

Curriculum Vitae
Mamikon Ginovyan
Professor Dr.
Boston University

Department of Mathematics and Statistics
MCS 262, 111 Cummington Street
Work phone: (617) 358-2938; **Fax:** (617) 353-8100
E-mail: ginovyan@math.bu.edu, mamgin.55@gmail.com
URL: <http://math.bu.edu/people/ginovyan>

Personal Data:

Republic of Armenia Citizen,
Married, two children (1984, 1987),
Birth date: May 15, 1955, Republic of Armenia,
Home address: 1082 Commonwealth Ave, apt. 505, Boston, MA, 02215
Home phone: (617) 447 - 8102

Languages: Armenian, English, Russian

Fields of Interests:

Probability and Statistics, Statistics of Stochastic Processes, Time Series Analysis, Prediction Theory, Theory of Toeplitz Operators, Fourier Analysis.

Education:

St-Petersburg Branch of Steklov Mathematical Institute of Russian Academy of Sciences,
Post-graduate study (=graduate student) (1977 - 1980).
Yerevan State University, Department of Mathematics,
Student (1972 – 1977)

Degrees:

Doctor of Mathematical Sciences (= European Habilitation degree), Yerevan State University (1999),

Dissertation: “Nonparametric Statistical Analysis for Stationary Gaussian Processes”.

Candidate of Phys.- Math. Sciences (= Ph. D),

St-Petersburg Branch of Steklov Mathematical Institute
of Russian Academy of Sciences (1981).

Dissertation: “Some Statistical Problems for Stationary Gaussian Time Series”.

Work Experience (Research):

2006 -	Senior Lecturer, Department of Mathematics and Statistics, Boston University
2004 - 2006	Visiting Professor, Department of Mathematics and Statistics, Boston University
2004 -	Leading Scientific Researcher, Institute of Mathematics of Armenian National Academy of Sciences,
1993 – 2004	Research Deputy Director, Institute of Mathematics of Armenian National Academy of Sciences,
1986 - 1993	Senior Scientific Researcher, Institute of Mathematics of Armenian National Academy of Sciences,
1981 - 1986	Junior Scientific Researcher, Institute of Mathematics of Armenian National Academy of Sciences

Work Experience (Teaching):**1. Boston University (2004 – present):**

Estimation Theory; Mathematical Statistics; Nonparametric Statistics; Sampling Theory: Design and Analysis; Design of Experiments; Stochastic Methods of Operation Research; Regression and Time Series; Elementary Statistics (Statistics I); Basic Statistics and Probability; Calculus I; Calculus II; Applied Mathematics
Stationary Processes (Seminar-Course)
Prediction Theory for Second Order Random Processes (Seminar-Course)

2. State Engineering University of Armenia (2002 – 2004)**General Courses:**

Probability and Stochastic Processes for Engineers

Special Courses:

Prediction of Stationary Stochastic Processes

3. Northeastern University (Boston, USA, Fall 2000 and Winter 2002)**General Courses:**

Differential and Integral Calculus

4. Yerevan State University (1982 – 1999)**General Courses:**

Probability Theory and Mathematical Statistics

Special Courses:

Theory of characteristic functions,
Limit theorems for weakly dependent random variables,
Statistics of Stationary Processes,
Geometry of Gaussian Stochastic Processes

Visits:

09/12/2000 – 12/16/2000, Visiting Scholar, Northeastern University (Boston, USA)

12/29/2001 – 03/23/2002, Visiting Scholar, Northeastern University (Boston, USA)

09/01/2004 – 08/31/2006, Visiting Professor, Boston University (Boston, USA)

09/01/2006 – present, Senior Lecturer, Boston University (Boston, USA)

Memberships:

American Mathematical Society (AMS)

Armenian Mathematical Association (Union)

Editorial Board of the “Journal of Contemporary Mathematical Analysis”

Scientific Council of the Institute of Mathematics of Armenian National Academy of Sciences

Scientific Board of “Research Mathematics Fund” (Armenia)

Scientific Board of “National Foundation of Science and Advanced Technologies (NFSAT, Armenia)

Research Grants:

Short Term Research Grant of International Science Foundation (1991)

ANSEF Research Grant (2002)

NFSAT-CRDF Research Grant (2002-2003)

National Science Foundation (NSF) Research Grant (2007-2010)

Conference Organization:

1. International Conference “Harmonic Analysis and Approximations, I”
September 18 - 25, 1998, Nor Amberd, ARMENIA,
2. 5-th International Conference “Mathematical Problems of Statistical Physics”
August 26 - September 2, 2000, Nor Amberd, ARMENIA,
3. International Conference “Harmonic Analysis and Approximations, II”
September 11 - 18, 2001, Nor Amberd, ARMENIA,
4. 6-th International Conference “Mathematical Problems of Statistical Physics”
August 24 - 31, 2002, Tsakhkadzor, ARMENIA
5. International Conference “Mathematics in Armenia: Advances and Perspectives”

September 30 – October 7, 2003, Tsakhkadzor, ARMENIA

6. International Conference “Application of Multivariate Statistical Analysis in Economics and Estimation Theory” May 23 - 30, 2004, Tsakhkadzor, ARMENIA

Participation in Conferences:

- International Congress of Mathematicians (Zurich, Switzerland) (1994),
- Vilnius International Conferences on Probability and Statistics (1981, 1985, 1989, 1998, 2002),
- International Conference on Limit Theorems In Probability and Statistics (Vesprem, Hungary) (1982),
- 27th International Conference on Stochastic Processes and their Applications (Cambridge, UK) (2001).
- Barcelona Conference on Asymptotic Statistics (BAS 2008).
- Statistique Asymptotique des Processus Stochastiques VII” LeMans, France, March 16-19 (2009).
- The 23rd New England Statistics Symposium, University of Connecticut, April (2009).

List of Publications.

Books:

1. M. S. Ginovyan, “Mathematics in Armenia. An Overview”, Yerevan, 2003.
2. N. E. Tovmasyan, “Non-Regular Differential Equations and Calculations of Electromagnetic Fields” (M. S. Ginovyan – Editor)

Papers:

1. M. S. Ginovyan, "Asymptotic behavior of Toeplitz determinant", Zapiski Nauchn. Semin. LOMI, vol. 97, pp. 22 - 31, 1980. **MR602358 (82g:60054).**
2. M. S. Ginovyan, " \sqrt{n} - approximation of the likelihood function", Zapiski Nauchn. Semin. LOMI, vol. 98, pp. 33 - 47, 1980. **MR591860 (82c:62127).**
3. M. S. Ginovyan, “Some Statistical Problems for Stationary Gaussian Time Series” Preprint, 11p., St-Petersburg, 1981.
4. M. S. Ginovyan, "Asymptotic behavior of the logarithm of likelihood function involving polynomial zeros of spectral density", Zapiski Nauchn. Semin. LOMI, vol. 108, pp. 5 - 21, 1981. **MR629397 (83e:62117).**
5. M. S. Ginovyan, "On the asymptotical estimation of the maximum likelihood of parameters of the spectrum of a stationary Gaussian time series. in: Limit Theorems in Probability and Statistics, vol. 1 (P. Revesz, ed.) Coll. Math. Soc. J. Bolyai, 36, North--Holland Amsterdam), pp. 457 - 497, 1984. **MR807570 (87c:62166).**
6. M. S. Ginovyan, "Local asymptotic normality of a family of Gaussian distributions", Zapiski Nauchn. Semin. LOMI, vol. 136, pp. 13 -- 27, 1984. **MR758473 (86c:62017).**
7. M. S. Ginovyan, "On goodness-of-fit test for testing of complex hypothesis on spectrum of stationary Gaussian sequence", Doklady Akademii Nauk Arm. SSR, vol.80, N. 1, pp. 23 - 27, 1985. **MR797079 (87k:62159).**
8. M. S. Ginovyan, "On the asymptotic estimator of the maximum likelihood of parameters of the spectral density having zeros," Acta Scien. Math., Szeged., vol. 50, No. 1-2, pp. 169 - 182, 1986. **MR862191 (88b:62184).**
9. M. S. Ginovyan, "On estimation of functionals of spectral density having zeros", Doklady Akademii Nauk Arm. SSR, vol. 83, no. 4, pp. 171 - 174, 1986. **MR889725 (88d:62158).**
10. M. S. Ginovyan, “Asymptotically efficient nonparametric estimation of functionals of a spectral density having zeros.” Theory Probab. Appl., vol. 33, No. 2, pp. 315 - 322, 1988. (Theory Probab Appl 33(2): 296—303). **MR954578 (89j:62053).**
11. M. S. Ginovyan, " On estimating the value of a linear functional of the spectral density of a Gaussian stationary process. ", Theory Probab. Appl., vol. 33, No. 4, pp. 777 - 781, 1988. (Theory Probab Appl 33(4):722—726). **MR979749 (90c:62098) .**

12. M. S. Ginovyan, "On distribution of quadratic functionals in Gaussian stationary process," Doklady Akademii Nauk Arm. SSR, vol. 89, pp. 147 - 150, 1989. **MR1064580 (91j:60069).**
13. M. S. Ginovyan, "A note on Central Limit theorem for Toeplitz type quadratic forms in stationary Gaussian variables", Journal of Contemporary Math. Anal., vol. 28, No. 2, pp. 78 - 81, 1993. **MR1359889.**
14. M. S. Ginovyan, "The asymptotic properties of spectrum estimate of homogeneous Gaussian field", Doklady Akademii Nauk Armenii.vol. 94, No. 5, pp. 264 - 269, 1993. **MR1642463 (99i:62230).**
15. M. S. Ginovyan, "On Toeplitz type quadratic functionals in Gaussian stationary process", Theory Probab. and Rel. Fields, vol. 100, pp. 395 - 406, 1994. **MR1305588 (96f:60032).**
16. M. S. Ginovyan, "Asymptotic properties of spectrum estimate of stationary Gaussian processes", Journal of Contemporary Math. Anal., vol. 30, No. 1, pp. 1 - 16, 1995. **MR1643528 (2000a:62235).**
17. M. S. Ginovyan, "On asymptotic behavior of Toeplitz determinants," in THEORY OF FUNCTIONS AND APPLICATIONS (Collection of Works Dedicated to the memory of M. M. Djrbashian), pp. 57 - 60, Yerevan, 1995.
18. M. S. Ginovyan, "Asymptotic upper bounds for the risk of estimators of linear functionals of a spectral density function", Journal of Contemporary Math. Anal., vol. 31, No. 5, pp. 1 - 9, 1996. **MR1693840 (2000g:62113).**
19. M. S. Ginovyan, "Nonparametric estimation of functionals of a spectral density function", Abstracts of Communications "4 th World Congress of the Bernoulli Society", p. 25 - 26, Vienna, Austria, 1996.
20. M. S. Ginovyan, "On Kullback asymptotic information for stationary Gaussian measures": in "Computer Science and Information Technologies" pp. 236 - 238, Yerevan, 1997.
21. M. S. Ginovyan, "Nonparametric Estimation of Linear Functionals of a Spectral Density Function", Abstracts of Communications: in "7th Vilnius Conference on Probability Theory and Mathematical Statistics, 22nd European Meeting of Statisticians", pp. 218-219, Vilnius, 1998.
22. M. S. Ginovyan, "Nonparametric Statistical Analysis of stationary Gaussian processes", Yerevan State University, Preprint, 30p., Yerevan, 1999.
23. M.S. Ginovyan, "On large deviation principle for quadratic functionals of stationary Gaussian processes": in "Computer Science and Information Technologies (CSIT'99)" pp.135 - 137, Yerevan, 1999.
24. M. S. Ginovyan, "Asymptotic behavior of the prediction error for stationary Random sequences." Journal of Contemporary Math. Anal., vol. 34, No. 1, pp. 18 - 36, 1999. **MR1854056 (2002g:60053).**
25. M. S. Ginovyan, "Nonparametric estimation of the spectrum of homogeneous Gaussian fields." Journal of Contemporary Math. Anal., vol. 34, No. 2, pp. 1 - 15, 1999. **MR1850715 (2002h:62297).**
26. M. S. Ginovyan, "Locally asymptotically normal families of Gaussian distributions." Journal of Contemporary Math. Anal., vol. 34, No. 5 pp. 18 - 28, 1999. **MR1854064 (2002g:62140).**
27. M. S. Ginovyan, "Asymptotically exact bounds for minimax risk of estimators of linear functionals", Journal of Contemporary Math. Anal., vol. 35, No. 3, pp. 10 - 20, 2000. **MR1855231 (2002h:62296).**
28. M. S. Ginovyan, "Asymptotically efficient estimation of functionals of spectral density function", Journal of Contemporary Math. Anal., vol. 36, No. 2, pp. 1 - 14, 2001. **MR1899600 (2003c:62085).**
29. M. S. Ginovyan, "Asymptotic Distribution of Toeplitz Type Quadratic Forms in Gaussian Stationary Processes", In: Harmonic Analysis and Approximations II, pp. 25 - 27, 2001.

30. M. S. Ginovyan, "Asymptotically efficient nonparametric estimation of nonlinear spectral functionals", *Acta Applicandae Mathematicae*, v.78, pp. 145 - 154, 2003. **MR2024019 (2004k:60098)**.
31. M. S. Ginovyan, "Chi-square type goodness-of-fit tests for stationary Gaussian process", *Journal of Contemporary Math. Anal*, vol. 38, no. 2, pp. 1- 13, 2003. **MR2136319 (2006b:62131)**.
32. M. S. Ginovyan, L. V. Mikaelyan, "Inversion of Wiener-Hopf truncated operators and prediction error for continuous time ARMA processes", *Journal of Contemporary Math. Anal*, v.38, no. 2, pp. 14 - 25, 2003. **MR2136320 (2005m:62160)**.
33. M. S. Ginovyan, "Goodness-off-fit Tests for Stationary Gaussian Processes". In "Application of Multivariate Statistical Analysis in Economics and Estimation Theory", Moscow, 2004, pp. 20 - 22.
34. M. S. Ginovyan, "Bivariate double sampling X-bar charts": in "Application of multivariate statistical analysis in economics and estimation theory", Moscow, 2004, pp. 23 - 25 (co-authors N. Aharonyan, R. Aramyan, V. Ohanyan, H. Sukiasyan).
35. M. S. Ginovyan and A. A. Sahakyan "On Central Limit Theorem for Toeplitz Type Quadratic Forms of Stationary Sequences", Institute of Mathematics, Preprint No. 2004-01. 2004.
36. M. S. Ginovyan and A. A. Sahakyan "Central Limit Theorem for Toeplitz Type Quadratic Functionals of Stationary Processes", *Journal of Contemporary Mathematical Analysis*, 2004, v. 39, No 1, pp. 60 - 82. **MR2168199 (2007a:60017)**.
37. M. S. Ginovyan and A. A. Sahakyan "On Central Limit Theorem for Toeplitz Quadratic Forms of Stationary Sequences", *Theory Probability and its Applications*, 2004, vol. 49, No 4, pp. 653 - 671. (*Theory Probab. Appl.* 49 (2005), no. 4, 612–628) .**MR2142560 (2006a:60038)**.
38. M. S. Ginovyan, "Asymptotic Behavior of the Finite Predictor for Stationary Processes", In: *Harmonic Analysis and Approximations III*, pp. 25 – 26, Yerevan, Armenia, 2005.
39. M. S. Ginovyan and A. A. Sahakyan "Limit Theorems for Toeplitz Quadratic Functionals of Continuous-time Stationary Processes", *Probability Theory and Related Fields*, 2007, v. 138, pp. 551 - 579. **MR2299719 (2008g:60102)**
40. M. S. Ginovyan and A. A. Sahakyan "Error Bounds for Approximations of Traces of Products of Truncated Toeplitz Operators". *Journal of Contemporary Mathematical Analysis*, 2008, v. 43, No 4, pp. 195 - 205. **MR2526428**.
41. M.S. Ginovyan and L.V. Mikaelyan "Prediction Error for Continuous-time Stationary Processes with Singular Spectral Densities". *Acta Appl. Math.* Published online: 24 December 2008. DOI 10.1007/s10440-008-9414-0.
42. M. S. Ginovyan and A. A. Sahakyan "A Note on Approximations of Traces of Products of Truncated Toeplitz Matrices". *Journal of Contemporary Mathematical Analysis*, 2009, v. 44, No 4, pp. 262 - 269.
43. M. S. Ginovyan "Efficient Estimation of Spectral Functionals for Continuous-time Stationary Models". *Statistics of Stochastic Processes*. Submitted.
44. M. S. Ginovyan and A. A. Sahakyan "Trace Approximations of Products of Truncated Toeplitz Operators". *Probability Theory and Related Fields*. Submitted.
45. M. S. Ginovyan and A. A. Sahakyan "On the trace approximations of products of truncated Toeplitz matrices". *Journal of Approximation Theory*. Submitted.

Conference papers:

1. M. S. Ginovyan, "Asymptotic differentiability of Gaussian distributions", Abstracts of Communications: in "3th Vilnius Conference on Probability Theory and Mathematical Statistics", pp. 131 - 132, Vilnius, 1981.
2. M. S. Ginovyan, "On the asymptotical estimation of the maximum likelihood", Abstracts of Communications "Limit Theorems in Probability and Statistics", p. 12, Vespem, Hungary, 1982.
3. M. S. Ginovyan, "Nonparametric estimation of linear functionals on spectral density function" Abstracts of Communications: in "4 th Vilnius Conference on Probability Theory and Mathematical Statistics", pp. 167 - 168, Vilnius, 1985.
4. M. S. Ginovyan, "Nonparametric estimation of functionals on spectral density function of Gaussian stationary process", Abstracts of Communications: in "5 th Vilnius Conference on Probability Theory and Mathematical Statistics", pp. 136 - 137, Vilnius, 1989.
5. M. S. Ginovyan, "On estimation of the spectrum of a stationary Gaussian process", Abstracts of Communications "International Congress of Mathematicians", p. 148, Zurich, Switzerland, 1994.
6. M. S. Ginovyan, "Asymptotic properties of spectrum estimates for stationary Gaussian processes", Abstracts of Communications: in "Multivariate statistical analysis and estimation theory" pp. 16 - 18, Tsakhkadzor, 1996.
7. M. S. Ginovyan, "Statistical estimation of functionals of a spectral density function for stationary Gaussian processes": in "Application of multivariate statistical analysis in economics and estimation theory" pp. 25 - 26, Moscow, 1997.
8. M. S. Ginovyan, "Some Remarks on Asymptotic Behavior of Toeplitz Determinants", In: Harmonic Analysis and Approximations, pp. 20 – 21, 1998.
9. M. S. Ginovyan, "Efficient estimation of spectral density functionals" Abstracts of Communications: in 27th Conference on Stochastic Processes and their Applications (Cambridge, UK), pp. 9 – 10, 2001.
10. M. S. Ginovyan, "Nonparametric estimation of spectral functionals", In: 8th Vilnius Conference on Probab. Theory and Math. Statistics, pp. 103-104, 2002.
11. M. S. Ginovyan, "Limit Theorems for Toeplitz Type Quadratic Forms and Functionals in Stationary Processes", In: Mathematics in Armenia: Advances and Perspectives, pp. 43-44, 2003.
12. M. S. Ginovyan "Approximations of Traces of Products of Wiener-Hopf Operators and Applications", Abstracts of Communications "Barcelona Conference on Asymptotic Statistics (BAS2008)", 2008 .
13. M.S. Ginovyan and L.V. Mikaelyan "Prediction Error for Continuous-time Stationary Processes with Singular Spectral Densities". Abstracts of Communications "Harmonic Analysis and Approximations, IV", 2008, pp. 92 - 94 .
14. M. S. Ginovyan and A. A. Sahakyan "Approximations of Traces of Products of Truncated Toeplitz Operators", Abstracts of Communications "Harmonic Analysis and Approximations, IV", 2008, p 108 -111 .
15. M. S. Ginovyan "Statistical Estimation of Spectral Functionals for Continuous-time Stationary Models". Abstracts of Communications "Statistique Asymptotique des Processus Stochastiques VII" LeMans, France, March 2009.

Theses:

1. M. S. Ginovyan, "Some Statistical Problems for Stationary Gaussian Time Series", 122 pages, For Candidate of Phys.- Math. Sciences (= Ph. D), St-Petersburg Branch of Steklov Mathematical Institute of Russian Academy of Sciences, May, 1981.
2. M. S. Ginovyan, "Nonparametric Statistical Analysis for Stationary Gaussian processes", 187 pages, For Doctor of Phys.- Math. Sciences, Yerevan State University, May, 1999

Works in progress:

1. M. S. Ginovyan, "Statistics of Stationary Gaussian processes".
2. M. S. Ginovyan "Asymptotically Efficient Nonparametric Estimation of Spectral Functionals for Gaussian Stationary Models"
3. M. S. Ginovyan, "Asymptotic Efficiency of the Sample Covariances of Gaussian Stationary Processes".
4. M. S. Ginovyan, "Asymptotic Behavior of the Finite Predictor for Continuous-time Stationary Processes",
5. M. S. Ginovyan (with A. A. Sahakyan) "Trace Classes of Toeplitz Operators and Matrices"
6. M. S. Ginovyan (with M.S. Taqqu) "The prediction problem for discrete-time stationary Gaussian processes".

Recent talks:

1. Boston University Statistics Seminar, October, 2005,
“Chi-square Type Goodness-of-fit Tests for Stationary Gaussian Processes”.
2. Brown University Analysis Seminar, November, 2005,
“Best Linear Prediction Problem for Stationary Processes”.
3. Boston University Probability and Statistics Seminar, 2005-2006.
A series of talks on Spectral Theory of Stationary Processes.
4. Boston University Probability and Statistics Seminar, April, 2008.
“Szegő Theorem and Prediction Problem for Discrete-time Stationary Processes”.
5. Boston University Probability and Statistics Seminar, December, 2008.
“Approximations of Traces of Products of Truncated Toeplitz Operators and Applications”.
6. International Conference “Statistique Asymptotique des Processus Stochastiques VII” LeMans,
France, March 16-19, 2009.
“Statistical Estimation of Spectral Functionals for Continuous-time Stationary Models”
7. The 23rd New England Statistics Symposium, University of Connecticut, April, 2009.
“Estimation of Spectral Functionals”.
8. Yale University Statistics Seminar, November, 2009.
“Efficient Estimation of Spectral Functionals for Stationary Models”.