

Three keynote lectures delivered by:

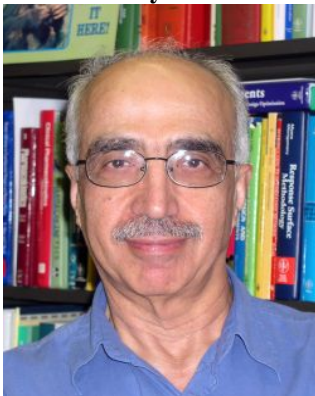
- *Prof. Gunnar Carlsson*, Stanford University, USA
- *Prof. Samad Hedayat*, University of Illinois at Chicago, USA
- *Prof. Edriss Titi*, Texas A&M University, USA

Gunnar Carlsson:



Gunnar Carlsson is a Professor of Mathematics at Stanford University. A highly influential mathematician, he is most well-known for his proof of the Segal Burnside Ring conjecture and for his work on applied algebraic topology, especially topological data analysis. He was a Professor at Princeton University before joining the Stanford Mathematics Department in 1991 where he also served as a Chairman. He was invited at the International Congress of Mathematicians to speak about his work in homotopy theory. More recently his work on persistent homology and topological data analysis has opened up new fields of research with a large number of followers. Whether through his numerous publications or keynote addresses, Gunnar Carlsson has been having an enormous influence on present day mathematical research and its applications to as far afield as cancer treatment. He has co-authored two books on mathematical education. He served as a consultant to the education boards of the State of Texas and State of California concerning the Content Standards in Mathematics and currently is a member of Texas Instruments California Advisory Board on K-12 education. He is the recipient of many awards and grants including the Alfred P. Sloan Fellowship, NSF grants, DARPA and Air Force Office of Scientific Research grants. He is the editor of several internationally respected mathematics journals in topology and algebra. More information about Professor Gunnar Carlsson can be found at <http://math.stanford.edu/~gunnar/>

Samad Hedayat



Professor Samad Hedayat is a UIC Distinguished Professor at Department of Mathematics, Statistics, and Computer Science, University of Illinois at Chicago (UIC). His main lines of research, teaching, and consulting includes design of experiments, medical and pharmaceutical statistics, environmental statistics, forensic statistics, surveillance strategies, assessment of agreements, and survey sampling. In addition to the traditional 170 journal publications he has co-authored four books on statistics published by Wiley and Springer. His scholarly work has earned him numerous awards including: Fellow of the American Statistical Association, Fellow of the Institute of Mathematical Statistics, STINT Swedish Foundation Scholar for international cooperation in research and higher education and Honorary Doctorate by the Universite de Neuchatel, Switzerland. Hedayat has served on the editorial boards of several international journals including: Annals of Statistics, Associate Editor 1973-1980; Communications in Statistics Series A and B, Editorial Board Member 1975-1993, Associate Editor 1993-2002; Journal of Statistical Planning and Inference, Editorial Board Member 1975-1983, Coordinating Editor 1983-1995, Advisory Editor 1995-2000; Journal of American Statistical Association, Associate Editor 1993-1996; 2000-2009; The American Statistician, Associate Editor 2008-2011; Arab Journal of Mathematical Sciences, Advisory Board Member 1998-present; Journal of Statistical Theory and Applications, Associate Editor 2012-present; Bulletin of Iranian Mathematical Society, Associate Editor 2003-present. Hedayat has had 36 PhD students. His former students are employed at universities, government agencies including FDA, major pharmaceutical companies, medical institutes, and other important organizations. More scientific information on Hedayat and his collaborators can be found at <http://tiger.uic.edu/~hedayat/>

Edriss S. Titi



Professor Edriss S. Titi is the holder of the Owen Professorship of Mathematics in Texas A&M University, since 2014. He is also Professor Emeritus in the University of California, Irvine, where he used to hold (1988-2013) a joint appointment in the Department of Mathematics and the Department of Mechanical and Aerospace Engineering. He was *L.E. Dickson Instructor* at the University of Chicago (1986-1988), and at the *Mathematical Sciences Research Institute* in Cornell University (1988-1989). He has been a frequent visitor and consultant to the *Center of Nonlinear Studies (CNLS)* in the Los Alamos National Laboratory (LANL) since 1989. He was the *Orson Anderson Distinguished Visiting Scholar* (1997-1998) at the Institute of Geophysics and Planetary Physics and the *Stanislaw M. Ulam Scholar* (2002-2003) at the CNLS in LANL. In 2004 he was elected *Fellow of the Institute of Physics*, UK. In 2009 he received the *Humboldt Research Award for Senior U.S. Scientists*, and also the *Society for Industrial and Applied Mathematics (SIAM) Prize* on Best Paper in Partial Differential Equations. He was honored in 2012 by being elected as a *Fellow of the Society for Industrial and Applied Mathematics (SIAM Fellow)*, and as a *Fellow of the American Mathematical Society (AMS Fellow)*. In 2013 he received the *Ciência sem Fronteiras - Science without Boundaries- Scholarship* by the Conselho Nacional de Desenvolvimento Científico (CNPq), Brazil.

The research of Edriss S. Titi in applied and computational mathematics lies at the interface between rigorous applied analysis and physical applications. Most of his work has been focused on the development of analytical and computational techniques for investigating nonlinear phenomena. Specifically, in studying the Navier-Stokes equations and other related nonlinear partial differential equations. Such equations arise as models in a wide range of applications in nonlinear science and engineering. The applications include, but are not limited to, fluid mechanics, geophysics, turbulence, chemical reactions, nonlinear fiber optics, and control theory. More information about Professor Edriss Titi can be found at <http://www.math.uci.edu/~etiti/>