# Frank Scherbaum

List of Publications by Year
in descending order



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|---|---|---|---|
| 117 papers | 6,906 citations | 50170 46 h-index | 64668 79 g-index |
| 118 all docs | 118 docs citations | 118 times ranked | 3890 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Exploring the Dimensionality of Ground-Motion Data by Applying Autoencoder Techniques. Bulletin of the Seismological Society of America, 2021, 111, 1563-1576. | 1.1 | 6 |
| 2 | Volcanic Tremor Extraction and Earthquake Detection Using Music Information Retrieval Algorithms. Seismological Research Letters, 2021, 92, 3668-3681. | 0.8 | 6 |
| 3 | NGA-West2 Empirical Fourier and Duration Models to Generate Adjustable Response Spectra. Earthquake Spectra, 2019, 35, 61-93. | 1.6 | 25 |
| 4 | Stochastic source, path and site attenuation parameters and associated variabilities for shallow crustal European earthquakes. Bulletin of Earthquake Engineering, 2017, 15, 4531-4561. | 2.3 | 29 |
| 5 | Derivativeâ€Based Global Sensitivity Analysis: Upper Bounding of Sensitivities in Seismicâ€Hazard Assessment Using Automatic Differentiation. Bulletin of the Seismological Society of America, 2017, 107, 984-1004. | 1.1 | 20 |
| 6 | On the Relationship between Fourier and Response Spectra: Implications for the Adjustment of Empirical Groundâ€Motion Prediction Equations (GMPEs). Bulletin of the Seismological Society of America, 2016, 106, 1235-1253. | 1.1 | 110 |
| 7 | A partially non-ergodic ground-motion prediction equation for Europe and the Middle East. Bulletin of Earthquake Engineering, 2016, 14, 2629-2642. | 2.3 | 38 |
| 8 | Sensitivity of Probabilistic Seismic Hazard Obtained by Algorithmic Differentiation: A Feasibility Study. Bulletin of the Seismological Society of America, 2015, 105, 1810-1822. | 1.1 | 4 |
| 9 | Ground-motion prediction model building: a multilevel approach. Bulletin of Earthquake Engineering, 2015, 13, 2481-2491. | 2.3 | 22 |
| 10 | Development of a Response Spectral Groundâ€Motion Prediction Equation (GMPE) for Seismicâ€Hazard Analysis from Empirical Fourier Spectral and Duration Models. Bulletin of the Seismological Society of America, 2015, 105, 2192-2218. | 1.1 | 83 |
| 11 | A SSHAC Level 3 Probabilistic Seismic Hazard Analysis for a New-Build Nuclear Site in South Africa. Earthquake Spectra, 2015, 31, 661-698. | 1.6 | 77 |
| 12 | Mixtures of ground-motion prediction equations as backbone models for a logic tree: an application to the subduction zone in Northern Chile. Bulletin of Earthquake Engineering, 2015, 13, 483-501. | 2.3 | 13 |
| 13 | Bayesian network learning for natural hazard analyses. Natural Hazards and Earth System Sciences, 2014, 14, 2605-2626. | 1.5 | 81 |
| 14 | A Study of the Sensitivity of Response Spectral Amplitudes on Seismological Parameters Using Algorithmic Differentiation. Bulletin of the Seismological Society of America, 2014, 104, 2240-2252. | 1.1 | 19 |
| 15 | Fourier spectral- and duration models for the generation of response spectra adjustable to different source-, propagation-, and site conditions. Bulletin of Earthquake Engineering, 2014, 12, 467-493. | 2.3 | 70 |
| 16 | Comparisons among the five ground-motion models developed using RESORCE for the prediction of response spectral accelerations due to earthquakes in Europe and the Middle East. Bulletin of Earthquake Engineering, 2014, 12, 341-358. | 2.3 | 71 |
| 17 | Manifold aligned ground motion prediction equations for regional datasets. Computers and Geosciences, 2014, 69, 72-77. | 2.0 | 7 |
| 18 | The 29 September 1969, Ceres, South Africa, Earthquake: Full Waveform Moment Tensor Inversion for Point Source and Kinematic Source Parameters. Bulletin of the Seismological Society of America, 2014, 104, 576-581. | 1.1 | 12 |

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|---|---|---|---|
| 19 | How useful are complex flood damage models?. Water Resources Research, 2014, 50, 3378-3395. | 1.7 | 124 |
| 20 | Application of Single-Station Sigma and Site-Response Characterization in a Probabilistic Seismic-Hazard Analysis for a New Nuclear Site. Bulletin of the Seismological Society of America, 2014, 104, 1601-1619. | 1.1 | 133 |
| 21 | An Interactive Tool for the Elicitation of Subjective Probabilities in Probabilistic Seismic-Hazard Analysis. Bulletin of the Seismological Society of America, 2013, 103, 2862-2874. | 1.1 | 15 |
| 22 | Slow Fourier Transform. Seismological Research Letters, 2013, 84, 251-257. | 0.8 | 0 |
| 23 | Graphical Models as Surrogates for Complex Ground Motion Models. Lecture Notes in Computer Science, 2012, , 188-195. | 1.0 | 0 |
| 24 | Testing the Global Applicability of Ground-Motion Prediction Equations for Active Shallow Crustal Regions. Bulletin of the Seismological Society of America, 2012, 102, 707-721. | 1.1 | 71 |
| 25 | Monitoring the West Bohemian earthquake swarm in 2008/2009 by a temporary small-aperture seismic array. Journal of Seismology, 2012, 16, 169-182. | 0.6 | 14 |
| 26 | Toward a ground-motion logic tree for probabilistic seismic hazard assessment in Europe. Journal of Seismology, 2012, 16, 451-473. | 0.6 | 176 |
| 27 | Probabilistic tsunami threat assessment of 10 recent earthquakes offshore Sumatra. Geophysical Journal International, 2012, 188, 1273-1284. | 1.0 | 9 |
| 28 | Autoencoding Ground Motion Data for Visualisation. Lecture Notes in Computer Science, 2012, , 395-402. | 1.0 | 1 |
| 29 | Logic Tree Branch Weights and Probabilities: Summing up to One is not Enough. Earthquake Spectra, 2011, 27, 1237-1251. | 1.6 | 61 |
| 30 | Modeling the Joint Probability of Earthquake, Site, and Ground-Motion Parameters Using Bayesian Networks. Bulletin of the Seismological Society of America, 2011, 101, 235-249. | 1.1 | 19 |
| 31 | Bayesian frequency-domain blind deconvolution of ground-penetrating radar data. Journal of Applied Geophysics, 2011, 75, 615-630. | 0.9 | 14 |
| 32 | On the relationship of peaks and troughs of the ellipticity (H/V) of Rayleigh waves and the transmission response of single layer over half-space models. Geophysical Journal International, 2011, 184, 793-800. | 1.0 | 70 |
| 33 | Bayesian networks for tsunami early warning. Geophysical Journal International, 2011, 185, 1431-1443. | 1.0 | 37 |
| 34 | Magnitude estimation for microseismicity induced during the KTB 2004/2005 injection experiment. Geophysics, 2011, 76, WC47-WC53. | 1.4 | 7 |
| 35 | Determination of Â0 and Rock Site Â from Records of the 2008/2009 Earthquake Swarm in Western Bohemia. Seismological Research Letters, 2011, 82, 387-393. | 0.8 | 6 |
| 36 | Combining geophysical data sets to study the dynamics of shallow evaporites in urban environments: application to Hamburg, Germany. Geophysical Journal International, 2010, 181, 154-172. | 1.0 | 14 |

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| 37 | Unsupervised pattern recognition in continuous seismic wavefield records using Self-Organizing Maps. Geophysical Journal International, 2010, 182, 1619-1630. | 1.0 | 80 |
| 38 | Exploring the Proximity of Ground-Motion Models Using High-Dimensional Visualization Techniques. Earthquake Spectra, 2010, 26, 1117-1138. | 1.6 | 38 |
| 39 | Scaling Relations of Earthquake Source Parameter Estimates with Special Focus on Subduction Environment. Bulletin of the Seismological Society of America, 2010, 100, 2914-2926. | 1.1 | 317 |
| 40 | On the Selection of Ground-Motion Prediction Equations for Seismic Hazard Analysis. Seismological Research Letters, 2010, 81, 783-793. | 0.8 | 244 |
| 41 | A Naive Bayes Classifier for Intensities Using Peak Ground Velocity and Acceleration. Bulletin of the Seismological Society of America, 2010, 100, 3278-3283. | 1.1 | 5 |
| 42 | The Variability of Ground-Motion Prediction Models and Its Components. Seismological Research Letters, 2010, 81, 794-801. | 0.8 | 454 |
| 43 | Model Selection in Seismic Hazard Analysis: An Information-Theoretic Perspective. Bulletin of the Seismological Society of America, 2009, 99, 3234-3247. | 1.1 | 271 |
| 44 | Information-Theoretic Selection of Ground-Motion Prediction Equations for Seismic Hazard Analysis: An Applicability Study Using Californian Data. Bulletin of the Seismological Society of America, 2009, 99, 3248-3263. | 1.1 | 85 |
| 45 | Unsupervised feature selection and general pattern discovery using Self-Organizing Maps for gaining insights into the nature of seismic wavefields. Computers and Geosciences, 2009, 35, 1757-1767. | 2.0 | 31 |
| 46 | Statistical analysis of the Central-Europe seismicity. Tectonophysics, 2009, 470, 195-204. | 0.9 | 11 |
| 47 | Anatomy of the Dead Sea Transform from lithospheric to microscopic scale. Reviews of Geophysics, 2009, 47, . | 9.0 | 56 |
| 48 | Deriving Empirical Ground-Motion Models: Balancing Data Constraints and Physical Assumptions to Optimize Prediction Capability. Bulletin of the Seismological Society of America, 2009, 99, 2335-2347. | 1.1 | 14 |
| 49 | Bayesian Belief Network for Tsunami Warning Decision Support. Lecture Notes in Computer Science, 2009, , 757-768. | 1.0 | 7 |
| 50 | The domain of existence of prograde Rayleigh-wave particle motion for simple models. Wave Motion, 2008, 45, 556-564. | 1.0 | 39 |
| 51 | Non-Poissonian earthquake occurrence in coupled stress release models and its effect on seismic hazard. Geophysical Journal International, 2008, 174, 649-658. | 1.0 | 19 |
| 52 | Dispersion of zero-frequency Rayleigh waves in an isotropic model â€˜Layer over half-spaceâ€™. Geophysical Journal International, 2008, 175, 537-540. | 1.0 | 5 |
| 53 | The Use and Misuse of Logic Trees in Probabilistic Seismic Hazard Analysis. Earthquake Spectra, 2008, 24, 997-1009. | 1.6 | 174 |
| 54 | Inverse Problems and Parameter Identification in Image Processing. , 2008, , 111-151. | | 1 |

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| 55 | On the Discrepancy of Recent European Ground-Motion Observations and Predictions from Empirical Models: Analysis of KiK-net Accelerometric Data and Point-Sources Stochastic Simulations. Bulletin of the Seismological Society of America, 2008, 98, 2244-2261. | 1.1 | 85 |
| 56 | Assessing the reliability of the modified three-component spatial autocorrelation technique. Geophysical Journal International, 2007, 168, 779-796. | 1.0 | 93 |
| 57 | Statistical analysis of time-dependent earthquake occurrence and its impact on hazard in the low seismicity region Lower Rhine Embayment. Geophysical Journal International, 2007, 171, 797-806. | 1.0 | 11 |
| 58 | Selection and ranking of ground motion models for seismic hazard analysis in the Pyrenees. Journal of Seismology, 2007, 11, 87-100. | 0.6 | 26 |
| 59 | Update of likelihood-based ground-motion model selection for seismic hazard analysis in western central Europe. Bulletin of Earthquake Engineering, 2007, 5, 1-16. | 2.3 | 37 |
| 60 | Influence of parameters selection in Chebyshev filters on the strong motion data processing. Bulletin of Earthquake Engineering, 2007, 5, 609-627. | 2.3 | 8 |
| 61 | Dynamic Bayesian Networks for Real-Time Classification of Seismic Signals. Lecture Notes in Computer Science, 2007, , 565-572. | 1.0 | 17 |
| 62 | The Impact of the Spatial Uniform Distribution of Seismicity on Probabilistic Seismic-Hazard Estimation. Bulletin of the Seismological Society of America, 2006, 96, 2465-2471. | 1.1 | 15 |
| 63 | Probabilistic seismic hazard estimation in low-seismicity regions considering non-Poissonian seismic occurrence. Geophysical Journal International, 2006, 164, 543-550. | 1.0 | 25 |
| 64 | Basin-related effects on ground motion for earthquake scenarios in the Lower Rhine Embayment. Geophysical Journal International, 2006, 166, 197-212. | 1.0 | 34 |
| 65 | Criteria for Selecting and Adjusting Ground-Motion Models for Specific Target Regions: Application to Central Europe and Rock Sites. Journal of Seismology, 2006, 10, 137-156. | 0.6 | 316 |
| 66 | GROUND-MOTION PREDICTION EQUATIONS FOR SOUTHERN SPAIN AND SOUTHERN NORWAY OBTAINED USING THE COMPOSITE MODEL PERSPECTIVE. Journal of Earthquake Engineering, 2006, 10, 33-72. | 1.4 | 22 |
| 67 | First Comparison of Array-Derived Rotational Ground Motions with Direct Ring Laser Measurements. Bulletin of the Seismological Society of America, 2006, 96, 2059-2071. | 1.1 | 115 |
| 68 | Instantaneous polarization attributes based on an adaptive approximate covariance method. Geophysics, 2006, 71, V99-V104. | 1.4 | 34 |
| 69 | Estimating Background Activity Based on Interevent-Time Distribution. Bulletin of the Seismological Society of America, 2006, 96, 313-320. | 1.1 | 129 |
| 70 | Characterization of polarization attributes of seismic waves using continuous wavelet transforms. Geophysics, 2006, 71, V67-V77. | 1.4 | 50 |
| 71 | The Estimation of Minimum-Misfit Stochastic Models from Empirical Ground-Motion Prediction Equations. Bulletin of the Seismological Society of America, 2006, 96, 427-445. | 1.1 | 46 |
| 72 | Evaluating hazard results for Switzerland and how not to do it: A discussion of â€œProblems in the application of the SSHAC probability method for assessing earthquake hazards at Swiss nuclear power plantsâ€•by J-U KlÃ¼gel. Engineering Geology, 2005, 82, 43-55. | 2.9 | 20 |

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| 73 | Moment release in the Lower Rhine Embayment, Germany: seismological perspective of the deformation process. Geophysical Journal International, 2005, 160, 901-909. | 1.0 | 14 |
| 74 | Characterization of dispersive surface waves using continuous wavelet transforms. Geophysical Journal International, 2005, 163, 463-478. | 1.0 | 50 |
| 75 | Modeling of Wave Dispersion Using Continuous Wavelet Transforms. Pure and Applied Geophysics, 2005, 162, 843-855. | 0.8 | 50 |
| 76 | Composite Ground-Motion Models and Logic Trees: Methodology, Sensitivities, and Uncertainties. Bulletin of the Seismological Society of America, 2005, 95, 1575-1593. | 1.1 | 104 |
| 77 | On the Use of Logic Trees for Ground-Motion Prediction Equations in Seismic-Hazard Analysis. Bulletin of the Seismological Society of America, 2005, 95, 377-389. | 1.1 | 298 |
| 78 | Estimating polarization attributes with an adaptive covariance method in the wavelet domain. , 2005, , . | | 2 |
| 79 | On the Conversion of Source-to-Site Distance Measures for Extended Earthquake Source Models. Bulletin of the Seismological Society of America, 2004, 94, 1053-1069. | 1.1 | 135 |
| 80 | Title is missing!. Journal of Earthquake Engineering, 2004, 8, 909. | 1.4 | 11 |
| 81 | Uncertainty Analysis of Strong-Motion and Seismic Hazard? by R. Sigbjï¿½rnsson and N.N. Ambraseys. Bulletin of Earthquake Engineering, 2004, 2, 261-267. | 2.3 | 6 |
| 82 | Loveâ€™s formula and H/V-ratio (ellipticity) of Rayleigh waves. Wave Motion, 2004, 40, 57-67. | 1.0 | 166 |
| 83 | ON THE RESOLUTION OF H/V MEASUREMENTS TO DETERMINE SEDIMENT THICKNESS, A CASE STUDY ACROSS A NORMAL FAULT IN THE LOWER RHINE EMBAYMENT, GERMANY. Journal of Earthquake Engineering, 2004, 8, 909-926. | 1.4 | 72 |
| 84 | A natural and controlled source seismic profile through the Eastern Alps: TRANSALP. Earth and Planetary Science Letters, 2004, 225, 115-129. | 1.8 | 89 |
| 85 | Determination of shallow shear wave velocity profiles in the Cologne, Germany area using ambient vibrations. Geophysical Journal International, 2003, 152, 597-612. | 1.0 | 285 |
| 86 | Earthquake clusters resulting from delayed rupture propagation in finite fault segments. Journal of Geophysical Research, 2003, 108, ESE 4-1-ESE 4-10. | 3.3 | 19 |
| 87 | Modeling of seismic guided waves at the Dead Sea Transform. Journal of Geophysical Research, 2003, 108, . | 3.3 | 47 |
| 88 | 22 Analysis of digital earthquake signals. International Geophysics, 2002, 81, 349-355. | 0.6 | 5 |
| 89 | Polarization analyses of broadband seismic data recorded on Stromboli Volcano (Italy) from 1996 to 1999. Geophysical Research Letters, 2002, 29, 29-1-29-4. | 1.5 | 5 |
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| 91 | Title is missing!. Journal of Seismology, 2001, 5, 157-179. | 0.6 | 72 |
| 92 | Acoustic simulation of P-wave propagation in a heterogeneous spherical earth: numerical method and application to precursor waves to PKPdf. Geophysical Journal International, 2000, 141, 307-320. | 1.0 | 49 |
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| 97 | Seismic slip on a low angle normal fault in the Gulf of Corinth: Evidence from high-resolution cluster analysis of microearthquakes. Geophysical Research Letters, 1996, 23, 1817-1820. | 1.5 | 106 |
| 98 | Of Poles and Zeros. Modern Approaches in Geophysics, 1996, , . | 0.1 | 24 |
| 99 | Evidence for normal and inhomogeneous lowermost mantle and core-mantle boundary structure under the Arctic and northern Canada. Geophysical Journal International, 1995, 122, 637-657. | 1.0 | 42 |
| 100 | Site response modelling by non-linear waveform inversion. Geophysical Research Letters, 1995, 22, 199-202. | 1.5 | 3 |
| 101 | Spectral analysis of harmonic tremor signals at Mt. Semeru Volcano, Indonesia. Geophysical Research Letters, 1995, 22, 1685-1688. | 1.5 | 78 |
| 102 | Model parameter optimization for site-dependent simulation of ground motion by simulated annealing: Re-evaluation of the Ashigara Valley prediction experiment. Natural Hazards, 1994, 10, 275-296. | 1.6 | 10 |
| 103 | Modelling the Roermond earthquake of 1992 April 13 by stochastic simulation of its high-frequency strong ground motion. Geophysical Journal International, 1994, 119, 31-43. | 1.0 | 20 |
| 104 | Acoustic imaging of earthquake sources from the Chalfant Valley, 1986, aftershock series. Geophysical Journal International, 1994, 119, 260-268. | 1.0 | 29 |
| 105 | The design of optimum networks for aftershock recordings. Geophysical Journal International, 1994, 117, 716-726. | 1.0 | 62 |
| 106 | Double beam analysis of anomalies in the coreâ€mantle boundary region. Geophysical Research Letters, 1993, 20, 1475-1478. | 1.5 | 65 |
| 107 | Slowness power spectrum analysis of the coda composition of two microearthquake clusters in northern Switzerland. Physics of the Earth and Planetary Interiors, 1991, 67, 137-161. | 0.7 | 36 |
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| 109 | Combined inversion for the threeâ€dimensional Q structure and source parameters using microearthquake spectra. Journal of Geophysical Research, 1990, 95, 12423-12438. | 3.3 | 112 |
| 110 | Distribution of attenuation in the Kaoiki, Hawaii, source volume estimated by inversion of P wave spectra. Journal of Geophysical Research, 1990, 95, 12439-12448. | 3.3 | 27 |
| 111 | LEVINSON INVERSION OF EARTHQUAKE GEOMETRY SH-TRANSMISSION SEISMOGRAMS IN THE PRESENCE OF NOISE*. Geophysical Prospecting, 1987, 35, 787-802. | 1.0 | 5 |
| 112 | Seismic imaging of the site response using microearthquake recordings. Part I. Method. Bulletin of the Seismological Society of America, 1987, 77, 1905-1923. | 1.1 | 53 |
| 113 | Seismic imaging of the site response using microearthquake recordings. Part II. Application to the Swabian Jura, southwest Germany, Seismic network. Bulletin of the Seismological Society of America, 1987, 77, 1924-1944. | 1.1 | 47 |
| 114 | COMMENT ON "STABILIZATION OF NORMAL-INCIDENCE SEISMOGRAM INVERSION REMOVING THE NOISE-INDUCED BIAS" BY R.-G. FERBER*. Geophysical Prospecting, 1986, 34, 240-240. | 1.0 | 0 |
| 115 | The estimation of Green's function from local earthquake recordings and the modelling of the site response. Physics of the Earth and Planetary Interiors, 1985, 38, 189-202. | 0.7 | 5 |
| 116 | Source parameters and scaling laws of the 1978 Swabian Jura (southwest Germany) aftershocks. Bulletin of the Seismological Society of America, 1983, 73, 1321-1343. | 1.1 | 38 |
| 117 | Seismic velocities in sedimentary rocks â€" indicators of subsidence and uplift?. Geologische Rundschau: Zeitschrift Fur Allgemeine Geologie, 1982, 71, 519-536. | 1.3 | 20 |