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CURRICULUM VITAE

Education

- 1999 Ph.D. (Mathematics and Physics)
MITPAN, Russian Academy of Sciences, Moscow
Advisors: Prof. V.F. Pisarenko, Prof. V.I. Piterbarg.
- 1995 M.S. (Probability and Statistics)
Lomonosov Moscow State University, Dept. of Probability Theory
Advisor: Prof. V.I. Piterbarg.

Fields of interest

Random self-similar trees; coalescent and branching processes; networks and network transport; multiscale methods of time series analysis; random sums of heavy-tailed variables; delay dynamical systems.

Applications: Statistical seismology, earthquake dynamics and hazard assessment; river networks; climate stability, El-Niño modeling; stochastic dynamics of intracellular protein motors; financial stochastic modeling.

Professional experience

- 2016 – present Professor, Dept. of Mathematics and Statistics, UNR
- 2022 – present Trevor J. McMinn Endowed Research Professor
- 2021 – present Director, Graduate Program in Statistics and Data Science
- 2016 – 2018 Director, Graduate Program in Statistics and Data Science
- 2015 – 2016 Vice-Chair, Dept. of Mathematics and Statistics, UNR
- 2009 – 2016 Associate Professor, Dept. of Mathematics and Statistics, UNR
- 2006 – 2009 Assistant Professor, Dept. of Mathematics and Statistics, UNR
- 2001 – 2006 Assistant Researcher, Institute of Geophysics and Planetary Physics
University of California Los Angeles
- 1999 – 2001 Postdoctoral Fellow, Institute of Geophysics and Planetary Physics
University of California Los Angeles

Broader Service

- 2011 – present Commission on Mathematical Geophysics, International Union of Geodesy and Geophysics (IUGG), Secretary since 2013
- 2016 – present Associate Editor, *Journal of Geophysical Research-Solid Earth* (AGU)
- 2009 – present Editor, *Nonlinear Processes in Geophysics* (EGU/AGU)
- 2011 – 2016 Committee on Prob. and Stat. in Physical Sci.,
Bernoulli Society for Mathematical Statistics and Probability, Chair
2013 – 2015
- 2009 – 2018 Associate Editor, *Journal of Environmental Statistics* (UCLA)
- 2011 – 2016 Planning Committee, Southern California Earthquake Center
- 2009 – 2012 Secretary, Natural Hazards Focus Group, Am. Geophys. Union (AGU)

Publications

81 papers in peer-refereed journals, 1 book (co-editor), 167 published abstracts (see the complete list below).

Teaching (*=developed)

	(F=Fall, S=Spring, U=Summer)
<i>Mathematical Statistics II</i> (STAT 726)	S22
<i>Mathematical Statistics I</i> (STAT 725)	F21
<i>Multivariate Data Analysis</i> (STAT 755)	S19, S18, S17, S15, S13, S09
* <i>Time Series Analysis</i> (STAT 758)	F18, F16, F14, S12, S10, F08, F06
<i>Statistical Theory</i> (STAT 467/667)	F20
* <i>Categorical Data Analysis</i> (STAT 453/653)	F19, F17, F15, F12, F11, F09, F07
<i>Intro to Linear Models and Regression</i> (STAT 452/652)	S13, S11, F08
<i>Mathematical Modeling</i> (MATH 420/620)	S15, F14

<i>Probability and Statistics</i> (MATH/STAT 352)	S20, F18, U17, S16, S12, F/S11, F/S10, F/S09, S08, F/S07
<i>Introduction to Statistics</i> (STAT 152)	S18
<i>Calculus for Business</i> (MATH 176)	S07
<i>Pre-Calculus</i> (MATH 126)	F20, F17, F16, F15, F12
* <i>Paradoxes of Random Events</i> (UCLA STATS 19)	F05
<i>Applied Statistics</i> (UCLA STATS 110A)	S05
* <i>Paradoxes in Prob. and Statistics</i> (UCLA STATS 189)	S05
* <i>Intro to Stat. for Phys. Sci. and Engineering</i> (UCLA STATS 14)	F04
<i>Geo-complexity and earthquake prediction</i> (UCLA ESS 298)	S02
* <i>Statistical Methods in Geophysical Sciences</i> (Russian Ac. Sci.)	F00

PostDoctoral Advising

Alejandro Tejedor (PostDoc) 2011 – 13 Full support from NSF

Graduate Advising

Ibraheem Khan	2022 –	
Natalie Bladis	2022 –	RA support from SCEC
Zoe Haskell (PhD)	2015 – 20	RA support from SCEC, NSF
Karla Henriksen	2018 – 19	RA support from USGS, NSF
Dillon Aberasturi	2016 – 17	RA support from SCEC
Tom Koundakjian	2014 – 15	RA support from NSF, SCEC
Andrew Hicks	2010 – 11	RA support from SCEC
Zachary Rees	2009 – 10	RA support from SCEC
Michael Weinzweig	2009 – 10	RA support from DOE
Tyson Reed	2008	RA support from DOE
Sayaka Olsen	2007 – 10	RA support from NSF
Brehnen Wong	2007 – 08	RA support from DOE
Renee Torres	2007 – 08	RA support from SCEC
Suresh Kumar	2006 – 07	RA support from SCEC

Undergraduate Advising

Nicholas Cleymaet	2016 – 17	Undergraduate Honors Thesis
Megan Phelps	2015 – 16	Undergraduate Honors Thesis
Joe Ward	2014 – 15	Undergraduate Honors Thesis
Maggie Michalowski	2011 – 12	RA support from SCEC
Jennifer Bautista	2009 – 10	Undergraduate Honors Thesis
Ellen Webb	2007 – 08	Undergraduate Honors Thesis

Honors

2022 Trevor J. McMinn Endowed Research Professorship in Science
2020 Fulbright U.S. Scholar
2015 UNR Hyung K. Shin Outstanding Research Award
2010 UNR Westfall Scholar Mentor

Academic services

Member, UNR College of Science Personnel Committee, 2021 – present
Director, Graduate Program in Statistics and Data Science, 2016 – 2018,
2021 – present
Chair, Search Committee
for Asst./Assoc. Professor in Statistics (x2), 2019 – 2020
Chair, Search Committee
for Asst./Assoc. Professor in Statistics (x2), 2018-2019
Chair, Search Committee
for Assistant Professor in Statistics (x4), 2017-2018
Search Committee for External Department Chair, 2017-2018
Search Committee for Lecturer in Statistics (x2), 2016-2017
Chair, Undergraduate Program Assessment Committee, 2016 – 2018

Chair, Search Committee for PostDocs (x2), 2016
 Chair, Search Committee for Assistant Professor in Statistics, 2015-2016
 Chair, Search Committee for Lecturer in Statistics, 2014-2015
 Chair, Search Committee for Assistant Professor in Statistics, 2014-2015
 Department Merit Committee, 2008, 2014, 2015 (Chair), 2016, 2022
 Search Committee for Program Officer, 2014
 Graduate Studies Committee, Chair 2014 – 18, 2021-22, member 2018 –
 Search Committee for External Chair, 2013
 Search Committee for Statistics PostDoc, 2013
 Curriculum committee, College of Sci., UNR, 2011 – 2013
 Curriculum committee, Dept. Math. & Stat.,
 UNR, 2006-08, 12, 14 – (member), 2008–11(chair)
 Colloquium committee, Dept. Math. & Stat., UNR, 2008 – 2010
 Colloquia committee, IGPP/UCLA, Fall 2005 (member), Spring 2006 (chair)

Conference/workshop organizing

- 33rd IUGG Conference on Mathematical Geophysics*
 National University of Seoul, Korea, June-July, 2022
- Joint ICTP-IUGG Workshop on Data Assimilation and Inverse Problems in Geophysical Sciences*
 ICTP-IUGG Virtual Workshop, 18-29 October, 2021
<http://indico.ictp.it/event/9609/>
- Mathematics of Planet Earth: The Science of Data*
 Union Symposium, 27th General Assembly of the International Union of Geodesy and Geophysics, Montreal, Canada, July 8-18, 2019
<http://iugg2019montreal.com/index.html>
- 32nd IUGG Conference on Mathematical Geophysics*
 Federal Research Center Institute of Applied Physics of the Russian Academy of Sciences, Nizhny Novgorod, Russia, June 23-28, 2018
<http://cmg2018.iapras.ru/>
- Workshop “*Random Trees: Structure, Self-Similarity, and Dynamics*”
 CIMAT, Guanajuato, Mexico, April 23-27, 2018
<http://randomtrees.eventos.cimat.mx>
- “*Random Self-Similar Trees and Their Applications*”
 Special session. The 39th Conference on Stochastic Processes and Their Applications, Moscow, Russia, July 24-28, 2017
<http://www.spa2017.org>
- 31st IUGG Conference on Mathematical Geophysics*
 Université Pierre et Marie Curie, Paris, France, June 6-10, 2016
<https://cmg2016.sciencesconf.org/>
- “*Physical and Statistical Properties of Earthquake Swarms and Clustered Seismicity: Constraining Driving Mechanisms*” (special session)
 2016 Annual Meeting of the Seismological Society of America
 Reno, Nevada, April 20-22, 2016
<http://www.seismosoc.org/meetings/ssa2016/>
- “*Mathematics and Observations of Earth Systems*” (Union Symposium 03)
 26th General Assembly of the International Union of Geodesy and Geophysics
 Prague, Czech Republic, June 22-July 2, 2015
- 30th IUGG Conference on Mathematical Geophysics*
 Merida, Yucatan, Mexico, June 2-6, 2014
<http://eventos.iingen.unam.mx/IUGG2014/>
- “*Mathematics of Planet Earth*” (Union Session 11A)
 Fall AGU Meeting, San Francisco, CA, December 9-13, 2013
- “*Extreme Events, Stochasticity and Multiscaling*” (NG24A)
 Fall AGU Meeting, San Francisco, CA, December 9-13, 2013
- Workshop “*Dynamics of Seismicity, Earthquake Clustering and Patterns in Fault Networks*”
 SAMSI, NC, October 9-11, 2013

<http://www.samsi.info/workshop/2013-dynamics-seismicity-earthquake-clustering-and-patterns-fault-networks-october-9-11-201>

- Workshop “*Mathematics of Climate Change, Related Hazards and Risks*”
A satellite activity of the 1st Mathematical Congress of the Americas
Guanajuato, Mexico, July 29-August 2, 2013
<http://www.mca2013.org/en/workshop-on-mathematics-of-climate-change.html>
- “*Graph and Network Analysis in Geosciences*” (SS31)
1st Mathematical Congress of the Americas
Guanajuato, Mexico, August 5, 2013
- “*Are Seismicity Patterns and Scaling Laws Universal?*” (S51)
Fall AGU Meeting, San Francisco, CA, December 3-7, 2012
- “*Complex Networks in Geosciences*” (NG13)
Fall AGU Meeting, San Francisco, CA, December 3-7, 2012
- “*Dynamics of Seismicity Beyond Universal Scaling Laws*”
Annual Meeting of SSA, San Diego, CA, April 17-19, 2012
- “*Predicting Extreme Events in Natural and Socioeconomic Systems: State-of-the-Art and Emerging Possibilities*” (U21A)
Fall AGU Meeting, San Francisco, CA, December 5-9, 2011
- “*Complex Networks in Geosciences*” (NG02)
Fall AGU Meeting, San Francisco, CA, December 5-9, 2011
- ENHANS *International Workshop on Extreme Natural Hazards and Disaster Risk in Africa* (Intl. program committee)
Hatfield, Pretoria, South Africa, 17-20 January, 2011
- “*Complex Networks in Geosciences*” (NG03)
Fall AGU Meeting, San Francisco, CA, December 13-17, 2010
- “*Extreme Natural Events: Modeling, Prediction and Mitigation*” (U16 & NH20)
Fall AGU Meeting, San Francisco, CA, December 13-17, 2010
- “*Natural Hazards and Disaster Risk in Latin America and the Caribbean*” (U09)
AGU Joint Assembly, “The Meetings of the Americas”
August 8-13, 2010, Foz do Iguassu, Brazil
- “*Complex Networks in Geosciences*” (NG10)
Fall AGU Meeting, San Francisco, CA, December 14-18, 2009
- “*Extreme Natural Hazards: Risk Assessment and Forecasting*” (NH)
Fall AGU Meeting, San Francisco, CA, December 14-18, 2009
- “*Development and Predictability of Extreme Events in Complex Systems*” (NG03)
AGU Joint Assembly, “The Meeting of the Americas”,
May 24-27, 2009, Toronto, Ontario, Canada
- 6th *International Workshop on Statistical Seismology* (advisory board)
April 12-16, 2009, Granlibakken conference center, Lake Tahoe, CA
- “*Scaling, cascades and self-organized criticality in Earthquakes: Damage mechanics and predictability*”
EGS-AGU-EUG Joint Assembly, Nice, France 6-11 April, 2003.
- “*Scaling, Cascades and Predictability of Earthquakes*” (session NG62B)
Fall AGU Meeting, San-Francisco, December 6-10, 2002.

Review services

Books: Springer – Mathematics of Planet Earth, Springer-Geosciences, Cambridge University Press, Chapman & Hall/CRC-Statistics.

Funding agencies: NSF CAREER (Geosciences); NSF Mathematical Geosciences; NSF Geophysics; Canada Foundation for Innovation (CFI); Czech Science Foundation (CSF); Fondo Nacional de Desarrollo Científico y Tecnológico (FONDECYT), Chile.

Journals: Science; Proceedings of the National Academy of Sciences (PNAS); Annals of Applied Statistics (AOAS); Journal of Applied Statistics (JAS); Physical Review Letters (PRL); Scientific Reports; Physical Review E (PRE); Physica D; SIAM Journal of Discrete Mathematics (SIDMA); Geophysical Research Letters (GRL); Journal of Geophysical Research (JGR); Surveys in Geophysics; Europhysics Letters (EPL), Physics of the Earth and Planetary Interiors (PEPI); Annals of Geophysics; Pure and

Applied Geophysics (PAGEOPH); Geophysical Journal International (GJI); Bulletin of Seismological Society of America (BSSA); Solid Earth; Nonlinear Processes in Geophysics (NPG); Journal of Hydrology; Tectonophysics; Climate Dynamics; Chaos; Earth and Planetary Science Letters (EPSL); SIAM Journal on Discrete Mathematics (SIDMA); BioSystems; Earth System Dynamics; Journal of Statistical Theory and Practice; Stochastics and Dynamics; Communications in Statistics – Simulation and Computation; Communications in Nonlinear Science and Numerical Simulations; Information Sciences (INS); Earth, Planets, and Space (EPS); Journal of Seismology; Journal of Hydrology; Bollettino di Geofisica Teorica e Applicata

Research grants with PI role

- 2021-2024 *Collaborative Research: Generation of Rock Damage and Localization of Seismicity Before Large Earthquakes*
NSF EAR- 2122191 \$206,000
- 2021-2022 *Localization of seismicity prior to large earthquakes in California*
Southern California Earthquake Center (SCEC) \$23,526
- 2020-2022 *Effects of earthquake declustering on the U.S. National Seismic Hazard Maps*
USGS G20AP00010 (with John Anderson) \$72,144
- 2020-2021 *Space-time variations of background seismicity in southern California*
Southern California Earthquake Center (SCEC) \$18,000
- 2019-2020 *Temporal changes of seismicity in relation to preparation processes of large earthquakes and decade-scale climate changes*
Southern California Earthquake Center (SCEC) \$11,500
- 2018-2019 *Seismic coupling on faults and correlations between geodetic data, seismicity and climatic signals*
Southern California Earthquake Center (SCEC) \$5,000
- 2017-2021 *Collaborative Research: Toward Understanding Spatio-Temporal Variations of Seismic Clusters in Different Environments*
NSF EAR-1723033 \$198,000
- 2017-2018 *A systematic approach for discriminating between tectonic and induced earthquake clusters: Collaborative research with University of Nevada Reno and University of Southern California*
USGS G17AP00086 \$48,000
- 2017-2018 *Estimating Seismic Coupling in Southern California Using Aftershock Productivity and Geodetic Information*
Southern California Earthquake Center (SCEC) \$20,000
- 2016-2017 *Properties and Dynamics of Different Types of Seismicity Clusters in Southern California*
Southern California Earthquake Center (SCEC) \$15,000
- 2015-2016 *Robust Quantification of Earthquake Clustering: Overcoming the Artifacts of Catalog Uncertainties*
Southern California Earthquake Center (SCEC) \$15,000
- 2014-2015 *30th Conference on Mathematical Geophysics: Support for young US scientists*
NSF EAR-1425938 \$20,000
- 2014-2015 *Seismicity cluster anomalies in relation to different loadings and large earthquakes*
Southern California Earthquake Center (SCEC) \$15,000
- 2013-2014 *Spatio-temporal evolution of seismic clustering in Southern California*
Southern California Earthquake Center (SCEC) \$16,500
- 2012-2013 *Towards a unified statistical framework for identification and analysis of earthquake clusters*
Southern California Earthquake Center (SCEC) \$12,500
- 2011-2014 *Collaborative Research: Robust Climate Projections, Stochastic Models and GCM-EaSM Optimization*
NSF DMS-1049092 \$60,429
- 2011-2012 *Correlation between seismic clustering properties and regional physical conditions*

- 2010-2011 Southern California Earthquake Center (SCEC) \$12,000
Detecting Transient Deformation Signals in GPS time-series using Multiscale Trend Analysis II
- 2009-2012 Southern California Earthquake Center (SCEC) \$20,000
CMG Collaborative Research: *Envirodynamics on River Networks*
NSF EAR-0934871 \$224,000
- 2009-2010 *Investigating temporal changes in the earthquake magnitude distribution*
Southern California Earthquake Center (SCEC) \$12,000
- 2009-2011 *Correlation between seismic clustering properties and regional physical conditions*
Southern California Earthquake Center (SCEC) \$15,000
- 2009-2010 *Time-dependent modeling of seismic moment release in San Andreas Fault -- Great Basin System,*
Southern California Earthquake Center (SCEC) \$18,000
- 2009-2010 *Detecting Transient Deformation Signals in GPS time-series*
Southern California Earthquake Center (SCEC) \$19,000
- 2008-2009 *Modeling seismic moment rate in San Andreas Fault -- Great Basin system: Combination of seismological and geodetic approaches*
Southern California Earthquake Center (SCEC) \$20,000
- 2007-2008 *Statistical modeling of seismic moment release in San Andres fault system*
Southern California Earthquake Center (SCEC) \$10,000
- 2007-2011 *Collaborative Research: Robust climate projections and stochastic stability of dynamical systems*
DOE Grant ER64440 \$60,000
- 2006-2007 *Estimating the long-term rate of seismic moment release from the observed seismicity*
Southern California Earthquake Center (SCEC) \$17,000
- 2006-2008 *Subjective decision making in presence of uncertainties – a theoretical approach*
Junior Faculty Research Grant, UNR \$15,000
- 2006-2009 *CMG Collaborative Research: Stochastic Quantization for Modeling the Dynamics of Regional Seismicity*
NSF DMS-0620838 \$247,869
- 2004-2005 *Development of Reverse Detection of Precursors Tutorial*
Southern California Earthquake Center (SCEC) \$20,000

Publications

A. Books and surveys

1. Kovchegov Y., I. Zaliapin and E. Foufoula-Georgiou (2022) Random Self-similar Trees: Emergence of Scaling Laws, *Surveys in Geophysics*, 43, 353–421.
<https://doi.org/10.1007/s10712-021-09682-0>
2. Kovchegov, Y. and I. Zaliapin (2020) Random Self-Similar Trees: A Mathematical Theory of Horton Laws. *Probability Surveys*, 17, 1–213.
<https://doi.org/10.1214/19-PS331>
3. A. Ismail-Zadeh, J. Urrutia-Fucugauchi, A. Kijko, K. Takeuchi, I. Zaliapin (Eds.) (2014) *Extreme Natural Hazards, Disaster Risks and Societal Implications*, Cambridge University Press.

B. Preprints

1. Kovchegov, Y., Xu, G., and I. Zaliapin (2022) Invariant Galton-Watson trees: metric properties and attraction with respect to generalized dynamical pruning (in review)

C. Peer-reviewed papers/chapters

1. Kovchegov, Y., I. Zaliapin, and Y. Ben-Zion (2022) Invariant Galton-Watson Branching Process for Earthquake Occurrence. *Geophys. J. Intl.*, ggac204, published online <https://doi.org/10.1093/gji/ggac204>
2. Ross Z., Y. Ben-Zion and I. Zaliapin (2022) Geometrical properties of seismicity in California. *Geophys. J. Intl.*, ggac189, published online <https://doi.org/10.1093/gji/ggac189>
3. Kovchegov Y., I. Zaliapin and E. Foufoula-Georgiou (2022) Critical Tokunaga model for river networks. *Physical Review E*, 105, 014301 <https://doi.org/10.1103/PhysRevE.105.014301>
4. Zaliapin, I. and Y. Ben-Zion (2022) Perspectives on clustering and declustering of earthquakes. *Seismological Research Letters* (2022) 93 (1): 386–401 <https://doi.org/10.1785/0220210127>
5. Vulis, L., A. Tejedor, I. Zaliapin, J. C. Rowland, and E. Foufoula-Georgiou (2021) Climate Signatures on Lake And Wetland Size Distributions in Arctic Deltas. *Geophysical Research Letters*, 48(20), e2021GL094437. <https://doi.org/10.1029/2021GL094437>
6. Kovchegov, Y. and I. Zaliapin (2021) Invariance and attraction properties of Galton-Watson trees. *Bernoulli*, 27 (3), 1789-1823. <https://doi.org/10.3150/20-BEJ1292>
7. Ben-Zion Y. and I. Zaliapin (2020) Localization and coalescence of seismicity before large earthquakes. *Geophys. J. Intl.* 223(1), 561-583. <https://doi.org/10.1093/gji/ggaa315>
8. Kovchegov, Y. and I. Zaliapin (2020) Dynamical pruning of binary trees with applications to 1-D ballistic annihilation. *J. Stat. Phys.* 181, 618-672. <https://doi.org/10.1007/s10955-020-02593-1>
9. Zaliapin, I. and Y. Ben-Zion (2020) Earthquake declustering using the nearest-neighbor approach in space-time-magnitude domain. *J. Geophys. Res. – Solid Earth*, e53991. <https://doi.org/10.1029/2018JB017120>
10. Henricksen, K., & Zaliapin, I. (2019). Hyperbolic property of earthquake networks. In *JSM Proceedings, Statistics and the Environment Section*. Alexandria, VA: American Statistical Association, 2024–2047.
11. Martínez-Garzón, P., Y. Ben-Zion, I. Zaliapin, and M. Bonhoff (2019) Seismic clustering in the Sea of Marmara: Implications for monitoring earthquake processes. *Tectonophysics*, 768, 228176. <https://doi.org/10.1016/j.tecto.2019.228176>
12. Hammond, W. C., C. Kreemer, I. Zaliapin, and G. Blewitt (2019) Drought-triggered magmatic inflation, crustal strain and seismicity near the Long Valley Caldera, Central Walker Lane. *J. Geophys. Res.*, 124(6), 6072–6091. <https://doi.org/10.1029/2019JB017354>
13. Kovchegov, Y. and I. Zaliapin (2019) Random self-similar trees and a hierarchical branching process. *Stochastic Processes and Their Applications*, 129(7), 2528–2560. <https://doi.org/10.1016/j.spa.2018.07.015>
14. Ben-Zion, Y. and I. Zaliapin (2019) Spatial variations of rock damage production by earthquakes in southern California. *Earth and Planetary Science Letters*, 512, 184–193. <https://doi.org/10.1016/j.epsl.2019.02.006>
15. Kreemer, C. and I. Zaliapin (2018) Spatiotemporal Correlation Between Seasonal Variations in Seismicity and Horizontal Dilatational Strain in California. *Geophysical Research Letters*, 45(18), 9559–9568. <https://doi.org/10.1029/2018GL079536>
16. Kovchegov, Y. and Zaliapin, I. (2018) Tokunaga self-similarity arises naturally from time invariance. *Chaos: An Interdisciplinary Journal of Nonlinear Science*, 28(4), 041102.

<https://doi.org/10.1063/1.5029937>

17. Martínez-Garzón, P., I. Zaliapin, Y. Ben-Zion, G. Kwiatek and M. Bohnhoff (2018) Comparative study of earthquake clustering in relation to hydraulic activities at geothermal fields in California, *J. Geophys. Res.*, 123(5), 4041–4062. <https://doi.org/10.1029/2017JB014972>
18. Tejedor, A., Longjas, A., Edmonds, D. A., Zaliapin, I., Georgiou, T. T., Rinaldo, A., and Foufoula-Georgiou, E. (2017) Entropy and optimality in river deltas. *Proc. Natl. Ac. Sci.*, 114(44), 11651–11656. <https://doi.org/10.1073/pnas.1708404114>
19. Tejedor, A., A. Longjas, I. Zaliapin, S. Ambroj, and E. Foufoula-Georgiou (2017) Network robustness assessed within a dual connectivity framework: joint dynamics of the Active and Idle Networks, *Scientific Reports*, 7(1), 8567 <https://doi.org/10.1038/s41598-017-08714-3>
20. Tejedor, A., Singh, A., Zaliapin, I., Densmore, A. L., and Foufoula-Georgiou, E. (2017) Scale-dependent erosional patterns in steady-state and transient-state landscapes. *Science Advances*, 3(9), e1701683. <https://doi.org/10.1126/sciadv.1701683>
21. Zaliapin, I. and C. Kreemer (2017) Systematic fluctuations in the global seismic moment release. *Geophys. Res. Lett.*, 44, 4820–4828, <https://doi.org/doi:10.1002/2017GL073504>
22. Kovchegov, Y. and I. Zaliapin (2017) Horton self-similarity of Kingman’s coalescent tree. *Annales de l’Institut Henri Poincaré (B) Probability and Statistics*, 53(3), 1069–1107. [doi: 10.1214/16-AIHP748](https://doi.org/10.1214/16-AIHP748)
23. Ruhl, C. J., R. E. Abercrombie, K. D. Smith, and I. Zaliapin (2016) Complex spatiotemporal evolution of the 2008 Mw 4.9 Mogul earthquake swarm (Reno, Nevada): Interplay of fluid and faulting, *J. Geophys. Res. Solid Earth*, 121, 8196–8216, <https://doi.org/10.1002/2016JB013399>
24. Zaliapin, I. and Y. Ben-Zion (2016) A global classification and characterization of earthquake clusters. *Geophys. J. Intl.*, 207 (1): 608–634. [doi: https://doi.org/10.1093/gji/ggw300](https://doi.org/10.1093/gji/ggw300)
25. Rezaul, K., D. Gupta, I. Semenova, K. Ikeda, P. Kraikivski, J. Yu, A. Cowan, I. Zaliapin, and V. Rodionov (2016) Engineered tug-of-war between kinesin and dynein controls direction of microtubule transport in vivo. *Traffic*, 17(5), 475–486. [doi: 10.1111/tra.12385](https://doi.org/10.1111/tra.12385)
26. Tejedor, A., A. Longjas, E. Douglas, R. Caldwell, I. Zaliapin, and E. Foufoula-Georgiou (2016) Quantifying the signature of sediment composition on the topologic and dynamic complexity of river delta channel networks and inferences towards delta classification. *Geophys. Res. Lett.*, 43, 3280–3287, [doi:10.1002/2016GL068210](https://doi.org/10.1002/2016GL068210)
27. Zaliapin, I. and Y. Ben-Zion (2016) Discriminating characteristics of tectonic and human-induced seismicity. *Bull. Seismol. Soc. Am.*, 106(3), 846–859. [doi: 10.1785/0120150211](https://doi.org/10.1785/0120150211)
28. Kovchegov, Y. and I. Zaliapin (2016) Horton law in self-similar trees. *Fractals*, 24, 1650017. [http://dx.doi.org/10.1142/S0218348X16500171](https://dx.doi.org/10.1142/S0218348X16500171)
29. Zaliapin, I. and Y. Ben-Zion (2015) Artifacts of earthquake location errors and short-term incompleteness on seismicity clusters in southern California. *Geophys. J. Intl.*, 202 (3): 1949–1968. [doi: 10.1093/gji/ggv259](https://doi.org/10.1093/gji/ggv259)
30. Ghil, M. and I. Zaliapin (2015) Understanding ENSO variability and its extrema: A delay differential equation approach. In Chaves, Ghil, and Urrutia-Fucugauchi (Eds.) *Extreme Events: Observations, Modeling and Economics*, Wiley-Blackwell, 438 pp.
31. Tejedor, A., A. Longjas, I. Zaliapin, and E. Foufoula-Georgiou (2015) Delta channel networks: 1. A graph-theoretic approach for studying connectivity and steady-state transport on deltaic surfaces. *Water Resources Research*, 51, [doi:10.1002/2014WR016577](https://doi.org/10.1002/2014WR016577).
32. Tejedor, A., A. Longjas, I. Zaliapin, and E. Foufoula-Georgiou (2015) Delta Channel networks: 2. Metrics of topologic and dynamic complexity for delta comparison, physical inference and vulnerability assessment. *Water Resources Research*, 51, [doi:10.1002/2014WR016604](https://doi.org/10.1002/2014WR016604).

33. Mukhin, D., E. Loskutov, A. Mukhina, A. Feigin, I. Zaliapin, and M. Ghil (2014) Predicting critical transitions in ENSO models, Part I: Methodology and simple models with memory. *Journal of Climate*, 28, 1940–1961. doi: 10.1175/JCLI-D-14-00239.1.
34. Semenova, I., Ikeda, K., Resaul, K., Kraikovski, P., Aguiar, M., Gygi, S., Zaliapin, I., Cowan, A., & Rodionov, V. (2014). Regulation of microtubule-based transport by MAP4. *Molecular biology of the cell*, 25(20), 3119-3132.
35. Gabrielov, A., V. Keilis-Borok, S. Olsen and I. Zaliapin (2014) Predictability of extreme events in a branching diffusion model. In A. Ismail-Zadeh, J. Urrutia Fucugauchi, A. Kijko, K. Takeuchi, and I. Zaliapin (Eds.), *Extreme Natural Hazards, Disaster Risks and Societal Implications*, Cambridge University Press.
36. Zaliapin, I. and Y. Ben-Zion (2013a) Earthquake clusters in southern California, I: Identification and stability. *J. Geophys. Res.*, 118, 2847-2864. doi: 10.1002/jgrb.50179
37. Zaliapin, I. and Y. Ben-Zion (2013b) Earthquake clusters in southern California, II: Classification and relation to physical properties of lithosphere. *J. Geophys. Res.*, 118, 2865-2877. doi: 10.1002/jgrb.50178
38. Zanardo, S., I. Zaliapin, and E. Foufoula-Georgiou (2013) Are American rivers Tokunaga self-similar? New results on river network topology and its climatic dependence. *J. Geophys. Res.* doi: 10.1002/jgrf.20029
39. Ghil, M. and I. Zaliapin (2012) El Niño/Southern Oscillation: Impacts, Modeling and Forecasts, In *Encyclopedia of Natural Hazards*, P. Bobrowsky (Ed.), Springer.
40. Zaliapin, I. and Y. Kovchegov (2012) Tokunaga and Horton self-similarity for level-set trees of Markov chains. <http://arxiv.org/abs/1101.2429v1> *Chaos, Solitons and Fractals*, 45, 358-372. doi: 10.1016/j.chaos.2011.11.006
41. Ghil *et al.* (2011) Extreme events: Dynamics, statistics and prediction, *Nonlin. Processes Geophys.*, 18, 295–350.
42. Zaliapin, I. and Y. Ben-Zion (2011) Asymmetric distribution of early aftershocks on large faults in California. *Geophys. J. Intl.*, 185, 1288–1304.
43. Zaliapin I. and M. Ghil (2011) Reply to Roe and Baker’s comment on “Another look at climate sensitivity” by Zaliapin and Ghil (2010) *Nonlin. Processes Geophys.*, 18, 129-131.
44. Ikeda, K., O. Zhapparova, I. Brodsky, I. Semenova, I. Zaliapin, and V. Rodionov (2011) CK1 activates minus-end directed transport of membrane organelles along microtubules. *Molecular Biology of the Cell*, 22, 1321-1329.
45. Zaliapin I. and M. Ghil (2010) Another look at climate sensitivity. *Nonlin. Processes Geophys.*, 17, 113-122.
46. Zaliapin, I. and M. Ghil (2010) A delay differential model of ENSO variability, Part 2: Phase locking, multiple solutions, and dynamics of extrema. *Nonlin. Processes Geophys.*, 17, 123-135.
47. Zaliapin, I., E. Foufoula-Georgiou, and M. Ghil (2010) Transport on river networks: A dynamic-tree approach. *J. Geophys. Res.*, 115, F00A15, doi:10.1029/2009JF001281 [arXiv:0902.1554v1](https://arxiv.org/abs/0902.1554v1)
48. Lomakin, A. J., I. Semenova, I. Zaliapin, P. Kraikovski, E. Nadezhdina, B. M. Slepchenko, A. Akhmanova, and V. Rodionov (2009) Clip-170-dependent capture of membrane organelles by microtubules initiates minus-end directed transport, *Developmental Cell*, 17, 1-11, doi:10.1016/j.devcel.2009.07.010.
49. Semenova, I., A. Burakov, N. Berardone, I. Zaliapin, T. Svitkina, A. Kashina, and V. Rodionov (2008) Actin dynamics is essential for myosin-based transport of membrane organelles. *Current Biology*, 18, 1-6. doi: 10.1016/j.cub.2008.08.070
50. Zaliapin, I., A. Gabrielov, V. Keilis-Borok, and H. Wong (2008) Clustering analysis of seismicity and aftershock identification. *Phys. Rev. Lett.*, 101, 018501. doi: 10.1103/PhysRevLett.101.018501
51. Ghil, M., I. Zaliapin, and S. Thompson (2008) A delay differential model of ENSO variability: Parametric instability and the distribution of extremes. *Nonlin. Processes Geophys.*, 15, 417-433.

52. Gabriellov, A., V. Keilis-Borok, Y. Sinai, and I. Zaliapin (2008) Statistical properties of the cluster dynamics of the systems of statistical mechanics. *ESI Lecture Notes in Mathematics and Physics: Boltzmann's Legacy*, European Mathematical Society, G. Gallavotti, W. Reiter and J. Yngvason (Eds.), 203-216.
53. Ghil, M., I. Zaliapin, and B. Coluzzi (2008) Boolean Delay Equations: A Simple Way of Looking at Complex Systems. *Physica D*, 237, 2967-2986. doi:10.1016/j.physd.2008.07.006.
54. Slepchenko, B., I. Semenova, I. Zaliapin, and V. Rodionov (2007) Switching of membrane organelles between cytoskeletal transport systems is determined by regulation of the microtubule-based transport, *J. Cell Bio.*, doi : 10.1083/jcb.200705146.
55. Keilis-Borok, V., A. Soloviev, A. Gabriellov, and I. Zaliapin (2006) Change of scaling before extreme events in complex systems. *Pontificae Academiae Scientiarum, Acta 19, The Proceedings of the Plenary Session on Predictability in Science: Accuracy and Limitations*, 3-6 November 2006, 37-45.
56. Ghil, M., et I. Zaliapin (2006) Une nouvelle source de fractales: les équations booléennes avec retard, et leurs applications aux sciences de la planète, in *L'irruption des géométries fractales dans les sciences, Une apologie de l'oeuvre de Benoît Mandelbrot*, Editions de l'Académie Européenne Interdisciplinaire des Sciences, Paris, 161-187. (In French)
57. Cvitanic, J., B. Rozovskii, and I. Zaliapin (2006) Numerical estimation of volatility values from discretely observed diffusion data, *Comp. Finance*, 9(4), 1-36.
58. Zaliapin, I., H. Wong, and A. Gabriellov (2006) Hierarchical Aggregation in Percolation Model, *Tectonophysics*, 413, 93-107.
59. Keilis-Borok, V., P. Shebalin, A. Gabriellov, D. Turcotte, and I. Zaliapin (2006) Short-term earthquake prediction by reverse analysis of lithosphere dynamics, *Tectonophysics*, 413, 63-75.
60. Cvitanic, J., R. Liptser, B. Rozovskii, and I. Zaliapin (2005) Filtering volatility from data observed at random time intervals, *Proceedings of the 7th Workshop on Stochastic Numerics, Research Institute for Mathematical sciences, Kyoto University, Japan*, pp. 1-25.
61. Zaliapin, I., Y. Kagan, and F. Schoenberg (2005) Approximating the distribution of Pareto sums, *Pure. Appl. Geophys.*, 162, 1187-1228.
62. Zaliapin, I., H. Wong, and A. Gabriellov (2005) Inverse cascade in percolation model: Hierarchical description of time-dependent scaling, *Phys. Rev. E*, 71, 066118.
63. Zaliapin, I., I. Semenova, A. Kashina, V. Rodionov (2005) Multiscale trend analysis of microtubule transport in melanophores, *Biophysical J.*, 88(6): 4008-4016.
64. Zaliapin, I., A. Jin, Z. Liu, K. Aki, and V. Keilis-Borok (2005) Temporal (un)correlations between coda Q^{-1} and seismicity – Multiscale Trend Analysis, *Pure. Appl. Geophys.*, 162, 827-841.
65. Pisarenko, V. F., A. A. Lyubushin, M. V. Bolgov, T. A. Rukavishnikova, S. Kanyu, M. F. Kanevskii, E. A. Savel'eva, V. V. Dem'yanov, and I. V. Zaliapin (2005) Statistical Methods for River Runoff Prediction, *Water Resources*, 32, 2, 115-126.
66. Zaliapin, I., A. Gabriellov, and V. Keilis-Borok (2004) Multiscale Trend Analysis, *Fractals*, 12 (3), 275-292.
67. Kashina, A., I. Semenova, P. Ivanov, E. Potekhina, I. Zaliapin, and V. Rodionov (2004) Protein kinase A that regulates intracellular transport forms complexes with molecular motors on organelles, *Current Biology*, 14, 1-20.
68. Shebalin, P., V. Keilis-Borok, I. Zaliapin, S. Uyeda, T. Nagao, and N. Tsybin (2004) Advance short-term prediction of the large Tokachi-oki earthquake, September 25, 2003, M=8.1 A case history, *Earth Planets Space*, 56, 715-724.
69. Grasso, J.-R. and I. Zaliapin (2004) Predictability of volcano eruption: lessons from a basaltic effusive volcano, *Geophys. Res. Lett.* 31, No. 5, L05602, doi: 10.1029/2003GL019022.

70. Zaliapin, I., Keilis-Borok, V., and Ghil M. (2003) A Boolean Delay Model of Colliding Cascades. I: Multiple Seismic Regimes, *J. Stat. Phys.*, 111, 3-4, 815-837.
71. Zaliapin, I., Keilis-Borok, V., and Ghil M. (2003) A Boolean Delay Model of Colliding Cascades. II: Prediction of Critical Transitions, *J. Stat. Phys.*, 111, 3-4, 839-861.
72. Keilis-Borok, V., P. Shebalin, and I. Zaliapin (2002) Premonitory Patterns of Seismicity Months Before a Large Earthquake: Five Case Histories in Southern California. *Proc. Nat. Ac. Sci.*, 99, 16562-16567.
73. Zaliapin, I., Z. Liu, G. Zöller, V. Keilis-Borok, and D. Turcotte (2002) On increase of earthquake correlation length prior to large earthquakes in California. *Comp. Seismol.*, 33, 141-161.
74. Zaliapin, I., Keilis-Borok, V., and Axen G. (2002) Premonitory Spreading of Seismicity Over the Fault's Network in S. California: precursor *Accord*, *J. Geophys. Res.*, 107, 2221.
75. Peresan, A., Rotwain, I., Zaliapin I., and Panza. G. F. (2002) Stability of intermediate-term earthquake predictions with respect to random errors in magnitude: the case of Central Italy, *Phys. Earth Planet. Int.*, 130, 117-127.
76. Gabrielov, A. M., Keilis-Borok, V. I., Zaliapin I. V., and Newman W. I. (2000) Critical transitions in colliding cascades. *Phys. Rev. E*, 62, 237-249.
77. Gabrielov, A. M., Zaliapin I. V., Keilis-Borok, V. I., and Newman W. I. (2000) Colliding Cascades as a Model for Earthquake Prediction. *Geophys. J. Int.*, 143, 427-437.
78. Shebalin P., I. Zaliapin, and V. Keilis-Borok (2000) Premonitory raise of the earthquakes correlation range: Lesser Antilles, *Phys. Earth Planet. Int.*, 122: 3-4, 241-249.
79. Pisarenko, V. F., Zaliapin, I. V., Kuznetsov, I. V., Lyubushin, A. A., Kushnir A. F., and Rukavishnikova, T. A. (2000) Applied analysis of point processes and fields. Statistical analysis of seismic migration. *Comp. Seismol.* 31. (In Russian).

C. Other professional publications

80. Zaliapin, I. (2021) Relating Seismicity and Volcano Eruptions, EOS Editor's Highlights, <https://eos.org/editor-highlights/relating-seismicity-and-volcano-eruptions>
81. Zaliapin, I. (2015) Thinking of Trees. In H. Kaper and C. Rousseau (Eds.) *Mathematics of Planet Earth: Mathematicians Reflect on How to Discover, Organize, and Protect Our Planet*. SIAM, 206 pp.
82. Zaliapin, I. V. (1999) Statistical analysis of point fields and its application to the problem of detecting seismic migration. *Ph.D. thesis*. International Institute of Earthquake Prediction Theory and Mathematical Geophysics, Russian Ac. Sci., Moscow. (In Russian).
83. Zaliapin, I. V., and Pisarenko, V. F. (1999) On some properties of the estimation of the coefficient of variation of a point process' interoccurrence times. *Proc. of Chelyabinsk Sci. Center* 3, 6-10. (In Russian).
84. Zaliapin, I. V., Kuznetsov I. V., and Pisarenko, V. F. (1998) Estimation of voting results under existence of interrelations of respondents' opinions. *Proc. of Chelyabinsk Sci. Center* 1, 99-108. (In Russian).

D. Abstracts/Conference proceedings

1. Zaliapin, I. and Y. Ben-Zion (2022) Space-Time Variations of Seismicity: Quantitative Assessment and Systematic Changes Before Large Earthquakes. Presentation EGU22-3136, Session NH4.3. European Geosciences Union General Assembly, May 23-27, 2022 (presented online)
2. Zaliapin, I. and Y. Ben-Zion (2022) Space-Time Variations of Seismicity: Quantitative Assessment and Systematic Changes Before Large Earthquakes. Oral talk presented at the Annual Meeting of Seismological Society of America, April 19-23, 2022, Bellevue, Washington.
3. Zaliapin, I. and Y. Ben-Zion (2021) Earthquake clustering and localization of seismicity before large earthquakes. Abstract T15A-0163 presented at *2021 Fall Meeting of AGU, Dec. 13-17* (online)

4. Zaliapin, I., Y. Kovchegov, and E. Fofoula-Georgiou (2021) Critical Tokunaga model for river networks. Abstract H12D-04 presented at *2021 Fall Meeting of AGU, Dec. 13-17* (online)
5. Vulis, L., A. Tejedor, I. Zaliapin, J. Rowland, and E. Fofoula-Georgiou (2021) The relationship between lake spatial distribution and permafrost processes on arctic deltas. Abstract EP31B-02 presented at *2021 Fall Meeting of AGU, Dec. 13-17, New Orleans, LA*
6. Zaliapin, I. and Y. Ben-Zion (2021) Earthquake clustering and localization of seismicity before large events. Poster #251 Presented at 2021 SCEC Annual Meeting, Sep 12-17, 2021 (online).
7. Zaliapin, I. and Y. Ben-Zion (2021) Localization of seismicity prior to large earthquakes. In *EGU General Assembly Conference Abstracts*, pp. EGU21-14086 (online).
8. Zaliapin, I. and Y. Ben-Zion (2021) Localization of Seismicity Prior to Large Earthquakes. *A paper presented at the 2021 Annual Meeting of the Seismological Society of America 19-23 April, 2021* (online).
9. Maher, E., I. Zaliapin, and J. Andersen (2021) Impact of Declustering on Probabilistic Seismic Hazard Estimates in the United States. *A paper presented at the 2021 Annual Meeting of the Seismological Society of America 19-23 April, 2021* (online).
10. Ben-Zion, Y. and I. Zaliapin (2020) Localization and coalescence of seismicity before large earthquakes. Abstract T004-0006 presented at *2020 Fall Meeting of AGU, Dec. 1-17* (online).
11. Zhou, B., I. Zaliapin, C. Johnson, Y. Fu, K. Chanard and Y. Ben-Zion (2020) Environmental Triggering of Seismicity in California. Abstract S038-0008 presented at *2020 Fall Meeting of AGU, Online, Dec. 1-17*.
12. Vulis, L., A. Tejedor, I. Zaliapin, J. Rowland and E. Fofoula-Georgiou (2020) Characterizing the Distribution of Lakes on Arctic Deltas. Abstract C013-0012 presented at *2020 Fall Meeting of AGU, Online, Dec. 1-17*.
13. Zaliapin, I., K. Henricksen, and K. Zuev (2020) Hyperbolic geometry of earthquake networks. Virtual workshop “*Micromechanics, Statistics and Hazards of Mechanical Failure*” at The Centre de Recerca Matemàtica, Spain, Oct. 19-22. <http://fail.crm.cat/>
14. Zaliapin, I. and Ben-Zion, Y. (2020) Quantifying preparation process of large earthquakes: Damage localization and coalescent dynamics. Virtual workshop “*Micromechanics, Statistics and Hazards of Mechanical Failure*” at The Centre de Recerca Matemàtica, Spain, Oct. 19-22. <http://fail.crm.cat/>
15. Zaliapin, I. (2020) Localization and coalescence of seismicity before large earthquakes in California. Plenary talk at 2020 SCEC Annual Meeting, Sep 14-17, 2020. Contribution #10227.
16. Zhou, B., Zaliapin, I., Johnson, C. W., Fu, Y., Chanard, K., & Ben-Zion, Y. (2020). Environmental triggering of seismicity in California. Poster #10208 Presented at 2020 SCEC Annual Meeting, Sep 14-17, 2020.
17. Zaliapin, I. (2020) Random self-similar trees and Horton laws. A talk presented at Bernoulli – IMS OneWorld Symposium. <https://www.youtube.com/watch?v=J3wxZq4s3CE&t=2s>
18. Zaliapin, I. and Ben-Zion, Y. (2020) Quantifying preparation process of large earthquakes: Damage localization and coalescent dynamics, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-12056, <https://doi.org/10.5194/egusphere-egu2020-12056> (Solicited talk)
19. Zaliapin, I., Henricksen, K., and Zuev, K. (2020) Hyperbolic geometry of earthquake networks, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-12091, <https://doi.org/10.5194/egusphere-egu2020-12091>
20. Zaliapin, I., K. Henricksen, and K. Zuev (2019) Hyperbolic geometry of earthquake networks. Abstract S54B-03 presented at *2019 Fall Meeting of AGU, Washington D.C., December 9-13, 2019*.
21. Ben-Zion, Y. and I. Zaliapin (2019) Quantifying preparation process of large earthquakes: Damage localization and coalescent dynamics. Abstract S54B-01 presented at *2019 Fall Meeting of AGU, Washington D.C., December 9-13, 2019*.

22. Zaliapin, I., and Y. Ben-Zion (2019). Quantifying preparation process of large earthquakes: Damage localization and coalescent dynamics. *Proc. of Southern California Earthquake Center (SCEC) 2019 Annual Meeting*, Palm Springs, CA, September 7-11, 2019, Vol. XXIX, poster 089.
23. Henricksen, K. and I. Zaliapin (2019) Hyperbolic property of earthquake networks. Abstract #305119 presented at *2019 Joint Statistical Meeting*, July 27 – August 1, 2019, Denver, CO
24. Cheng, Y., Y. Ben-Zion, and I. Zaliapin (2018) Informative space-time-magnitude-mechanism features of earthquakes in southern California. Abstract S41C-0534 presented at *2018 Fall Meeting of AGU, Washington D.C.*, December 10-14, 2018.
25. Kreemer, C. and I. Zaliapin (2018) Spatio-Temporal Correlation Between Seasonal Variations in Seismicity and Horizontal Dilatational Strain in California. Abstract G43A-07 presented at *2018 Fall Meeting of AGU, Washington D.C.*, December 10-14, 2018.
26. Zaliapin, I. and Y. Ben-Zion (2018) Localization Processes Leading to Large Failures: Analysis of acoustic emission and earthquake catalogs. An invited talk presented at *Banff 2018 International Induced Seismicity Workshop*, Oct. 24-27, 2018, Banff, Canada.
27. Zaliapin, I. and Y. Ben-Zion (2018) Earthquake clustering in relation to preparation of large events and seasonal strain signals. An invited talk presented at the *32nd IUGG Conference on Mathematical Geophysics*, Nizhny Novgorod, Russia, June 23-28, 2018.
28. Kovchegov, Y. and I. Zaliapin (2018) Random Self-similar Trees with Applications in Geosciences. *32nd IUGG Conference on Mathematical Geophysics*, Nizhny Novgorod, Russia, June 23-28, 2018.
29. Martínez-Garzón, P., I. Zaliapin, Y. Ben-Zion, G. Kwiatek and M. Bohnhoff (2018) Comparative study of earthquake clustering in relation to hydraulic activities at geothermal fields in California. A poster presented at *2018 Annual Meeting of Seismological Society of America*, May 14-17, Miami, FL
30. Zaliapin, I. (2018) Random self-similar trees and their applications. Invited talk presented at *Frontier Probability Days*, March 29-31, 2018, Oregon State University, Corvallis, OR
31. Zaliapin, I. (2018) Random self-similar trees and their applications. Part I: Combinatorial Trees. A tutorial presented at workshop *Random Trees: Structure, Self-similarity and Dynamics*, CIMAT, Guanajuato, Mexico, April 23-27, 2018
32. Poli, P., Y. Ben-Zion, and I. Zaliapin (2017) Systematic detection and classification of earthquake clusters in Italy. Abstract S21B-0707 presented at *2017 Fall Meeting of AGU, New Orleans*, December 11-15, 2017.
33. Martínez-Garzón, P., I. Zaliapin, Y. Ben-Zion, G. Kwiatek and M. Bohnhoff (2017) Comparative study of earthquake clustering in relation to hydraulic activities at geothermal fields in California, Abstract S12A-02 presented at *2017 Fall Meeting of AGU, New Orleans*, December 11-15, 2017.
34. Tejedor, A., Longjas, A., Edmonds, D. A., Zaliapin, I., Georgiou, T. T., Rinaldo, A., and Foufoula-Georgiou, E. (2017). Optimality and self-organization in river deltas. Abstract EP13D-07 presented at *2017 Fall Meeting of AGU, New Orleans*, December 11-15, 2017.
35. Zaliapin, I. and Y. Ben-Zion (2017) Quantifying the coalescence process of microcracks leading to a system-size failure. *Proc. of Southern California Earthquake Center (SCEC) 2017 Annual Meeting*, Palm Springs, CA, September 10-13, 2017, Vol. XXVII, poster 187.
36. Kraner, M., W. Hammond, C. Kreemer, and I. Zaliapin (2017) Seasonal Variation of Strain in Central California and its Correlation with Seismicity. *Proc. of Southern California Earthquake Center (SCEC) 2017 Annual Meeting*, Palm Springs, CA, September 10-13, 2017, Vol. XXVII, poster 212.
37. Zaliapin, I. and Y. Ben-Zion (2016). Earthquake Declustering via a Nearest-Neighbor Approach in Space-Time-Magnitude Domain. Abstract S31E-07 (oral) presented at *2016 Fall Meeting of AGU, San Francisco, California*, December 12-16, 2016.
38. Singh, A., A. Tejedor, J.-L. Grimaud, I. Zaliapin, and E. Foufoula-Georgiou (2016) Quantifying the scale- and process-dependent reorganization of landscape under

- climatic change: inferences from an experimental landscape. Abstract EP32A-08 (oral) presented at *2016 Fall Meeting of AGU*, San Francisco, California, December 12-16, 2016.
39. Zaliapin, I. and Y. Ben-Zion (2016). Earthquake Declustering via a Nearest-Neighbor Approach. *Proc. of Southern California Earthquake Center (SCEC) 2016 Annual Meeting*, Palm Springs, CA, September 10-14, 2016, Vol. XXVI, p.146, poster 310.
 40. Kreemer, C. and I. Zaliapin (2016). Systematic fluctuations in the global seismic moment release. *Proc. of Southern California Earthquake Center (SCEC) 2016 Annual Meeting*, Palm Springs, CA, September 10-14, 2016, Vol. XXVI, p.197, poster 306.
 41. Zaliapin, I. (2016) A tree-graph approach to selected problems of nonlinear dynamics *Proceedings of the 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications*, Orlando, FL, July 1-5, 2016, p.11.
 42. Zaliapin, I. (2016) Understanding Earthquake Clustering: A Nearest-Neighbor Approach. An invited talk presented at the *31st IUGG Conference on Mathematical Geophysics*, Paris, France, June 6-10, 2016
 43. Zaliapin, I. and Y. Ben-Zion (2016) Earthquake declustering via a nearest-neighbor approach in space-time-magnitude domain. A talk presented at *2016 Annual Meeting of Seismological Society of America*, Reno, Nevada, April 20-22, 2016.
 44. Zaliapin, I. and C. Kreemer (2016) Statistically significant global variations of seismic moment. Poster #56 presented at *2016 Annual Meeting of Seismological Society of America*, Reno, Nevada, April 20-22, 2016.
 45. Kreemer, C. and I. Zaliapin (2016) On the uncertainty of the seismic to geodetic moment rate ratio. A talk presented at *2016 Annual Meeting of Seismological Society of America*, Reno, Nevada, April 20-22, 2016.
 46. Zaliapin, I. and Y. Ben-Zion (2015) Discriminating characteristics of tectonic and human-induced seismicity. Abstract S13B-2828 (poster) presented at 2015 Fall Meeting of AGU, San Francisco, California, December 14-18, 2015.
 47. Singh, A., A. Tejedor, I. Zaliapin, L. Reinhardt, and E. Foufoula-Georgiou (2015) Experimental evidence of reorganizing landscape under changing climatic forcing. Abstract NG23B-1786 (poster) presented at 2015 Fall Meeting of AGU, San Francisco, California, December 14-18, 2015.
 48. Ruhl, C., R. Abercrombie, K. Smith, and I. Zaliapin (2015) Inside an Earthquake Swarm: Objective Identification and Analysis of Spatiotemporal Subclusters of the Mogul 2008 Earthquake Swarm in Reno, NV. Abstract S51A-2647 (poster) presented at 2015 Fall Meeting of AGU, San Francisco, California, December 14-18, 2015.
 49. Tejedor, A., A. Longjas, R. Caldwell, D. Edmonds, I. Zaliapin, and E. Foufoula-Georgiou (2015) Moving beyond the Galloway diagrams for delta classification: Connecting morphodynamic and sediment-mechanistic properties with metrics of delta channel network topology and dynamics. Abstract GC44C-03 (oral) presented at 2015 Fall Meeting of AGU, San Francisco, California, December 14-18, 2015.
 50. Zaliapin, I. and Y. Ben-Zion (2015) Discriminating characteristics of tectonic and human-induced seismicity. *Proc. of Southern California Earthquake Center (SCEC) 2015 Annual Meeting, Palm Springs, CA, September 12-16, 2015*, Vol. XXV, p.197, poster 146.
 51. Zaliapin, I. and Y. Ben-Zion (2015) Distinguishing artifacts of earthquake catalog errors from genuine seismicity patterns. *26th General Assembly of International Union of Geodesy and Geophysics*, IUGG-2960 (oral), Prague, Czech Republic, June 22-July 2, 2015
 52. Zaliapin, I. and Y. Ben-Zion (2015) Distinguishing artifacts of earthquake catalog errors from genuine seismicity patterns. Poster #101 presented at *2015 Annual Meeting of Seismological Society of America*, Pasadena, California, April 20-22, 2015.
 53. Singh, A., A. Tejedor, I. Zaliapin, L. Reinhardt, and E. Foufoula-Georgiou (2015) Experimental evidence of dynamic re-organization of evolving landscapes under changing climatic forcing. EGU General Assembly, April 12-17, 2015, *Geophysical Research Abstracts*, Vol. 17, EGU2015-8726.
 54. Tejedor, A., A. Longjas, I. Zaliapin, and E. Foufoula-Georgiou (2015) A graph-theoretic approach to River Deltas: Studying complexity, universality, and vulnerability to

- change. EGU General Assembly 2015, *Geophysical Research Abstracts*, Vol. 17, EGU2015-7706.
55. Fofoula-Georgiou, E., A. Tejedor, A. Longjas, and I. Zaliapin (2014) Quantitative Metrics of Robustness in River Deltas. Abstract H13I-1223 (poster) presented at 2014 Fall Meeting of AGU, San Francisco, California, December 15-19, 2014.
 56. Tejedor, A., E. Fofoula-Georgiou, A. Longjas, and I. Zaliapin (2014) Network topology, Transport dynamics, and Vulnerability Analysis in River Deltas: A Graph-Theoretic Approach. Abstract GC21D-0582 (poster) presented at 2014 Fall Meeting of AGU, San Francisco, California, December 15-19, 2014.
 57. Longjas, A., A. Tejedor, I. Zaliapin, S. Ambroj, and E. Fofoula-Georgiou (2014) Network Robustness: the *whole* story. Abstract H13I-1221 (poster) presented at 2014 Fall Meeting of AGU, San Francisco, California, December 15-19, 2014.
 58. Zaliapin, I. and Y. Ben-Zion (2014) Robust Quantification of Earthquake Clustering: Overcoming the Artifacts of Catalog Errors. Abstract S53D-4557 (poster) presented at 2014 Fall Meeting of AGU, San Francisco, California, December 15-19, 2014.
 59. Singh, A., A. Tejedor, I. Zaliapin, L. Reinhardt, and E. Fofoula-Georgiou (2014) Emergent reorganization of an evolving experimental landscape under changing climatic forcing. Abstract EP53B-3645 (poster) presented at 2014 Fall Meeting of AGU, San Francisco, California, December 15-19, 2014.
 60. Zaliapin, I. and Y. Ben-Zion (2014) Robust quantification of earthquake clustering: Overcoming the artifacts of catalog errors. *Proc. of Southern California Earthquake Center (SCEC) 2014 Annual Meeting, Palm Springs, CA, September 6-10, 2014*, Vol. XXIV, p.189, poster 163.
 61. Zaliapin, I. and Y. Ben-Zion (2014) Earthquake Clusters: Identification, Classification, and Relation to the Physical Properties of the Crust. Poster presented at the 30th IUGG Conference on Mathematical Geophysics, Merida, Yucatan, Mexico, June 2-6.
 62. Tejedor, A., A. Longjas, I. Zaliapin and E. Fofoula-Georgiou (2014) Defining network robustness using a dual connectivity perspective. Poster presented at the 30th IUGG Conference on Mathematical Geophysics, Merida, Yucatan, Mexico, June 2-6.
 63. Kovchegov, Y. and I. Zaliapin (2014) Horton self-similarity of coalescent trees. Poster presented at the 30th IUGG Conference on Mathematical Geophysics, Merida, Yucatan, Mexico, June 2-6.
 64. Zaliapin, I. and Y. Ben-Zion (2014) Spatio-temporal evolution of seismic clusters in natural and induced seismicity. Annual Meeting of Seismological Society of America, Anchorage, AK, 30 April – 2 May, 2014. *Seismol. Res. Lett.*, 85(2), 487.
 65. Fofoula, E., J. Czuba, and I. Zaliapin (2014) Dynamic connectivity and response to change in a river network: what can be learned for managing river basins? EGU General Assembly 2014. *Geophysical Research Abstracts*, Vol. 16, EGU2014-14510.
 66. Zaliapin, I. and Y. Ben-Zion (2013) Spatio-temporal evolution of seismic clusters in southern and central California, Abstract S11B-2378 presented at 2013 Fall Meeting, AGU, San Francisco, California, 9-13 December.
 67. Tejedor, A. and I. Zaliapin (2013) Tokunaga river networks: New empirical evidence and applications to transport problems, Abstract H23I-03 presented at 2013 Fall Meeting, AGU, San Francisco, California, 9-13 December.
 68. Zaliapin, I. and Y. Ben-Zion (2013) Spatio-temporal Evolution of Seismic Clusters in Southern and Central California. Workshop “*Dynamics of Seismicity, Earthquake Clustering and Patterns in Fault Networks*”, SAMSI, October 9-11, 2013
 69. Zaliapin, I. and Y. Ben-Zion (2013) Spatio-temporal evolution of seismic clusters in southern and central California, *Proc. of Southern California Earthquake Center (SCEC) 2013 Annual Meeting, Palm Springs, CA, September 8-11, 2013*, Vol. XXIII, p.85, poster 075.
 70. Kovchegov, Y. and I. Zaliapin (2013) Horton self-similarity of coalescent trees. *Mathematical Congress of the Americas*, August 5-9, 2013 Guanajuato, Mexico, Abstract 5007-60-491.

71. Zaliapin, I. and A. Tejedor (2013) Random self-similar trees: statistical inference and hydrological applications. *Mathematical Congress of the Americas*, August 5-9, 2013 Guanajuato, Mexico, Abstract 5007-60-457.
72. Zaliapin, I. and Y. Kovchegov (2012) Horton and Tokunaga self-similarity in basic models of branching, aggregation, time series (Invited). Abstract NG43C-01 presented at 2012 Fall Meeting, AGU, San Francisco, California, 3-7 December.
73. Zaliapin, I. and Y. Ben-Zion (2012) Different types of seismicity clusters in southern California: A case study of non-universal behavior. Abstract S51F-03 presented at 2012 Fall Meeting, AGU, San Francisco, California, 3-7 December.
74. Tejedor, A. and I. Zaliapin (2012) Horton and Tokunaga self-similarity for multiplicative coalescent: A numerical approach. Abstract NG13A-1514 presented at 2012 Fall Meeting, AGU, San Francisco, California, 3-7 December.
75. Shcherbakov, R. and I. Zaliapin (2012) Confidence Intervals for the Magnitude of the Largest Aftershock. Abstract S31A-2476 presented at 2012 Fall Meeting, AGU, San Francisco, California, 3-7 December.
76. Zanardo, S., I. Zaliapin, E. Foufoula (2012) Tree-like Representation of Hydrologic Time Series. Abstract H33A-1287 presented at 2012 Fall Meeting, AGU, San Francisco, California, 3-7 December.
77. Foufoula, E., S. Zanardo, M. Danesh-Yazdi, I. Zaliapin, M. Power, W. Dietrich (2012) Dynamic Landscape Connectivity, Threshold Behavior, and Scaling Frameworks for Hydrologic and Bio-geochemical Fluxes (Invited). Abstract H42D-07 presented at 2012 Fall Meeting, AGU, San Francisco, California, 3-7 December.
78. Zaliapin, I. and Y. Ben-Zion (2012) Different types of seismicity clusters in southern California: A case study of non-universal behavior. *Proc. of Southern California Earthquake Center (SCEC) 2012 Annual Meeting, Palm Springs, CA, September 9-12, 2012*, Vol. XXII, p.79, poster 053.
79. Zaliapin, I. and Y. Kovchegov (2012) Horton and Tokunaga self-similarity for random trees and time series, with applications to river networks. 2012 Oregon State University Workshop on Mathematical Problems in the Environmental Sciences, 31 July - 2 August, Corvallis, Oregon, USA
80. Zaliapin, I. and Y. Ben-Zion (2012) Are seismicity patterns and scaling laws truly universal? A detailed study in southern California. *A talk presented at the 29th IUGG Conference on Mathematical Geophysics, 18-22 June, Edinburg, Scotland, UK.*
81. Zaliapin, I. and Y. Ben-Zion (2012) Relation between seismic clustering and physical properties of the lithosphere. Annual Meeting of Seismological Society of America, San Diego, CA, 17-19 April, 2011. *Seismol. Res. Lett.*, 83(2), 365.
82. Ross, Z., I. Zaliapin, and Y. Ben-Zion (2012) Systematic analysis of spatial symmetry properties of aftershock in California with respect to the epicentral location of mainshocks. Annual Meeting of Seismological Society of America, San Diego, CA, 17-19 April, 2011. *Seismol. Res. Lett.*, 83(2), 412.
83. Zaliapin, I., S. Zanardo, and E. Foufoula-Georgiou (2011) Tree representation of hydrologic time series – towards new river network signatures in catchment runoff. Abstract NG33A-1500 presented at 2011 Fall Meeting, AGU, San Francisco, California, 5-9 December.
84. Zanardo, S., I. Zaliapin, E. Foufoula-Georgiou, W. Dietrich, and M. Ghil (2011) Hierarchical structure of river networks revisited. Abstract NG33C-1516 presented at 2011 Fall Meeting, AGU, San Francisco, California, 5-9 December.
85. Ben-Zion, Y. and I. Zaliapin (2011) Relations between properties of seismicity and regional heat flow in California. Abstract S34A-04 presented at 2011 Fall Meeting, AGU, San Francisco, California, 5-9 December.
86. Loskutov, Y., A. Gavrilov, D. Mukhin, A. Mukhina, I. Zaliapin, A. Feigin (2011) Prognosis of critical transitions in a delay differential equations model of ENSO. Abstract NG51E-1683 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec., USA

87. Zaliapin, I. and Y. Ben-Zion (2011) Relations between properties of seismicity and regional heat flow in California. *Proc. of Southern California Earthquake Center (SCEC) 2011 Annual Meeting, Palm Springs, CA, September 11-14, 2011*, Vol. XXI, p. 252.
88. Zaliapin, I., E. Fofoula-Georgiou, M. Ghil, and Y. Kovchegov (2011) Hierarchical network approach to modeling complex geophysical systems. Abstract #3477, XXV General Assembly of International Union of Geodesy and Geophysics, Melbourne, Australia, 28 June – 7 July, 2011. (Invited)
89. Ben-Zion, Y. and I. Zaliapin (2011) Observational tests of dynamic bimaterial effects on natural faults with along-strike symmetry properties of aftershocks. EGU General Assembly 2011, Vienna, Austria, 3-8 April, 2011. Geophysical Research Abstracts, Vol. 13, EGU2011-2797.
90. Fofoula, E., I. Zaliapin, S. Zanardo, M. Ghil, M. Power, and W. Dietrich (2011) Dynamic River Networks (DRNs): a new conceptual framework for modeling spatially explicit and temporally dynamic fluxes connecting channels and landscapes. EGU General Assembly 2011, Vienna, Austria, 3-8 April, 2011. Geophysical Research Abstracts, Vol. 13, EGU2011-5364. (Invited)
91. Zaliapin, I. and Y. Ben-Zion (2011) Correlations between clustering and productivity properties of seismicity in California and heat flow. Annual Meeting of Seismological Society of America, Memphis TN, 13-15 April, 2011. *Seismol. Res. Lett.*, 82, 361.
92. Zaliapin, I. (2011) Hierarchical network approach to modeling natural complexities. Presented at *ENHANS International Workshop on Extreme Natural Hazards and Disaster Risk in Africa*, Pretoria, South Africa, 17-20 January. (Invited)
93. Hicks, A., I. Zaliapin, Y. Ben-Zion (2010) Worldwide seismic clustering and correlations with regional physical properties. Abstract NG44A-04 presented at 2010 Fall Meeting, AGU, San Francisco, California, 13-17 December.
94. Passalacqua, P., I. Zaliapin, E. Fofoula-Georgiou, M. Ghil, B. Dietrich (2010) A Dynamic Tree Approach to Environmental Transport on Hillslopes. Abstract NG43B-1418 presented at 2010 Fall Meeting, AGU, San Francisco, California, 13-17 December.
95. Zaliapin, I., E. Fofoula-Georgiou, M. Ghil (2010) Static and dynamic Tokunaga stream networks: Statistical properties. Abstract H51E-0941 presented at 2010 Fall Meeting, AGU, San Francisco, California, 13-17 December.
96. Kovchegov, Y. and I. Zaliapin (2010) Tokunaga self-similarity for symmetric homogeneous Markov chains. Abstract NG43B-1414 presented at 2010 Fall Meeting, AGU, San Francisco, California, 13-17 December.
97. Zaliapin, I. and Y. Ben-Zion (2010) Seismic Clustering and Regional Physical Properties: A Statistical Analysis, *Proc. of Southern California Earthquake Center (SCEC) 2010 Annual Meeting, Palm Springs, CA, September 11-15, 2010*, Vol. XX, p. 299.
98. Zaliapin, I. and Y. Ben-Zion (2010) Seismic clustering and regional physical properties: A statistical analysis. Poster presented at 28th IUGG Conference on Mathematical Geophysics, June 7-11, 2010, Pisa, Italy
99. Zaliapin, I., E. Fofoula-Georgiou, and M. Ghil (2010) Envirodynamics on river networks: A minimal complexity framework for transport studies. EGU General Assembly 2010, Vienna, Austria, 2-7 May, 2010. Geophysical Research Abstracts, Vol. 12, EGU2010-7140 (Invited).
100. Chekroun, M., I. Zaliapin, and M. Ghil (2010) Pullback attractors in nonautonomous dynamical systems with delay: Applications to an ENSO model with seasonal forcing. EGU General Assembly 2010, Vienna, Austria, 2-7 May, 2010. Geophysical Research Abstracts, Vol. 12, EGU2010- 7050-1.
101. Zaliapin, I., E. Webb, E. Fofoula-Georgiou, and M. Ghil (2010) Tokunaga self-similar trees: A characteristic property of aggregation processes. EGU General Assembly 2010, Vienna, Austria, 2-7 May, 2010. Geophysical Research Abstracts, Vol. 12, EGU2010-7156.
102. Singh, A., Zaliapin, I., and E. Fofoula-Georgiou (2010) Tree representation of time series: A case study of self-similarity and dynamics of channel bed morphology. EGU General Assembly 2010, Vienna, Austria, 2-7 May, 2010. Geophysical Research Abstracts, Vol. 12, EGU2010-7171.

103. Zaliapin, I. and Y. Ben-Zion (2010) Asymmetric properties of early aftershocks on faults in California. 2010 Annual Meeting of Seismological Society of America, Portland OR, 21-23 April, 2010. *Seismol. Res. Lett.*, 81(2), 366.
104. Zaliapin, I. and J. Bautista (2010) Regional seismicity as a flow of clusters: A case study in California. 2010 Annual Meeting of Seismological Society of America, Portland OR, 21-23 April, 2010. *Seismol. Res. Lett.*, 81(2), 361.
105. Chekroun, M. D., I. Zaliapin, and M. Ghil (2009) A delay differential model for El-Nino/Southern Oscillation (ENSO): Pullback attractors, phase locking, and multiple solutions. *EOS Trans. AGU*, 90(52), Fall Meet. Suppl. Abstract NG13A-1088.
106. Zaliapin, I., M. Ghil, and E. Foufoula-Georgiou (2009) Envirodynamics: Dynamical trees and BDE modeling of river transport. *EOS Trans. AGU*, 90(52), Fall Meet. Suppl. Abstract NG33C-06.
107. Webb, E. and I. Zaliapin (2009) Tokunaga trees: Why do they emerge everywhere? *EOS Trans. AGU*, 90(52), Fall Meet. Suppl. Abstract NG41A-1178.
108. Zaliapin, I., C. Kreemer, J. Anderson, and A. Pancha (2009) Modeling seismic moment release: Toward resolving seismic moment deficit paradox. *Proc. of Southern California Earthquake Center (SCEC) 2009 Annual Meeting, Palm Springs, CA, September 12-16, 2009*, Vol. XIX, p. 272.
109. Zaliapin, I. and Y. Ben-Zion (2009) Correlations between seismic clustering and properties of the crust. *Proc. of Southern California Earthquake Center (SCEC) 2009 Annual Meeting, Palm Springs, CA, September 12-16, 2009*, Vol. XIX, p. 233.
110. Olsen, S. and I. Zaliapin (2009) Assessing premonitory power of the variations in the earthquake magnitude distribution. *Proc. of Southern California Earthquake Center (SCEC) 2009 Annual Meeting, Palm Springs, CA, September 12-16, 2009*, Vol. XIX, p. 232.
111. Zaliapin, I., Y. Sinai, A. Gabrielov, V. Keilis-Borok (2009) Phase Transitions in Cluster Dynamics – New Type of a Critical Phenomenon, *EOS Trans. AGU*, 90 (22), Jt. Assem. Suppl., Abstract NG33B-03.
112. Gabrielov, A., I. Zaliapin and V. Keilis-Borok (2009) Extreme Events and Their Predictability in a Branching Diffusion Model, *EOS Trans. AGU*, 90 (22), Jt. Assem. Suppl., Abstract NG34A-07.
113. Keilis-Borok, V., A. Soloviev, G. Molchan, A. Gabrielov, and I. Zaliapin (2009) Predictive Understanding of Disasters: Universality of Precursory Phenomena, *EOS Trans. AGU*, 90 (22), Jt. Assem. Suppl., Abstract NG34A-01.
114. Zaliapin, I. and M. Ghil (2009) A delay differential model of ENSO variability: Extreme values and stability analysis, 2009 *EGU General Assembly*, April 19-24, Vienna, Austria, Session: CL55/NP8.4 “Chaotic and Stochastic Climate Dynamics”, Abstract EGU2009-6597.
115. Zaliapin, I., E. Foufoula-Georgiou, and M. Ghil (2009) Environmental transport on self-similar networks: A dynamical approach, 2009 *EGU General Assembly*, April 19-24, Vienna, Austria, Session: GM1.3/NP3.10 “Stochastic Transport and Emergent Scaling on the Earth's Surface”, Abstract EGU2009-6559.
116. Kreemer, C., Torres, R., Zaliapin, I., Pancha, A., and Anderson, J.G. (2009) Statistics and Correlations of Seismic and Tectonic Moment Rate in California and the Great Basin. *2009 Annual Meeting of Seismological Society of America (SSA)*, April 8-10, Monterey, CA.
117. Zaliapin, I., E. Foufoula-Georgiou, and M. Ghil (2008) Environmental transport on self-similar networks: A dynamical approach. *EOS Trans. AGU*, 89(53), Fall Meet. Suppl. Abstract H31G-0973.
118. Torres, R., I. Zaliapin, C. Kreemer, A. Pancha, and J. Anderson (2008) Statistics and correlations of seismic and tectonic moment rate in California and the Great Basin. *EOS Trans. AGU*, 89(53), Fall Meet. Suppl. Abstract NG23A-1128 [moved to NG33B-03].

119. Olsen, S. and I. Zaliapin (2008) Spatio-temporal fluctuations of the earthquake magnitude distribution: Robust estimation and predictive power. *EOS Trans. AGU*, 89(53), Fall Meet. Suppl. Abstract NG23A-1127.
120. Olsen, S. and I. Zaliapin (2008) Time-dependent fluctuations of the earthquake magnitude distribution: Statistical estimation and predictive power. *Proc. of Southern California Earthquake Center (SCEC) 2008 Annual Meeting, Palm Springs, CA, September 6-11, 2008*, Vol. XVIII, p. 111.
121. Kreemer, C., R. Torres, I. Zaliapin, A. Pancha, and J. Anderson (2008) Detailed seismic and tectonic moment rate distribution in California and Great Basin. *Proc. of Southern California Earthquake Center (SCEC) 2008 Annual Meeting, Palm Springs, CA, September 6-11, 2008*, Vol. XVIII, p. 122.
122. Zaliapin, I. and M. Ghil (2008) A delay differential model of ENSO variability: Extreme values and stability analysis. *Proceedings of the International Symposium "Topical Problems of Nonlinear Wave Physics 2008", Section "Global and Synoptic Nonlinear Processes in the Atmosphere"*, Nizhny Novgorod, Russia, July 20-26, 2008, Abstract 3-52, pp.100-101.
123. Zaliapin, I., A. Gabrielov, V. Keilis-Borok, and H. Wong (2008) Aftershock identification and clustering analysis of seismicity (INVITED). *Seism. Res. Lett.*, 79(2): 335. Annual Meeting of Seismological Society of America, Santa Fe, NM, April 16-19, 2008.
124. Ghil, M., M. Chekroun, E. Simonnet, and I. Zaliapin (2008) Robust climate projections and stochastic structural stability of dynamical systems. Joint Mathematics Meeting of AMS, San Diego, CA, January 6-9, Abstract 1035-37-1713.
125. Zaliapin, I., M. Ghil, and S. Thompson (2007) A delay differential model of ENSO variability: parametric instability and the distribution of extremes, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl. Abstract NG32A-02.
126. Gabrielov, A., V. Keilis-Borok, and I. Zaliapin (2007) Predictability of extreme events in spatially distributed driven hierarchical systems, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl. Abstract NG34A-03.
127. Keilis-Borok, V., I. Zaliapin, and A. Gabrielov (2007) Aftershock identification problem via the nearest-neighbor analysis for marked point processes, *EOS Trans. AGU*, 88(52), Fall Meet. Suppl. Abstract NG31A-04.
128. Zaliapin, I., M. Ghil, and S. Thompson (2007) A delay differential model of ENSO variability: Instabilities and the distribution of extremes. *Proc. Climate Change Prediction Program Meeting, Indianapolis, September 17-19, 2007*.
129. Zaliapin, I., S. Kumar, Y. Kagan, and F. Schoenberg (2007) Statistical modeling of seismic moment release in San Andreas fault system, *Southern California Earthquake Center (SCEC) 2007 Annual Meeting, September 9-12, Palm Springs, California*.
130. Ghil, M. and I. Zaliapin (2007) Extreme events: Some theoretical and practical considerations, *Eos Trans. AGU*, 88(23), Jt. Assem. Suppl., Abstract U32B-01 (INVITED)
131. Zaliapin, I. and M. Ghil (2007) A differential delay model of ENSO variability: quantitative predictability and structural instability, *European Geosciences Union, General Assembly, Vienna, Austria, April 15-20*, EGU2007-A-10437, NH8.01/NP4.04-1MO10-001.
132. Schoenberg, F., S. Kumar, I. Zaliapin, and Y. Kagan (2006) Statistical Modeling of Seismic Moment Release. *EOS Trans. AGU*, 87(52), Fall Meet. Suppl. Abstract S13A-0212.
133. Keilis-Borok, V., A. Soloviev, A. Gabrielov, and I. Zaliapin (2006) Universal Pre-Disaster Transformation of Frequency-Magnitude Relation. *EOS Trans. AGU*, 87(52), Fall Meet. Suppl. Abstract NG41A-05.
134. Zaliapin, I., V. Keilis-Borok, and A. Gabrielov (2006) Deviations from Scale-Invariance in Extreme Event Phenomena: A Theoretical Analysis. *EOS Trans. AGU*, 87(52), Fall Meet. Suppl. Abstract NG41A-07.
135. Zaliapin, I., S. Kumar, Y. Kagan, and F. Schoenberg (2006) Statistical Modeling of Seismic Moment Release and Moment Deficiency. *Southern California Earthquake Center (SCEC) 2006 Annual Meeting, September 10-13, Palm Springs, California*.

136. Ghil, M. and I. Zaliapin (2005) Nonlinear Dynamics, Poor Data, and What to Make of Them? *EOS Trans. AGU*, 86(52), Fall Meet. Suppl. Abstract NG22A-01. (INVITED)
137. Shrestha, R. K., I. Zaliapin, B. Dodov, and E. Fofoula-Georgiou (2005) Scaling in Hydrologic Response and a Theoretical Basis for Derivation of Probabilistic Unit Hydrographs. *EOS Trans. AGU*, 86(52), Fall Meet. Suppl. Abstract H33E-1433.
138. Keilis-Borok, V. I., P. Shebalin, A. Gabrielov, and I. Zaliapin (2005) Reverse Tracing of Precursors: Ongoing Experiment in the Month-in-Advance Earthquake Prediction. *EOS Trans. AGU*, 86(52), Fall Meet. Suppl. Abstract NG21A-01. (INVITED)
139. Zaliapin, I., Y. Kagan, and F. Schoenberg (2005) Estimation of Seismic Moment Release with Implications for Regional Hazard Assessment. *EOS Trans. AGU*, 86(52), Fall Meet. Suppl. Abstract S53B-1096.
140. Zaliapin, I., Y. Kagan, and F. Schoenberg (2005) Evaluating the Rate of Seismic Moment Release: A Curse of Heavy Tails. Southern California Earthquake Center (SCEC) 2005 Annual Meeting, September 11-14, Palm Springs, California.
141. Zaliapin, I., M. Ghil, V. Keilis-Borok, and A. Gabrielov (2005). Binary decomposition analysis (BDA) of a time series. *General Assembly of the European Geosciences Union, April 2005*. Abstract EGU05-A-05753 (Session NH9.09/NP4.06).
142. Zaliapin, I., H. Wong, and A. Gabrielov (2005) Inverse cascades and hierarchical aggregation in percolation model. *General Assembly of the European Geosciences Union, April 2005*. Abstract EGU05-A-05779 (Session NH9.09/NP4.06).
143. Zaliapin, I., I. Semenova, A. Kashina, and V. Rodionov. Multiscale Trend Analysis of Microtubule-Dependent Pigment Transport in Melanophores. (2004) *Proceedings of 44th Annual Meeting of the American Society for Cell Biology, December 4-8*.
144. Zaliapin, I., G. Molchan. (2004) Tossing the Earth: How to Reliably Test Earthquake Prediction Methods. *Eos. Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract S23A-0302, 2004.
145. Zaliapin, I., E. Fofoula-Georgiou, B. Dodov. (2004) Multiscale Trend Analysis of River Basin Dynamics. *Eos. Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract H33C-0476, 2004.
146. Gabrielov, A., I. Zaliapin, H. Wong (2004) Hierarchical Description of Evolution of an Inverse Cascade in Percolation Model. *Eos. Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract NG31A-0857.
147. Keilis-Borok, V., P. Shebalin, A. Gabrielov, D. Turcotte, I. Zaliapin, M. Ghil (2004) Short-Term Earthquake Prediction Based on the Reverse Tracing of Lithosphere Dynamics. *Eos. Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract NG22A-02 (INVITED)
148. Zaliapin, I., A. Gabrielov, and V. Keilis-Borok. Multiscale Trend Analysis: A new tool for studying complex time series. 25-th IUGG Conference on Mathematical Geophysics, June 16-18, 2004, Columbia U, New York, NY, USA.
149. Zaliapin, I. Testing the earthquake prediction quality: statistical estimation vs. hypothesis testing approaches. SCEC/UGSG/CGS Workshop "Science of Earthquake Prediction", February 20, 2004, SCEC/USC. (INVITED)
150. Zaliapin, I., Z. Liu, K. Aki, A. Jin, V. Keilis-Borok. Multiscale Trend Analysis of Temporal (Un)Correlations Between Coda Q and Seismicity in California. *Eos. Trans. AGU*, 84(46), Fall Meet. Suppl., Abstract NG12C-07, 2003.
151. Keilis-Borok, V., P. Shebalin, A. Gabrielov, I. Zaliapin, S. Uyeda, T. Nagao. Short-term premonitory rise of earthquake correlation range. *Eos. Trans. AGU*, 84(46), Fall Meet. Suppl., Abstract NG41C-0068, 2003.
152. Shebalin, P., V. Keilis-Borok, I. Zaliapin, S. Uyeda, T. Nagao, N. Tsybin. Short-term premonitory rise of earthquake correlation range. *Hagiwara Symposium, IUGG XXIII General Assembly*, June 30 – July 11, 2003, Sapporo, Japan.
153. Keilis-Borok, V., Shebalin, P., S. Uyeda, T. Nagao, I. Zaliapin, On the short-term earthquake prediction based on evolution of seismicity: theory; scaling; application to 27 large earthquakes in Japan and California. *Hagiwara Symposium, IUGG XXIII General Assembly*, June 30 – July 11, 2003, Sapporo, Japan.

154. Zaliapin, I., Keilis-Borok, V., Shebalin, P., Turcotte, D., Liu, Z., Zöller G. Premonitory long-range earthquake correlations. *EGS-AGU-EUG Joint Assembly*, April 7-11, 2003, Nice, France.
155. Zaliapin, I., Keilis-Borok, V., Shebalin, P., Turcotte, D., Liu, Z., Zöller, G. Premonitory long-range earthquake correlations. *EOS Trans. AGU*, 83(47), Fall Meet. Suppl., Abstract U72B-0023, 2002.
156. Gabrielov, A., Zaliapin, I., Keilis-Borok, V. Multiscale trend analysis: a new approach to studying complex time series. *EOS Trans. AGU*, 83(47), Fall Meet. Suppl., Abstract NG62B-0959, 2002.
157. Keilis-Borok, V., Shebalin, P., Zaliapin, I., Novikova, O., Gabrielov, A. On the short-term earthquake prediction: renormalization algorithm and observational evidence in S. California, E. Mediterranean, and Japan. *EOS Trans. AGU*, 83(47), Fall Meet. Suppl., Abstract NG52A-02, INVITED. 2002.
158. Keilis-Borok, V., Gabrielov, A., Turcotte, D., Zaliapin, I. Cascade of clusters - from metaphor to algorithm? *EOS Trans. AGU*, 83(47), Fall Meet. Suppl., Abstract U62A-12, 2002.
159. Keilis-Borok, V., Gabrielov, A., Ghil, M., Newman, W., Zaliapin, I. Ensemble of premonitory seismicity patterns. *EOS Trans. AGU*, 82(47), Fall Meet. Suppl., Abstract NG12A-02, 2001.
160. Zaliapin, I., Axen, G., Gabrielov, A., Ghil, M., Keilis-Borok, V., Newman, W., Shebalin, P. Colliding Cascades and Boolean Delay Equations for Earthquake Prediction. *EOS Trans. AGU*, 82(47), Fall Meet. Suppl., Abstract NG21A-0418, 2001.
161. Zaliapin, I. Long-range correlations of seismicity prior to a strong earthquake. Simple model vs. complex observations. The IMA Annual Program "Mathematics in the Geosciences", September 2001 - June 2002, Institute for Mathematics and its Applications, University of Minnesota; Workshop 1: "Spatio-temporal Patterns in the Geosciences", September 24-29, 2001. (INVITED)
162. Ghil, M., Keilis-Borok, V., and Zaliapin, I. A Boolean Delay Model of Colliding Cascades: Prediction and Seismic Regimes. Abstracts of IGPP Annual Meeting, May 7-8, University of California, Los Angeles, 2001, p.13.
163. Keilis-Borok, V., Zaliapin, I., Axen, G., Gabrielov, A., and Newman, W. Premonitory Redistribution of Seismicity Over the Fault Network in Southern California. Abstracts of IGPP Annual Meeting, May 7-8, University of California, Los Angeles, 2001, p. 9.
164. Keilis-Borok, V., Gabrielov, A., Zaliapin, I., Newman, W., Axen, G., and Shebalin P. Selforganization of Critical Transitions in the Colliding Cascades with Applications to Earthquake Prediction. Abstracts of AGU 2000 Fall Meeting. December 15-19, 2000. San Francisco, F556.
165. Zaliapin, I., Keilis-Borok, V., Axen, G., Gabrielov, A., and Newman, W. Premonitory Redistribution of Seismicity Over the Fault Network in Southern California. Abstracts of AGU 2000 Fall Meeting. December 15-19, 2000. San Francisco, F558.
166. Keilis-Borok, V., Zaliapin, I., Rotwain, I., Botwina, L., Gabrielov, A., Newman, W., and Shnirman, M. Premonitory Change of Scaling in Seismicity. Abstracts of AGU 2000 Fall Meeting. December 15-19, 2000. San Francisco, F587.
167. Zaliapin, I. V., Keilis-Borok, V. I., Shebalin, P. N., Gabrielov A. M., and Newman W. I. Increase of earthquake correlation range prior to the strong earthquakes. Abstracts of 23rd International Conference on Mathematical Geophysics. June 18-23, 2000. La Citadelle Villefranche sur Mer, France.