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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
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

76 papers in peer-refereed journals, 1 book (co-editor), 161 published abstracts (see the complete list below).

Teaching (*=developed)

	(F=Fall, S=Spring, U=Summer)
Mathematical Statistics I (STAT 725)	F21
Multivariate Data Analysis (STAT 755)	S19, S18, S17, S15, S13, S09
* *Time Series Analysis* (STAT 758)	F18, F16, F14, S12, S10, F08, F06
Statistical Theory (STAT 467/667)	F20
* *Categorical Data Analysis* (STAT 453/653)	F19, F17, F15, F12, F11, F09, F07
Intro to Linear Models and Regression (STAT 452/652)	S13, S11, F08
Mathematical Modeling (MATH 420/620)	S15, F14
Probability and Statistics (MATH/STAT 352)	S20, F18, U17, S16, S12, F/S11, F/S10, F/S09, S08, F/S07

Introduction to Statistics (STAT 152)	S18
Calculus for Business (MATH 176)	S07
Pre-Calculus (MATH 126)	F20, F17, F16, F15, F12

* *Paradoxes of Random Events* (UCLA STATS 19)	F05
Applied Statistics (UCLA STATS 110A)	S05
* *Paradoxes in Prob. and Statistics* (UCLA STATS 189)	S05
* *Intro to Stat. for Phys. Sci. and Engineering* (UCLA STATS 14)	F04
Geo-complexity and earthquake prediction (UCLA ESS 298)	S02
* *Statistical Methods in Geophysical Sciences* (Russian Ac. Sci.)	F00

PostDoctoral Advising

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

Graduate Advising

Zoe Haskell (PhD)	2015 – 20	RA support from SCEC, NSF
Karla Henricksen	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

2020 Fulbright U.S. Scholar
2015 UNR Hyung K. Shin Outstanding Research Award
2010 UNR Westfall Scholar Mentor

Academic services

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
Search Committee for Program Officer, 2014

Graduate Studies Committee, Chair 2014 – 2018, 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

33nd IUGG Conference on Mathematical Geophysics
National University of Seoul, Korea, June-July, 2022

Mathematics of Planet Earth: The Science of Data
Union Symposium, 27th Genera 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 Genera 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); Europhysics Letters (EPL), 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); Tectonophysics; Climate Dynamics; Chaos; Earth and Planetary Science Letters (EPSL); SIAM Journal on Discrete Mathematics (SIDMA); 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*
Southern California Earthquake Center (SCEC) $12,000

2010-2011 *Detecting Transient Deformation Signals in GPS time-series using Multiscale Trend Analysis II*
Southern California Earthquake Center (SCEC) $20,000

2009-2012 *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. Book

1. 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., I. Zaliapin, and E. Foufoula-Georgiou (2021) Random Self-similar Trees with Applications to Geophysics. *Surveys in Geophysics* (in review)
2. Kovchegov Y., I. Zaliapin and E. Foufoula-Georgiou (2021) Critical Tokunaga model for river networks. arXiv:2106.02991

C. Peer-reviewed papers/chapters

1. Zaliapin, I. and Y. Ben-Zion (2021) Perspectives on clustering and declustering of earthquakes. *Seismological Research Letters* (accepted)
2. 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
3. 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
4. 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
5. 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

6. 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

7. 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.

8. 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

9. 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

10. 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

11. 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

12. 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

13. 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

14. 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

15. 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

16. 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

17. 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

18. 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

19. Kovchegov, Y. and I. Zaliapin (2017) Horton self-similarity of Kingman's coalescent tree. *Annales de l'Institut Henri Poincare (B) Probability and Statistics*, 53(3), 1069-1107. doi: 10.1214/16-AIHP748

20. 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

21. 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

22. 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

23. 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

24. 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

25. Kovchegov, Y. and I. Zaliapin (2016) Horton law in self-similar trees. *Fractals*, 24, 1650017. http://dx.doi.org/10.1142/S0218348X16500171

26. 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.

27. 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.

28. 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.

29. 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.

30. 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.

31. Semenova, I., Ikeda, K., Resaul, K., Kraikivski, 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.

32. 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.

33. 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

34. 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

35. 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. Geopys. Res.* doi: 10.1002/jgrf.20029

36. Ghil, M. and I. Zaliapin (2012) El Niño/Southern Oscillation: Impacts, Modeling and Forecasts, In *Encyclopedia of Natural Hazards*, P. Bobrowsky (Ed.), Springer.

37. Zaliapin, I. and Y. Kovchegov (2012) Tokunaga and Horton self-similarity for level-set trees of Markov chains. *Chaos, Solitons and Fractals,* 45, 358-372. doi: 10.1016/j.chaos.2011.11.006

38. Ghil *et al.* (2011) Extreme events: Dynamics, statistics and prediction, *Nonlin. Processes Geophys.,* 18, 295–350.

39. Zaliapin, I. and Y. Ben-Zion (2011) Asymmetric distribution of early aftershocks on large faults in California. *Geophys. J. Intl.,* 185, 1288–1304.

40. 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.

41. 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.

42. Zaliapin I. and M. Ghil (2010) Another look at climate sensitivity. *Nonlin. Processes Geophys.,* 17, 113-122.

43. Zaliapin, I. and M. Ghil (2010) A delay differential model of ENSO variability, Part 2: Phase locking, multiple solutions, and dynamics of extrema. *Nonlin. Procecces Geophys.,* 17, 123-135.

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C. Other professional publications

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D. Abstracts/Conference proceedings

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67. 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.

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