

# KONSTANTINOS PELECHRINIS<sup>1</sup>

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CURRENT Associate Professor  
POSITION AND School of Computing and Information  
ADDRESS University of Pittsburgh  
PA 15260, USA  
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- EDUCATION
- University of California Riverside, USA  
PhD in Computer Science, Spring 2008 - Summer 2010  
Thesis: “Security and Performance Considerations in Wireless Networks”
  - University of California Riverside, USA  
M.S. in Computer Science, September 2006 - Spring 2008  
Thesis: “Design of a measurement driven anti - jamming system”
  - National Technical University of Athens, Greece  
Diploma in Electrical and Computer Engineering, June. 2006  
Thesis: “Analysis of Intrusion Detection Systems - theoretical aspects and statistical modeling of data fusion algorithms”

RESEARCH INTERESTS My research interests lay in network science and computational urban, social and sports science. I am involved in developing analytical methods and metrics for heterogeneous, composite, networks utilizing advanced linear algebra and statistical techniques. I am interested in analyzing civic and social datasets for creating models that can facilitate policy making, local government decisions as well as local, small, businesses’ operations. I am also working with sports data for facilitating team and player evaluation as well as in-game decision making.

- RESEARCH GRANTS
- Konstantinos Pelechrinis (PI), “RAPID: Understanding and Enhancing Internet Connectivity of Underserved Communities During the COVID-19 Crisis”, National Science Foundation, \$199,303, 07/1/2020-07/30/2021.
  - Konstantinos Pelechrinis (co-PI), “CPS: TTP Option: Medium: Building a Smart City Economy and Information Ecosystem to Motivate Pro-Social Transportation Behavior”, National Science Foundation, \$1,439,999, 09/1/2017-08/31/2020.
  - Konstantinos Pelechrinis (co-PI), “CyberTraining: CDL: Security-assured Data Science Workforce Development in Pennsylvania”, National Science Foundation, \$476,903, 09/1/2017-08/31/2020.
  - Konstantinos Pelechrinis (co-PI), “Seed Grant for Real-Time Transportation Information Pilot Study”, University of Pittsburgh, Provost’s Office, \$44,885, 10/3/2016-10/2/2017.
  - Konstantinos Pelechrinis (PI), “Models and Metrics for Composite Socio-Spatial Networks”, Army Research Office Young Investigator award, \$49,839, 10/01/15 - 09/30/16.

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<sup>1</sup>Last updated on August 23rd, 2017.

- Konstantinos Pelechrinis (co-PI), “A Curriculum for Security Assured Health Informatics”, National Science Foundation, \$897,055, 09/01/14 - 08/31/17.
- Konstantinos Pelechrinis (co-PI), “III: Student Travel Fellowships for the 16th IEEE International Conference on Mobile Data Management (MDM 2015)”, National Science Foundation, \$20,000, 02/15/15 - 02/14/16.
- Konstantinos Pelechrinis (PI), “Building and Maintaining Trust in Wireless Networks”, Central Research Development Fund from University of Pittsburgh, \$15,750, 7/1/2011 - 6/30/2013.

PUBLICATIONS  
H-INDEX: 28  
I10-INDEX: 55  
CITATION#:  
3,170

### Books

- W. Winston, **K. Pelechrinis** and S. Nestler, “Mathletics: How Gamblers, Managers, and Sports Enthusiasts Use Mathematics in Sports”, Second Edition, Princeton University Press (forthcoming 11/2021).

### Book Chapters

- P. Krishnamurthy and **K. Pelechrinis**, “Advanced Location-Based Technologies and Services”, CRC Press; Chapter: Location-Based Social Networks , May 2013.

### Keynotes

- “PittSmartLiving: Rethinking Public Transportation through Incentives”, in the *workshop on Data-driven Intelligent Transportation (co-located with ACM SIGKDD), Anchorage, AL, August, 2019.*
- “Winning in Basketball with Data and Machine Learning”, in *Math Sports International Conference, Athens, Greece, July, 2019.*
- “Athlytics: How Teams are Turning to Data to Gain an Edge”, in *Sports Mediatathon LATAM, Buenos Aires, Argentina, September, 2018.*
- “PittSmartLiving: Rethinking Smart Cities”, in *TEDx University Of Pittsburgh, March, 2018.*

### Tutorials

- **K. Pelechrinis**. “Winning in Sports with Data and Machine Learning”, in *MIT Sloan Sports Analytics Conference 2018, Boston, MA, February 2018.*
- **K. Pelechrinis**, and E. Papalexakis, “Athlytics: Winning in Sports with Data”, in *ACM WSDM '18, Marina Del Rey, CA, February 2018.*
- **K. Pelechrinis**, B. Alamar and E. Papalexakis, “Athlytics: Data Mining and Machine Learning for Sports Analytics”, in *ACM SIGKDD '17, Halifax, Nova Scotia, Canada, August 2017.*
- **K. Pelechrinis** and D. Quercia, “An Introduction to Computational Urban Science”, in *SBP-BRiMS '16, Washington, DC, June 2016.*
- A. Noulas, B. Gonçalves, **K. Pelechrinis** and D. Quercia, “The Web of Cities and Mobility”, in *AAAI ICWSM '16, Cologne, Germany, May 2016.*
- **K. Pelechrinis**, “Integrating and analyzing heterogeneous information: The Case of Urban Informatics”, in *IEEE IRI '15, San Francisco, CA, August 2015.*

- **K. Pelechrinis** and D. Quercia, “Urban Informatics and the Web”, in *ACM WWW ’15, Florence, Italy, May 2015*.

#### Journals and Magazines (peer-reviewed)

- **K. Pelechrinis**, “Quantifying Implicit Biases in Refereeing using NBA Referees as a Testbed”, in *Nature Scientific Reports*, 13, 4664. <https://doi.org/10.1038/s41598-023-31799-y>. March 2023.
- **K. Pelechrinis** and W. Winston, “The Hot Hand in the Wild”, in *PLoS ONE* 17(1): e0261890. <https://doi.org/10.1371/journal.pone.0261890>.
- **K. Pelechrinis** and W. Winston, “A Skellam Regression Model for Quantifying Positional Value in Soccer”, in *Journal of Quantitative Analysis in Sports*, Vol 17, no 3, January 2021.
- X. Lin and **K. Pelechrinis**, “Excess demand prediction for bike sharing systems”, *PLoS ONE* 16(6): e0252894. <https://doi.org/10.1371/journal.pone.0252894>.
- S. Daraei, **K. Pelechrinis** and D. Quercia, “A data-driven approach for assessing biking safety in cities”, in *EPJ Data Science*, 10, 11 (2021)
- X. Ge, P. Chrysanthis, **K. Pelechrinis** and D. Zeinalipour, “Serendipity-based Points-of-Interest Navigation”, in *ACM Transactions on Internet Technology*, vol 20, issue 4, October 2020.
- S. Mallepalle, R. Yurko, **K. Pelechrinis** and S. Ventura, “next-gen-scrapy: Extracting NFL Tracking Data from Images to Evaluate Quarterbacks and Pass Defenses”, in *Journal of Quantitative Analysis in Sports*, vol. 6, no. 2, 2020.
- R. Yurko, F. Matano, L. F. Richardson, N. Granered, T. Pospisil, **K. Pelechrinis** and S. Ventura, “Going Deep: Models for Continuous-Time Within-Play Valuation of Game Outcomes in American Football with Tracking Data”, in *Journal of Quantitative Analysis in Sports*, vol. 6, no. 2, 2020. .
- S. Hajiseyedjavadi, Y. Lin and **K. Pelechrinis**, “Learning Embeddings for Multiplex Networks using Triplet Loss”, in *Springer Applied Network Science*, vol. 4, no. 1, 2019.
- X. Wen, Y. Lin and **K. Pelechrinis**, “Event Analytics via Discriminant Tensor Factorization”, in *Transactions on Knowledge Discovery from Data (TKDD)*, vol.12, no. 6, 2018.
- J.B. Colditz, K. Chu, G.E. Switzer, **K. Pelechrinis**, B.A. Primack, “Online data to contextualize waterpipe tobacco smoking establishments surrounding large US universities”, in *Health Informatics Journal*, doi: 10.1177/1460458217754242, 2018.
- A. Fairchild, **K. Pelechrinis** and M. Kokkodis, “Spatial Analysis of Shots in MLS: A Model for Expected Goals and Fractal Dimensionality”, in *Journal of Sports Analytics*, vol. 4, no. 3, pp. 165-174, 2018.
- **K. Pelechrinis** and Y.R. Lin, “Tensor-based Analysis for Urban Networks”, in *Encyclopedia of Social Network Analysis and Mining (to appear)*.

- K. Zhang, **K. Pelechrinis** and T. Lappas, “Effects of Promotions on Location-based Social Media: Evidence from Foursquare”, in *International Journal of Electronic Commerce*, 22:1, 36-65, DOI: 10.1080/10864415.2018.1396118, 2018.
- **K. Pelechrinis**, C. Zacharias, M. Kokkodis and T. Lappas, “Economic Impact and Policy Implications from Urban Shared Transportation: The Case of Pittsburgh’s Shared Bike System”, in *PLoS ONE* 12(8): e0184092. <https://doi.org/10.1371/journal.pone.0184092>.
- S. Kotiloglou, P. Repoussis, T. Lappas and **K. Pelechrinis**, “Personalized Multi-Period Touristic Tour Recommendations”, in *Tourism Management* 62: 76-88, 2017.
- **K. Pelechrinis** and E. Papalexakis, “The Anatomy of American Football: Evidence from 7 Years of NFL Game Data”, in *PLoS ONE* 11(12): e0168716, doi:10.1371/journal.pone.0168716
- **K. Pelechrinis**, I. Koutsopoulos, I. Broustis and S.V. Krishnamurthy, “Jammer Localization in Wireless Networks: An Experimentation-driven Approach”, in *Elsevier Computer Communications*, Volume 86, 15 July 2016, Pages 75-85, ISSN 0140-3664, <http://dx.doi.org/10.1016/j.comcom.2016.04.009>.
- T. Chung, **K. Pelechrinis**, M. Faloutsos, L. Hylek, B. Suffoletto and S. W. Feldstein Ewing, “Innovative routes for enhancing adolescent marijuana treatment: Interplay of peer influence across social media and geolocation”, in *Springer Current Addiction Reports* (accepted).
- E. Papalexakis, B. Hooi, **K. Pelechrinis** and C. Faloutsos, “Power-hop: A Pervasive Observation for Real Complex Networks”, in *PloS ONE* 11(3): e0151027. doi:10.1371/journal.pone.0151027.
- E. Galbrun, **K. Pelechrinis** and E. Terzi, “Urban Navigation Beyond Shortest Route: The Case of Safe Paths”, in *Elsevier Information Systems*, Volume 57, pp. 160–171, April 2016.
- **K. Pelechrinis** and D. Wei, “VA-index: Quantifying Assortativity Patterns in Networks with Multidimensional Nodal Attributes”, in *PLoS ONE* 11(1): e0146188. doi:10.1371/journal.pone.0146188.
- **K. Pelechrinis** and P. Krishnamurthy, “Socio-Spatial Affiliation Networks”, in *Elsevier Computer Communications*, Volume 73, Part B, pp. 251–262, January 2016.
- J. Ning, S. Singh, **K. Pelechrinis**, B. Liu, S.V. Krishnamurthy and R. Govindan, “Forensic Analysis of Packet Losses in Wireless Networks”, to appear in *IEEE/ACM Transactions on Networking*.
- S. Singh, M. Shahbazi, **K. Pelechrinis**, K. Sundaresan, S. Krishnamurthy and S. Addepalli, “Adaptive Sub-carrier Level Power Allocation in OFDMA Networks”, in *IEEE Transactions on Mobile Computing*, Volume 14, Issue 1, pp. 28–41, January 2015.
- **K. Pelechrinis**, V. Zadorozhny, V. Kounev, V. Oleshchuk, M. Anwar and Y. Lin, “Automatic Evaluation of Information Provider Reliability and Expertise”, in *Springer World Wide Web Journal*, Volume 18, Issue 1, pp. 33–72, January 2015.

- **K. Pelechrinis**, “Matching Patterns in Networks with Multi-Dimensional Attributes: a Machine Learning Approach”, in Springer Social Networks Analysis and Mining, Volume 4, Issue 1, pp. 1–11, April 2014.
- **K. Pelechrinis**, P. Krishnamurthy and C. Gkantsidis, “Trustworthy Operations in Cellular Networks: The case of PF Scheduler”, in IEEE Transactions on Parallel and Distributed Systems, Volume 25, Issue 3, pp. 292–300, February 2014.
- Y. Cai, **K. Pelechrinis**, X. Wang, P. Krishnamurthy and Y. Mo, “Joint Reactive Jammer Detection and Localization in an Enterprise WiFi Network”, in Elsevier Computer Networks, Volume 57, Issue 18, pp. 3799–3811, December 2013.
- M. Arslan, **K. Pelechrinis**, I. Broustis, S. V. Krishnamurthy, S. Addepalli and K. Papagiannaki, “ACORN: An Auto-configuration Framework for 802.11n WLANs”, in IEEE/ACM Transactions on Networking, Volume 21, Issue 3, pp. 896–909, June 2013.
- E. Gelal, J. Ning, **K. Pelechrinis**, T.S.Kim, I.Broustis, S.V.Krishnamurthy and B.Rao, “Topology Control for Effective Interference Cancellation in Multi-User MIMO Networks”, in IEEE/ACM Transactions on Networking, Volume 21, Issue 2, pp. 455–468, April 2013.
- **K. Pelechrinis**, G. Yan, S. Eidenbenz and S.V. Krishnamurthy, “Detection of Selfish Manipulation of Carrier Sensing in 802.11 Networks”, in IEEE Transactions on Mobile Computing, Volume 11, Issue 7, pp. 1086–1101, July 2012.
- I. Broustis, **K. Pelechrinis**, D. Syrivelis, S.V. Krishnamurthy and L. Tassiulas, “A Software Framework for Alleviating the Effects of MAC-aware Jamming Attacks in Wireless Access Networks”, in Springer Wireless Networks, Volume 17, Number 6, pp. 1543–1560, August 2011.
- **K. Pelechrinis**, I. Broustis, S.V. Krishnamurthy and C. Gkantsidis, “A Measurement Driven Anti-Jamming System for 802.11 Networks”, in IEEE/ACM Transactions on Networking, Volume 19, Issue 4, pp. 1208–1222, August 2011.
- **K. Pelechrinis**, M.Iliofotou and S.V.Krishnamurthy, “Denial of Service Attacks in Wireless Networks: The case of Jammers”, in IEEE Communications Surveys and Tutorials, Volume 13, Issue 2, pp. 245–257, April 2011.
- **K. Pelechrinis**, C.Koufogiannakis and S.V.Krishnamurthy, “On the Efficacy of Frequency Hopping in Coping with Jamming Attacks in 802.11 Networks”, in IEEE Transactions on Wireless Communications, Volume 9, Issue 10, pp. 3258–3271, October 2010.
- L.K.Law, **K. Pelechrinis**, S.V.Krishnamurthy and M.Faloutsos, “Downlink Capacity of Hybrid Cellular - Ad hoc Networks”, in IEEE/ACM Transactions on Networking, Volume 18, Issue 1, pp. 243–256, February 2010.

#### **Journals and Magazines (not peer-reviewed)**

- **K. Pelechrinis**, R. Yurko and S. Ventura, “Reducing Concussions in the NFL: A Data-Driven Approach”, in ASA CHANCE, Volume 32, Issue 4, pp. 46–56, October 2019.
- **K. Pelechrinis**, “Has Science Gone Bad?”, in Journal of Biological Physics and Chemistry 16; 75-78 (2016).

- K. Zhang, **K. Pelechrinis** and P. Krishnamurthy, “ACM HotMobile 2013 poster: detecting fake check-ins in location-based social networks through honeypot venues”, in ACM SIGMOBILE Mobile Computing and Communications Review, Volume 17, Issue 3, pp. 29–30, July 2013.
- **K. Pelechrinis**, P. Krishnamurthy, M.B. Weiss and T. Znati, “Cognitive Radio Networks: Realistic or Not?”, in *ACM SIGCOMM Computer Communication Reviews*, Volume 43, Issue 2, pp. 44–51, April 2013.
- **K. Pelechrinis**, “Uncovering the Jammers: Learn How They Operate and What to do to Beat Them”, in PenTest Magazine, Volume 1, Issue 9, November 2012.

#### Conferences/Workshops (peer-reviewed)

- **K. Pelechrinis** and K. Goldsberry, “The Anatomy of Corner 3s in the NBA: What makes them efficient, how are they generated and how can defenses respond?”, in *AI Workshop for Sports Analytics (colocated with IJCAI) '21, Montreal, Canada, August, 2021*.
- K. Bushman, **K. Pelechrinis**, and A. Labrinidis, “Effectiveness and Compliance to Social Distancing During COVID-19”, in *ACM SIGKDD Workshop on Epidemiology meets Data Mining and Knowledge discovery '20, San Diego, CA, August, 2020*.
- I. Kim, **K. Pelechrinis**, and A. Lee, “The Anatomy of the Daily Usage of Bike Sharing Systems: Elevation, Distance and Seasonality”, *ACM SIGKDD UrbComp '20, San Diego, CA, August, 2020*.
- X. Wen, Y. Lin, Y. Ahn, **K. Pelechrinis**, X. Liu and N. Cao, “FacIt: Factorizing Tensors into Interpretable and Scrutinizable Patterns”, in *IEEE VIS '19, Vancouver, BC, Canada, October, 2019*.
- A. Sicilia, **K. Pelechrinis** and K. Goldsberry, “DeepHoops: Evaluating Micro-Actions in Basketball Using Deep Feature Representations of Spatio-Temporal Data”, in *ACM SIGKDD '19, Anchorage, AK, August, 2019*.
- X. Liu and **K. Pelechrinis**, “A Data-Driven Examination of Hotelling’s Linear City Model”, in *ACM WebSci '19, Boston, MA, July, 2019*.
- X. Liu and **K. Pelechrinis**, “hood2vec: Identifying Similar Urban Areas Using Mobility Networks”, in *Future Cities Challenge, co-located with NetMob '19, Oxford, UK, July, 2019*.
- E. Papalexakis and **K. Pelechrinis**. “tHoops: A Multi-Aspect Analytical Framework for Spatio-Temporal Basketball Data”, in *ACM CIKM '18, Torino, Italy, October, 2018*.
- **K. Pelechrinis**. “LinNet: Probabilistic Basketball Lineup Evaluation Through Network Embedding”, in *ECML/PKDD '18, Dublin, Ireland, September, 2018*.
- **K. Pelechrinis**, W. Winston, J. Sagarin and V. Cabot, “Evaluating NFL plays: Expected points adjusted for schedule”, *ECML/PKDD Workshop on Machine Learning for Sports Analytics, Dublin, Ireland, September, 2018*.
- A. Sicilia, A. Labrinidis and **K. Pelechrinis**, “A Holistic Evaluation of Transit Supply and Demand using Network Analysis: The TDI Framework”, in *ACM SIGKDD Workshop on Mining Urban Data '18, London, UK, August, 2018*.

- S. Javadi, Y. Lin and **K. Pelechrinis**, “Discovering functionality of urban regions by learning low-dimensional representations of a spatial multiplex network”, in *ACM SIGKDD Workshop on Mining Urban Data '18, London, UK, August, 2018*.
- J. Gharibshah, T.C. Li, M. S. Vanrell, E. E. Papalexakis, A. Castro, **K. Pelechrinis** and M. Faloutsos, “InferIP: Extracting actionable information from security discussion forums”, in *IEEE/ACM ASONAM '17, Sydney, Australia, July/August 2017*.
- K. Zhang, J. Xu, M. R. Min, G. Jiang, **K. Pelechrinis** and H. Zhang, “Automated IT System Failure Prediction: A Deep Learning Approach”, in *IEEE Big Data '16, Washington, D.C., December, 2016*.
- X. Wen, Y. Lin and **K. Pelechrinis**, “PairFac: Event Analytics through Discriminant Tensor Factorization”, in *ACM CIKM '16, Indianapolis, IN, October, 2016*.
- K. Zhang and **K. Pelechrinis**, “Do Street Fairs Boost Local Businesses? A Quasi-Experimental Analysis Using Social Network Data”, in *ECML/PKDD '16, Riva del Garda, Italy, September, 2016*.
- **K. Pelechrinis**, “Decision Making in American Football: Evidence from 7 Years of NFL Data”, in *ECML/PKDD Machine Learning for Sports Analytics '16, Riva del Garda, Italy, September, 2016*.
- **K. Pelechrinis**, “Byproducts of Urban Infrastructure Interfaces: Evidence from Parking Compliance”, *ACM SIGKDD UrbComp '16, San Francisco, CA, August, 2016*.
- **K. Pelechrinis**, E. Papalexakis and C. Faloutsos, “SportsNetRank: Network-based Sports Team Ranking”, in *ACM SIGKDD Workshop on Large-Scale Sports Analytics '16, San Francisco, August, 2016*.
- X. Ge, P. Chrysanthos and **K. Pelechrinis**, “MPG: Not so Random Exploration of a City”, in *IEEE MDM, Porto, Portugal, June, 2016*.
- K. Zhang, Y. R. Lin and **K. Pelechrinis**, “EigenTransitions with Hypothesis Testing: The Anatomy of Urban Mobility”, in *AAAI ICWSM, Cologne, Germany, 2016*.
- E. Papalexakis, **K. Pelechrinis** and C. Faloutsos, “Location Based Social Network Analysis Using Tensors and Signal Processing Tools”, in *IEEE CAMSAP, Cancun, Mexico, December, 2015*.
- K. Zhang, **K. Pelechrinis** and T. Lappas, “Analyzing and Modeling Special Offer Campaigns in Location-based Social Networks”, in *AAAI ICWSM '15, Oxford, UK, May, 2015*.
- E. Galbrun, **K. Pelechrinis** and E. Terzi, “Safe Navigation in Urban Environments”, in *ACM SIGKDD UrbComp '14, New York, NY, August, 2014*.
- A. Le, Y.R. Lin and **K. Pelechrinis**, “Information Network Mining: A Case for Emergency Scenarios”, in *ACM SIGKDD LESI '14, New York, NY, August, 2014*.
- A. Le, **K. Pelechrinis** and P. Krishnamurthy, “Country-Level Spatial Dynamics of User Activity: A Case Study in Location-Based Social Networks”, in *ACM WebSci '14, Bloomington, IN, June, 2014*.

- **K. Pelechrinis** and T. Lappas, “Mining Emerging User-Centered Network Structures in Location-based Social Networks”, in *IEEE INFOCOM NetSciCom '14*, Toronto, Canada, May 2014.
- K. Zhang and **K. Pelechrinis**, “Understanding Spatial Homophily: The Case of Peer Influence and Social Selection”, in *ACM WWW '14*, Seoul, South Korea, April 2014.
- E. Papalexakis, **K. Pelechrinis** and C. Faloutsos, “Spotting Misbehaviors in Location-based Social Networks using Tensors”, in *ACM WWW '14, Web Science track (poster session)*, Seoul, South Korea, April 2014.
- Y. Cai, L. Ciu, **K. Pelechrinis**, P. Krishnamurthy, M. Weiss and Y. Mo, “Decoupling Trust and Wireless Channel Induced Effects on Collaborative Sensing Attacks”, in *IEEE DySPAN '14*, McLean, VA, April 2014.
- A. Gionis, T. Lappas, **K. Pelechrinis**, E. Terzi, “Customized Tour Recommendations in Urban Areas”, in *ACM WSDM '14*, New York, NY, February 2014.
- K. Zhang, Q. Jin, **K. Pelechrinis** and T. Lappas, “On the Importance of Temporal Dynamics in Modeling Urban Activity”, in *ACM SIGKDD UrbComp '13*, Chicago, IL, August 2013.
- J. Ning, **K. Pelechrinis**, S.V. Krishnamurthy and R. Govindan, “On the Trade-offs between Collecting Packet Level Forensic Evidence and Data Delivery Performance in Wireless Networks”, in *IEEE ICC '13*, Budapest, Hungary, June 2013.
- K. Zhang, **K. Pelechrinis** and P. Krishnamurthy, “Detecting Fake Check-Ins in Location-based Social Networks Through Honeypot Venues”, in *ACM HotMobile '13 (Poster Session)*, Jekyll Island, GA, February 2013.
- **K. Pelechrinis**, P. Krishnamurthy and C. Gkantsidis, “Towards a Trustworthy PF Scheduler for Cellular Data Networks”, in *IEEE Globecom '12 CISS*, Anaheim, CA, December 2012.
- **K. Pelechrinis** and P. Krishnamurthy, “Location-based Social Network Users Through a Lense: Examining Temporal User Patterns”, in *AAAI SNSC '12 (Fall Symposium)*, Arlington, VA, November 2012.
- J. Ning, S. Singh, **K. Pelechrinis**, B. Liu, S.V. Krishnamurthy and R. Govindan, “Forensic Analysis of Packet Losses in Wireless Networks”, in *IEEE ICNP '12*, Austin, TX, October 2012.
- M.B. Weiss, P. Krishnamurthy, L.E. Doyle and **K. Pelechrinis**, “When is Electromagnetic Spectrum Fungible?”, in *IEEE DySPAN '12*, Bellevue, WA, October 2012.
- Z. Feng, **K. Pelechrinis**, S.V. Krishnamurthy, A. Swami, S. Felix Wu and M. Singh, “Collaborative Assessment of Functional Reliability in Wireless Networks”, in *IEEE MASS '12*, Las Vegas, NV, October 2012.
- Y. Li, L. Wang, J. Ning, **K. Pelechrinis**, S.V. Krishnamurthy, Z. Xu, “VICO: A Framework for Configuring Indoor Visible Light Communication Networks”, in *IEEE MASS '12*, Las Vegas, NV, October 2012.



- **K. Pelechrinis** and P. Krishnamurthy, “Location Affiliation Networks: Bonding Social and Spatial Information”, in *ECML/PKDD '12*, Bristol, UK, September 2012.
- K. Zhang, W. Jeng, F. Fofie, **K. Pelechrinis** and P. Krishnamurthy, “Towards Reliable Spatial Information in LBSNs”, in *ACM LBSN '12*, Pittsburgh, PA, September 2012.
- S. Singh, M. Shahbazi, **K. Pelechrinis**, K. Sundaresan, S. Krishnamurthy and S. Addepalli, “A Case for Adaptive Sub-carrier Level Power Allocation in OFDMA Networks”, in *ACM MobiHoc '12*, Hilton Head Island, SC, June 2012.
- **K. Pelechrinis**, V. Zadorozhny and V. Oleshchuk, “Collaborative Assessment of Information Provider’s Reliability and Expertise Using Subjective Logic”, in *CollaborateCom '11*, Orlando, FL, USA, October 2011.
- M. Arslan, **K. Pelechrinis**, I. Broustis, S.V. Krishnamurthy, P. Krishnamurthy and P. Mohapatra, “Detecting Route Attraction Attacks in Wireless Networks”, in *IEEE MASS '11*, Valencia, Spain, October 2011.
- A. Le, P. Krishnamurthy, D. Tipper and **K. Pelechrinis**, “Modeling and Simulation of Wireless Link Quality (ETT) Through Principal Component Analysis of Trace Data”, in *ACM PE-WASUN '11*, Miami Beach, FL, USA, October 2011.
- **K. Pelechrinis**, V. Zadorozhny and V. Oleshchuk, “A Cognitive-based Scheme for User Reliability and Expertise Assessment in Q&A Social Networks”, in *IEEE WICSOC '11*, Las Vegas, NV, USA, August 2011.
- Z.Feng, J.Ning, I.Broustis, **K.Pelechrinis**, S.V.Krishnamurthy and M.Faloutsos, “Coping with Packet Replay Attacks in Wireless Networks”, in *IEEE SECON '11*, Salt Lake City, UT, USA, June, 2011.
- M. Arslan, **K. Pelechrinis**, I. Broustis, S. V. Krishnamurthy, S. Addepalli and K. Papagiannaki, “Auto-configuration of 802.11n WLANs”, in *ACM CoNEXT '10*, Philadelphia, PA, USA, December 2010.
- **K.Pelechrinis**, T.Salonidis, H.Lundgren and N.Vaidya, “Experimental Characterization of 802.11n Link Quality at High Rates”, in *ACM WiNTECH '10*, Chicago, Illinois, USA, September, 2010.
- E.Gelal, **K.Pelechrinis**, I.Broustis, S.V.Krishnamurthy, S.Mohammed, A.Chockalingam and S.Kasera, “On the Impact of MIMO Diversity on Higher Layer Performance”, in *IEEE ICDCS '10*, Genoa, Italy, June, 2010.
- I.Broustis, **K.Pelechrinis**, D.Syrivelis, S.V.Krishnamurthy, L.Tassiulas, “Quantifying the Overhead due to Routing Probes in Multi-Rate WMNs”, in *IEEE WCNC 2010*, Sydney, Australia, April, 2010.
- E. Gelal, **K.Pelechrinis**, T.S.Kim, I.Broustis, S.V.Krishnamurthy and B.Rao, “Topology Control for Effective Interference Cancellation in Multi-User MIMO Networks”, in *IEEE INFOCOM '10*, San Diego, California, USA, March 2010.
- **K.Pelechrinis**, I.Broustis, S.V.Krishnamurthy and C.Gkantsidis, “ARES: an Anti-jamming REinforcement System for 802.11 Networks”, in *ACM CoNEXT '09*, Rome, Italy, December 2009.

- **K. Pelechrinis**, I. Koutsopoulos, I. Broustis and S.V. Krishnamurthy, “Lightweight Jammer Localization in Wireless Networks: System Design and Implementation”, in *IEEE Globecom '09 CISS, Honolulu, Hawaii, USA, November 2009*.
- **K. Pelechrinis**, T. Salonidis, H. Lundgren and N. Vaidya, “Analyzing 802.11n Performance gains”, in *ACM MobiCom '09 - poster session*, Beijing, China, September 2009.
- I. Broustis, **K. Pelechrinis**, D. Syrivelis, S.V. Krishnamurthy and L. Tassioulas, “FIJI: Fighting Implicit Jamming In 802.11 WLANs”, in *SecureComm '09*, Athens, Greece, September 2009.
- **K. Pelechrinis**, C. Koufogiannakis and S.V. Krishnamurthy, “Gamming the Jammer: Is Frequency Hopping Effective?”, in *WiOpt '09*, Seoul, Korea, June 2009.
- **K. Pelechrinis**, G. Yan, S. Eidenbenz and S.V. Krishnamurthy, “Detecting Selfish Exploitation of Carrier Sensing in 802.11 Networks”, in *28th IEEE INFOCOM '09*, Rio de Janeiro, Brazil, April 2009.
- V. Chatzigiannakis, G. Androulidakis, **K. Pelechrinis**, S. Papavassiliou and V. Maglaris, “Data fusion algorithms for network anomaly detection: classification and evaluation”, in *IEEE ICNS'07*, Athens, Greece, June 2007.

#### Demos

- X. Ge, P. Chrysanthis, **K. Pelechrinis**, D. Zeinalipour-Yazti, “EPUI: Experimental Platform for Urban Informatics”, in *ACM SIGMOD*, Houston, TX, USA, 2018.
- E. Galbrun, **K. Pelechrinis**, and E. Terzi, “Safe Navigation in Urban Environments”, in *IEEE MDM*, Pittsburgh, PA, USA, 2015.

#### Conferences/Workshops (peer-reviewed with-out proceedings)

- S. Mallepalle, R. Yurko, **K. Pelechrinis** and S. Ventura, “A Naive Bayes Approach for NFL Passing Evaluation using Tracking Data Extracted from Images”, in *New England Symposium on Statistics in Sports*, Boston, MA, September, 2019.
- R. Yurko, F. Matano, L. F. Richardson, N. Granered, T. Pospisil, **K. Pelechrinis** and S. Ventura, “Going Deep: Models for Continuous-Time Within-Play Valuation of Game Outcomes in American Football with Tracking Data”, in *New England Symposium on Statistics in Sports*, Boston, MA, September, 2019.
- **K. Pelechrinis** and W. Winston, “Positional Value in Soccer: Expected League Points Added above Replacement”, in *Carnegie Mellon Sports Analytics Conference, Pittsburgh, PA, USA*, 2018 (Reproducible Research Competition Winner).
- E. Makras, M. Pelechrini, K. Dekas, M. Maragkakis, **K. Pelechrinis** and V. Katsaros, “Quantitative Neuroimaging In Multiple Sclerosis (MS): Which Biomarker is the Most Reliable in the Evaluation MS-Induced Atrophy?”, in *41st Annual Meeting of the European Society of Neuroradiology*, Rotterdam, Netherlands, September, 2018.
- **K. Pelechrinis**, “LinNet: Probabilistic lineup evaluation through network embedding”, in *New England Symposium on Statistics in Sports*, Boston, MA, September, 2017.

- **K. Pelechrinis**, “The Passing Skill Curve in the NFL”, in *Cascadia Symposium on Statistics in Sports*, August, Vancouver, BC, Canada, 2018.
- **K. Pelechrinis**, “Sports and Fractals”, in *Great Lakes Sports Analytics Conference*, Stevens Point, WI, June, 2017.
- **K. Pelechrinis**, “Measuring Team Chemistry with Complex Systems: Fractals and Networks”, in *11th Annual MIT Sloan Sports Analytics Conference ESPN Hackathon*, Boston, MA, March, 2017 (Hackathon finalist).
- **K. Pelechrinis**, B. Li and S. Qian, “Bike Sharing and Car Trips in the City: The Case of Healthy Ride Pittsburgh”, in *Workshop on Information Technology and Systems*, Dublin, Ireland, December, 2016.
- M. Kokkodis, T. Lappas and **K. Pelechrinis**, “The Invisible Barrier: The Effect of Promoting Agencies on Sales in Electronic Markets”, in *INFORMS Conference on Information Systems and Technology*, Nashville, TN, November, 2016.
- M. Kokkodis, T. Lappas and **K. Pelechrinis**, “The Invisible Barrier: The Effect of Promoting Agencies on Sales in Electronic Markets”, in *Statistical Challenges in eCommerce Research*, Naxos, Greece, June, 2016.
- M. Kokkodis, T. Lappas and **K. Pelechrinis**, “The Invisible Barrier: The Effect of Promoting Agencies on Sales in Electronic Markets”, in *Winter Conference on Business Intelligence*, Salt Lake City, UT, March, 2016.
- **K. Pelechrinis**, M. Kokkodis and D. Wei, “Assortativity Patterns in Multidimensional Attributed Networks: a Statistical Approach”, in *Workshop on Information in Networks*, New York, NY, October, 2015.
- E. Papalexakis, **K. Pelechrinis** and C. Faloutsos, “GeoTense: Spotting Patterns in Geo-Social Networks with Tensors”, in *Workshop on Information in Networks*, New York, NY, October, 2015.

#### Conferences/Workshops (not peer-reviewed)

- T.Lappas, **K. Pelechrinis**, M.Faloutsos, S.V.Krishnamurthy, “A Simple Conceptual Generator for the Internet Graph”, in *IEEE LANMAN '10*, Long Branch, New Jersey, USA, May, 2010 (invited paper).
- **K. Pelechrinis**, I. Broustis, T. Salonidis, S.V. Krishnamurthy and P. Mohapatra, “Design and Deployment Considerations for High Performance MIMO Testbeds”, in *WICON '08*, Maui, Hawaii, USA, November 2008 (invited paper).

#### Invited Presentations

- **K. Pelechrinis** and W. Winston, “Positional value in soccer: Expected league points added above replacement”, in *Computational and Methodological Statistics*, Pisa, Italy, December 2018.
- **K. Pelechrinis**, “Evaluating Lineups Using Network Embeddings”, in *Carnegie Mellon Sports Analytics Conference*, Pittsburgh, PA, October 2017.
- M. Kokkodis, **K. Pelechrinis** and T. Lappas, “The Invisible Barrier: The Effect of Promoting Agencies on Sales in Electronic Markets”, in *INFORMS*, Philadelphia, PA, November 2015.

- E. Papalexakis, **K. Pelechrinis** and C. Faloutsos, “Spotting Anomalies in Cyber Physical Datasets: The case of Mobility Data”, in *INFORMS*, Philadelphia, PA, November 2015.
- S. Kotiloglu, T. Lappas, **K. Pelechrinis** and P. P. Repoussis, “The Multi-Period Tourist Trip Design Problem with Time Windows”, in *CORS-INFORMS* International Meeting, Montreal, Canada, June 2015.

COURSES  
TAUGHT

**Undergraduate**

- INFSCI 1040: Introduction to Data Analytics
- INFSCI 1071: Applications of Networks
- INFSCI 1091: Moneyball 2.0: Winning in Sports with Data

**Graduate**

- TELCOM 2121: Network Management
- TELCOM 2310: Computer Networks
- TELCOM 2125/INFSCI 2125: Network Science and Analysis
- INFSCI 3350: Doctoral seminar on Location-based Social Networks

STUDENTS  
SUPERVISED

**PhD**

- Xin Liu (pre-proposal) - Urban informatics
- Ke Zhang (graduated) - “Urban Mobility and Location-based Social Networks: Social, Economic and Environmental Incentives”

**Master (selected)**

- Dong Wei (MST) - Network science and mining
- Anh Le (MST) - Spatiotemporal Social Media Analysis
- Anand Ashish Kothari (MST Fall 2012) - Implementation of a Twitter crawler
- Qiuye Jin (MST Fall 2012) - “On the Importance of Temporal Dynamics in Modeling Urban Activity”
- Jasmin Karshanbhai Dhamelia (MSIS Fall 2014) - Interface design and development
- Chang Liu (MS thesis committee/advised- Transport Engineering, Fall 2015) - “Real-time Parking Availability Models”

**Undergraduate**

- Aaron J. Kornhauser (BSIS Summer 2012) - Implementation of a web crawler for a research project

**Visiting**

- Yifeng Cai, PhD (Fall 2012 - Spring 2013) - “Jamming Detection and Localization and Trust in Wireless Networks”

PROFESSIONAL  
ACTIVITIES

1. Analytics consulting/advising for NBA and NFL teams.
2. Mentor at Microsoft's Global Sports Innovation Center.
3. TPC member: TPC member for ACM WWW 2014/2016/2017/2018/2019/2020, TPC member ACM WSDM 2017/2018/2019/2020, TPC member for ACM CIKM 2014/2015/2016/2017/2018, TPC member for AAAI ICWSM 2016/2017, TPC member for IEEE INFOCOM 2013/2014/2015/2016, TPC member for ACM LBSN 2014/2015, TPC member for AAAI Workshop on AI4Cities 2015, TPC member for MobiHoc 2011/2012/2013, TPC member for IEEE SECON 2011/2012, TPC member for IEEE ICNC 2012, TPC member for CCSocial-Comp 2012, TPC member for C-Big 2012, TPC member for ACM WiN-TECH 2011, TPC member for IEEE MILCOM 2011, TPC member for ACM CoNEXT 2011 student workshop, TPC member for ICST WMS 2011, TPC member for SIMUtools 2011, Shadow TPC member for ACM SIGMETRICS 2010.
4. Chairing: Local arrangements chair for IEEE MDM 2015, Demo and poster chair for IEEE SECON 2012
5. Journal Paper Reviewing: Nature Scientific Reports, PlosONE, Physics Letters B, IEEE Transactions on Mobile Computing, IEEE/ACM Transactions on Networking, IEEE Transactions on Parallel and Distributed Systems, IEEE Pervasive Computing, IEEE Transactions on Wireless Communications, Data Mining and Knowledge Discovery, Elsevier Computer Networks, Elsevier Computer Communications, Springer Distributed and Parallel Databases, IEEE Communication Surveys and Tutorials, Wiley Wireless Communications and Mobile Computing, Web Intelligence and Agent Systems
6. Editor: Special Issue on Sports Analytics (Big Data Journal), Special Issue on Social Computing Applications for Smart Cities (IEEE Access)