and Los Angeles, CA.
- Invited Speaker at “Natural Catastrophe Risk Insurance Mechanisms for Asia and the Pacific”, Symposium supported by the Asian Development Bank and the Ministry of Finance of Japan, 4-5 November 2008, Tokyo, Japan.
- Invited Speaker at “PCS Catastrophe Conference, Challenges from Coast to Coast”, Topic of the Presentation: “Loss Scenarios for California Earthquakes”, April 25-28, 2004, Long Beach, CA.
- Invited Speaker at the “Workshop on StrongMotion Record Processing”, Convened by The Consortium of Organizations for Strong-Motion Observation Systems (COSMOS), Topic of the Presentation: “Effects of Strong Motion Processing

Procedures on Time Histories, Elastic and Inelastic Spectra”, Richmond, CA, May, 2004.

- Invited Speaker at the “*Workshop on Multi-Disciplinary Approach to Seismic Risk*”, Topic of the Presentation: “Advanced Seismic Risk Analysis for Strategic Structures”, Sant’Angelo dei Lombardi, Avellino, Italy, September, 2003.

#### *Teaching Assistant*

- Perform duties of teaching assistant/ Homework Grader for graduate courses on Statistical Models in Civil Engineering and on Random Vibrations (1992 and 1995).

## **PUBLICATIONS**

### ***International Journals***

- Kohrangi, M., Vamvatsikos, D., and Bazzurro, P. (2017) Site dependence and record selection schemes for building fragility and regional loss assessment, *Earthquake Engineering and Structural Dynamics*, January, doi: 10.1002/eqe.2873, Scopus: 2-s2.0-85010505587.
- Kohrangi M., Bazzurro P., Vamvatsikos D., and A. Spillatura (2017), Conditional Spectrum Based Ground Motion Record Selection Using Average Spectral Acceleration, *Journal of Earthquake Engineering and Structural Dynamics*, doi: 10.1002/eqe.2876.
- Catarina Costa, C., Silva, V., and P. Bazzurro (2016). Assessing The Impact of Earthquake Scenarios in Transportation Networks And Surrounding Industry, Submitted to the *Journal of Earthquake Engineering*, May.
- Catarina Costa, C., Silva, V., and P. Bazzurro (2016). Assessing scenario seismic risk of transportation networks, *Revista Portuguesa de Engenharia de Estruturas*, Série III, n.º 2, November.
- Kohrangi, M., Vamvatsikos, D. and Bazzurro, P. (2016) Implications of Intensity Measure Selection for Seismic Loss Assessment of 3-D Buildings. *Earthquake Spectra*: November, Vol. 32, No. 4, pp. 2167-2189, Scopus: 2-s2.0-84997610906.
- Sousa, L., Silva, V., Bazzurro, P. (2016). “Using Open-Access data in the development of Exposure datasets of Industrial buildings for Earthquake Risk modelling”, *Earthquake Spectra*, <http://dx.doi.org/10.1193/020316EQS027M>, October.
- Kohrangi, M., Bazzurro, P. and D. Vamvatsikos (2016). “Vector and Scalar IMs in Structural Response Estimation and Risk Assessment: Part I - Hazard Analysis”, *Earthquake Spectra*, Vol. 32, No. 3, pp. 1507-1524, August, Scopus: 2-s2.0-84983516183.
- Kohrangi, M., Bazzurro, P. and D. Vamvatsikos (2016). “Vector and Scalar IMs in Structural Response Estimation and Risk Assessment: Part II – Building Demand Assessment”, *Earthquake Spectra*, Vol. 32, No. 3, pp. 1525-1543, August, Scopus: 2-s2.0-84983486014.
- Fiorini E., and Bazzurro P. (2016). “Testing strong motion stations continuity of operation using random fields and intensity data”, *Bulletin of Earthquake Engineering*,

- doi:10.1007/s10518-016-9978-4, Vol. 15, No. 6, pp. 2445-2464, August, Scopus: 2-s2.0-84982993871.
- Pucciano S., Franco, G.E., Bazzurro P. (2015). “Predictive Power of Seismic Networks for Parametric Securitization and Risk Transfer: Istanbul as a Case Study”. Submitted to *Earthquake Spectra*, February.
  - Reddy Kotha S., Bazzurro P. and Pagani M. (2015). Effects of Epistemic Uncertainty in Seismic Hazard Estimates on Building Portfolio Losses, Accepted for publication, *Earthquake Spectra*, March.
  - Vitor Silva, Helen Crowley, Paolo Bazzurro (2016). “Exploring Risk-targeted Hazard Maps for Europe”, *Earthquake Spectra*, Vol. 32, No. 2, pp. 1165-1186, May, Scopus: 2-s2.0-84974603513.
  - G. A. Weatherill, V. Silva, H. Crowley, P. Bazzurro (2015). “Exploring the Impact of Spatial Correlations and Uncertainties for Portfolio Analysis in Probabilistic Seismic Loss Estimation”, *Bulletin of Earthquake Engineering*, DOI: 10.1007/s10518-015-9730-5, January, Scopus: 2-s2.0-84925494652.
  - Calvi, G.M., Stucchi, M. and P. Bazzurro (2014). “Aggiornare norme tecniche e mappe di pericolosità: da che parte si comincia?”, *Progettazione Sismica*, Vol 1, Anno IV, pp. 63-73.
  - S. Barani, D. Spallarossa, P. Bazzurro, and F. Pelli (2014). “The multiple facets of probabilistic seismic hazard analysis: a review of probabilistic approaches to the assessment of the different hazards caused by earthquakes”, *Bollettino di Geofisica Teorica e Applicata*, Vol 55, No. 1, pp. 17-40, March, Scopus: 2-s2.0-84897426494.
  - S. Lucchini, A., Mollaioli, F. and P. Bazzurro (2014). “Floor Response Spectra for Bare and Infilled Reinforced Concrete Frames”, *Journal of Earthquake Engineering*, Vol. 18, pp. 1060–1082, ISSN: 1363-2469 print / 1559-808X online, DOI: 10.1080/13632469.2014.916633, Scopus: 2-s2.0-84906854416.
  - M. Stucchi, C. Meletti, P. Bazzurro, R. Camassi, H. Crowley, M. Pagani, R. Pinho, and Calvi, G.M. (2012). “I terremoti del Maggio 2012 e la pericolosità sismica dell’area: che cosa è stato sottostimato?”, *Progettazione Sismica*, Vol 3, Anno IV, pp. 63-73.
  - M. Çelebi, P. Bazzurro, L. Chiaraluce, P. Clemente, L. Decanini, A. DeSortis, W. Ellsworth, A. Gorini, E. Kalkan, S. Marcucci, G. Milana, F. Mollaioli, M. Olivieri, D. Rinaldis, A. Rovelli, F. Sabetta and C. Stephens (2010). “Recorded Motions of the Mw6.3 April 6, 2009 L’Aquila (Italy) Earthquake and Implications for Building Structural Damage”, *Earthquake Spectra*, Vol.26, No. 3, pp. 651-684, August.
  - Bazzurro, P. (2010). “Earthquake Modeling Advances”, *Journal of Reinsurance, Intermediaries & Reinsurance Underwriters Association*, Fall 2010 Vol. 17 No. 4.
  - Bazzurro, P., Benedettini, F., Clemente, P., Martinelli, A., and A. Salvatori (2009). “Lessons Learnt from the Abruzzo Earthquake: Building Behaviour Seen from the “as-according-to-the building-book” Perspective”, *ENEA -- Energia, Ambiente e Innovazione*, Vol. 3, pp. 28-45 (in Italian).
  - Bazzurro, P., Telleen, K., Maffei, J., and C.A. Cornell (2009). “The role of Post-Earthquake Structural Safety in Pre-Earthquake Retrofit Decision: Guidelines and Applications”, *ENEA -- Energia, Ambiente e Innovazione*, Vol. 3, pp. 117-133.

- Scasserra, G., Stewart, J.P., Bazzurro, P., Lanzo, G., and F. Mollaioli (2009). “A Comparison of NGA Ground-Motion Prediction Equations to Italian Data”, *Bulletin of Seismological Society of America (B.S.S.A.)*, Vol. 99, No. 5, pp. 2961-2978, October.
- S. Barani, D. Spallarossa, C. Eva and P. Bazzurro: 2009, Disaggregation of Probabilistic Ground Motion Hazard in Italy, *Bulletin of Seismological Society of America (B.S.S.A.)*, Vol. 99, No.5, pp. 2638-2661, October.
- Bazzurro, P., (2008). “Predicting Ground Motion: the Next Generation”, *Insurance Journal - West Region*, August 4, P. 18.
- Bazzurro, P., Tothong, P., and J. Park (2008). “Efficient Approach to Vector-valued Probabilistic Seismic Hazard Analysis of Multiple Correlated Ground Motion Parameters”, (abst)". *Seismological Research Letters*, Vol. 79, No.2, March/April, p.360.
- Bazzurro, P., and N. Luco (2007). “Effects of different sources of uncertainty and correlation on earthquake-generated losses”, *Australian Journal of Civil Engineering (AJCE)*, Volume 4, No. 1.
- Bazzurro, P., and N. Luco (2007). “Does Amplitude Scaling of Ground Motion Records Result in Biased Nonlinear Structural Drift Responses?”, *Earthquake Engineering and Structural Dynamics (EESD)*, Volume 36, Issue 13, pp. 1813-1835 .
- Bazzurro, P. (2007). “Tall Buildings in Quake Zone, No Big Risk”, *National Underwriter*, April 23.
- S. Barani, D. Spallarossa, C. Eva and P. Bazzurro: 2007, Sensitivity analysis of parameters for probabilistic seismic hazard assessment of western Liguria, *Bollettino di Geofisica Teorica e Applicata*, Vol. 48, N. 2, 127-150.
- Barani, S., Spallarossa, D., Bazzurro, P., and C. Eva (2007). “Sensitivity Analysis of Seismic Hazard for Western Liguria (North western Italy): a First Attempt towards the Understanding and Quantification of Hazard Uncertainty”, *Tectonophysics*, Vol. 435, pp. 13-35.
- J. Maffei and Bazzurro, P. (2004). “The 2002 Molise, Italy, Earthquake”, *Earthquake Spectra*, Vol. 20, No. S1, pp. S1-S22, August.
- Decanini, L., De Sortis, A., Goretti, A., Liberatore, L., F. Mollaioli and Bazzurro, P. (2004). “Performance of Reinforced Concrete Buildings During the 2002 Molise, Italy, Earthquake”, *Earthquake Spectra*, Vol. 20, No. S1, pp. S221-S256, August.
- Bazzurro, P., and C.A. Cornell (2004). “Ground Motion Amplification in Nonlinear Soil Sites with Uncertain Properties”, *Bulletin of Seismological Society of America (B.S.S.A.)*, Vol. 94, No. 6, pp. 2090-2109, December.
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- Reviewer for Journal of Soil Dynamics and Earthquake Engineering
- Reviewer for Bulletin of Theoretical and Applied Geophysics (BGTA)
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- Reviewer of proposals submitted to New Zealand Earthquake Commission (EQC)
- Editor of special Earthquake Spectra Volume on the Molise Earthquakes of October 31, November 1 2002 published in August 2004.

- Member of Board of Editors Earthquake Spectra (2008-present).

## **LANGUAGES**

- Italian (mother tongue).
- English (very good, very good, very good)
- French (good, intermediate, basic)