

**Linda Ness** is a mathematician with academic, industrial and DoD applied research experience. She is currently a Visiting Researcher at the DIMACS Center at Rutgers. She has a Ph.D. degree from Harvard in mathematics (algebraic and differential geometry) and an MS degree in Computer Science from the University of Texas at Austin. Prior to DIMACS, she was a Chief Research Scientist at Applied Communication Sciences (formerly known as Bellcore Applied Research and Telcordia Applied Research). For a number of years there, she managed the program for Internal Research and Development. Initially, she was an academic mathematician.

Her focus of research for the last 10+ years is mathematical representations for data and their implied algorithms for data science. She was co-PI of a Rutgers DARPA project in the Social Sim Program focused on computational simulation of on-line social behavior. Previously she was co-PI of an AFOSR project (Applications to Network Dynamics of Positive Measures and Product Formalisms: Analysis, Synthesis, Visualization and Missing Data Approximation) and co-PI of an ONR Project (Fast Multiscale Algorithms for Information Representation).

She is currently co-organizing a WiSDM research collaboration workshop, Women in the Science of Data Science and Mathematics, to be held at IPAM in 2023. Previously she co-organized WiSDM workshops at ICERM in 2017 and 2019, an ICERM workshop on Mathematics in Data Science in 2015 and a JMM 2020 AMS-AWM Special Session on Mathematical and Computational Research in Data Science. She is a member of the organizing committee for the 2022 IAS WAM Program: The Mathematics of Machine Learning, a member of the IAS WAM Advisory Board and the Kean Computer Science Advisory Board. At Kean she was an advisor on the 2020 Google Explore CSR Grant to Kean University.

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## **Publications:**

### **Data Science:**

H. Zhou, H. Ravi, C. Muniz, V. Azizi, L. Ness, G. de Melo, M. Kapadia, “GitEvolve: Predicting the Evolution of Github Repositories”, submitted to: Computational and Mathematical Organizational Theory CMOT Special Issue on Social Networks, editor K. Carley, <https://arxiv.org/abs/2010.04366>.

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R. Izmailov, D. Bassu, A. McIntosh, L. Ness, D. Shallcross, "Application of MSVD to vessel classification in overhead satellite imagery", SPIE 2015

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### **Computer Science**

E. Clarke, O. Grumberg, H. Hiraishi, S. Jha, D. Long, K. McMillan, and L. Ness, "Verification of the Futurebus+ cache coherence protocol," *Formal Methods in Systems Design*, Vol. 6, 1995. pp. 217-232.

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M. Ansari, L. Ness, M. Rusinkiewicz, A. Seth, "Using Flexible Transactions to Support Multi-System Telecommunication Applications, Proceedings of VLBD'92, August 1992, pp. 65-76.

H.V. Jagadish, R. Agarwal, L. Ness, "A Study of Transitive Closure as a Recursion Mechanisms", ACM SIGMOD Record, December 1987.

### **Mathematics**

G. Kempf, L. Ness, "Tensor Products of Fundamental Representations", *Canadian Journal of Mathematics*, Vol. 40, Issue 3, June 1, 1988, pp. 633-648.

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As an REU student at St. Olaf College in 1967, contributed to:

L. Steen, A. Seebach, *Counterexamples in Topology*, Dover Books on Mathematics, 1970, second edition 1978.