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Publications

43. P. Folco, L. Gauvin, M. Tizzoni, M. Szell
Data-driven bicycle network planning for demand and safety, *arXiv:2203.14619* (2022)
42. A. Battiston, L. Napoli, P. Bajardi, A. Panisson, A. Perotti, M. Szell, R. Schifanella
Revealing the determinants of gender inequality in urban cycling with large-scale data, *arXiv:2203.09378* (2022)
41. L. Alessandretti, L.G. Natera Oroczco, M. Saberi, M. Szell, F. Battiston
Multimodal urban mobility and multilayer transport networks, *Environment and Planning B* (2022, in print)
40. M. Klanjčić, L. Gauvin, M. Tizzoni, M. Szell
Identifying urban features for vulnerable road user safety in Europe, *EPJ Data Science* 11, 27 (2022)
39. M. Szell, S. Mimar, T. Perlman, G. Ghoshal, R. Sinatra
Growing urban bicycle networks, *Scientific Reports* 12, 6765 (2022)
38. A. Vybornova, T. Cunha, A. Gühnemann, M. Szell
Automated Detection of Missing Links in Bicycle Networks, *Geographical Analysis* 0, 1–29 (2022)
37. M. Coscia, M. Szell
Multiplex Graph Association Rules for Link Prediction, *Proceedings of the International Conference on Web and Social Media (ICWSM)* 15(1), 129–139 (2021)
36. M. Schlöpfer, L. Dong, K. O’Keeffe, P. Santi, M. Szell, H. Salat, S. Anklesaria, M. Vazifeh, C. Ratti, G.B. West
The universal visitation law of human mobility, *Nature* 593(7860), 522–527 (2021)
35. L.G. Natera Orozco, F. Battiston, G. Iñiguez, M. Szell
Data-driven strategies for optimal bicycle network growth, *Royal Society Open Science* 7:201130 (2020)
34. L.G. Natera Orozco, F. Battiston, G. Iñiguez, M. Szell
Extracting the multimodal fingerprint of urban transportation networks, *Transport Findings* 13171 (2020)
33. F. Battiston, F. Musciotto, D. Wang, A.-L. Barabási, M. Szell, R. Sinatra
Taking census of physics, *Nature Reviews Physics* 1, 89–97 (2019)
32. B. Resch, M. Szell
Human-Centric Data Science for Urban Studies, *ISPRS International Journal of Geo-Information* 8, 584 (2019)
31. M. Szell, Y. Ma, R. Sinatra
A Nobel opportunity for interdisciplinarity, *Nature Physics* 14, 1075–1078 (2018)
30. M. Szell
Crowdsourced quantification and visualization of urban mobility space inequality, *Urban Planning* 3, 1–20 (2018)
29. S. Grauwin, M. Szell, S. Sobolevsky, P. Hövel, F. Simini, M. Vanhoof, Z. Smoreda, A.-L. Barabási, C. Ratti
Identifying the structural discontinuities of human interactions, *Scientific Reports* 7, 46677 (2017)

28. Y. Holovatch, O. Mryglod, M. Szell, S. Thurner
Analyses of a virtual world, In: *Math Meets Myth: Complexity-science approaches to folktales, myths, sagas, and histories*, Springer, Eds.: R. Kenna, M. Maccarron, P. Maccarron (2017)
27. R. Tachet , O. Sagarra , P. Santi, G. Resta , M. Szell , S. Strogatz , C. Ratti
Scaling law of urban ride sharing, *Scientific Reports* 7, 42868 (2017)
26. M. Nyhan, S. Sobolevsky, C. Kang, P. Robinson, A. Corti, M. Szell, D. Streets, Z. Lu, R. Britter, S.R.H. Barrett, C. Ratti
Predicting vehicular emissions in high spatial resolution using pervasively measured transportation data and microscopic emissions model, *Atmospheric Environment* 140, 352–363 (2016)
25. R. Sinatra, P. Deville, M. Szell, D. Wang, A.-L. Barabási
A century of physics, *Nature Physics* 11, 791–796 (2015)
24. O. Sagarra, M. Szell, P. Santi, A. Diaz-Guilera, C. Ratti
Supersampling and network reconstruction of urban mobility, *PLOS ONE* 10(8), e0134508 (2015)
23. M. Szell, P. Santi, C. Ratti
Trip sharing in the era of self-driving cars, *Autonomous Vehicles Conference*, New York University (2015)
22. M. Szell, R. Sinatra
Research funding goes to rich clubs, *Proceedings of the National Academy of Sciences* 112(48), 14749–14750 (2015)
21. O. Mryglod, B. Fuchs, M. Szell, Y. Holovatch, S. Thurner
Interevent time distributions of human multi-level activity in a virtual world, *Physica A* 419, 681–690 (2014)
20. P. Santi, G. Resta, M. Szell, S. Sobolevsky, S. Strogatz, C. Ratti
Quantifying the benefits of vehicle pooling with shareability networks, *Proceedings of the National Academy of Sciences* 110(37), 13290–13294 (2014)
19. M. Szell, S. Grauwin, C. Ratti
Contraction of online response to major events, *PLOS ONE* 9(2), e89052, (2014)
18. P. Santi, G. Resta, M. Szell, S. Sobolevsky, S. Strogatz, C. Ratti
Reply to Lopez et al.: Sustainable implementation of taxi sharing requires understanding systemic effects, *Proceedings of the National Academy of Sciences* 111(51), E5489 (2014)
17. M. Szell, B. Groß
Hubcab – Exploring the Benefits of Shared Taxi Services, *Decoding the City*, De Gruyter, Eds.: D. Offenhuber, C. Ratti (2014)
16. M. Szell
Connecting Paradigms, *Science* 343(6147), 970–971 (2014)
15. R. Sinatra, M. Szell
Entropy and the predictability of online life, *Entropy* 16(1), 543–556 (2014)
14. S. Sobolevsky, M. Szell, R. Campari, T. Couronné, Z. Smoreda, C. Ratti
Delineating geographical regions with networks of human interactions in an extensive set of countries, *PLOS ONE* 8(12), e81707 (2013)
13. M. Szell, B. Groß
Hubcab – Taxi-Fahrgemeinschaften, digital erkundet, *Stadt entschlüsseln*, Bauwelt Fundamente 150, Birkhäuser, Eds.: D. Offenhuber, C. Ratti (2013)
12. S. Thurner, P. Klimek, M. Szell, G. Duftschmid, G. Endel, A. Kautzky-Willer, D. Kasper
Reply to Klitz and Niklasson: Can viral infections explain the cross-sectional Austrian diabetes data?, *Proceedings of the National Academy of Sciences* 110, E2751 (2013)

11. S. Thurner, P. Klimek, M. Szell, G. Duftschmid, G. Endel, A. Kautzky-Willer, D. Kasper
Quantification of excess-risk for diabetes when born in times of hunger, in an entire population of a nation, across a century, *Proceedings of the National Academy of Sciences* 110, 4703–4707 (2013)
10. M. Szell, S. Thurner
How women organize social networks different than men, *Scientific Reports* 3, 1214 (2013)
9. M. Szell, R. Sinatra, G. Petri, S. Thurner, V. Latora
Understanding mobility in a social petri dish, *Scientific Reports* 2, 457 (2012)
8. M. Szell, S. Thurner
Social dynamics in a large-scale online game, *Advances in Complex Systems* 15, 1250064 (2012)
7. S. Thurner, M. Szell, R. Sinatra
Emergence of good conduct, scaling and Zipf laws in human behavioral sequences in an online world, *PLOS ONE* 7, e29796 (2012)
6. M. Szell
Statistical physics approaches to large-scale socio-economic networks, *Dissertation*, University of Vienna (2011)
5. S. Thurner, M. Szell (Eds.)
Book of abstracts ECCS'11 Vienna, *European Conference on Complex Systems 2011*, Löcker (2011)
4. M. Szell, S. Thurner
Measuring social dynamics in a massive multiplayer online game, *Social Networks* 32, 313–329 (2010)
3. M. Szell, R. Lambiotte, S. Thurner
Multirelational organization of large-scale social networks in an online world, *Proceedings of the National Academy of Sciences* 107, 13636–13641 (2010)
2. M. Szell
Finite Differenzen Verfahren zur numerischen Lawinensimulation, *Diploma thesis*, Vienna University of Technology (2007)
1. M. Szell, F. Judex
Petri Net Modelling of Different Strategies in ARGESIM Comparison C4 “Dining Philosophers” with HPSim, *Simulation News Europe* 17, 1 (2007)

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