

## Dietmar Pfeifer

*Full Professor  
of Mathematics*

*(retired)*



*Institute of Mathematics  
Carl von Ossietzky University  
26111 Oldenburg  
Germany*

1953	Date of birth (Wuppertal, Germany)
1971 - 1977	Study of Mathematics with minor Economics, Technical University Aachen
1977	Diploma Degree in Mathematics (summa cum laude)
1977 - 1986	Assistant Professor, Institut für Statistik und Wirtschaftsmathematik, RWTH Aachen
1980	Ph.D. (summa cum laude)
1984	Venia Legendi for Mathematics, Technical University Aachen
1985	Visiting Professor, University of North Carolina, Chapel Hill, USA
1985	Offer as Associate Professor (tenure track), Colorado State University, Fort Collins, USA
1986 - 1987	Heisenberg Stipend, DFG (Deutsche Forschungsgemeinschaft)
1987	Visiting Professor, University of California, Santa Barbara, USA and Indiana University, Bloomington, USA
1987 - 1995	University Professor (C3) for Mathematics, University of Oldenburg [Chair for Mathematical Methods in Economics]
1992 - 1997	Director of the statistics group in the research projekt „Untersuchungen zu Reaktionen raum-zeitlicher Muster von Organismengemeinschaften im Watt auf Umwelteinflüsse: Beiträge der Angewandten Statistik zur Versuchsplanung, Durchführung und Auswertung“ in the research project ELAWAT (Elastizität des Ökosystems Wattenmeer), financed by the BMBF
1995 - 2000	Full Professor (C4) for Mathematics, University of Hamburg [Chair for Insurance Mathematics]
1999 - 2010	Director of the research project „Prognose und Simulation zukünftiger Versorgungsausgaben im Öffentlichen Dienst der Freien und Hansestadt Hamburg (PZVA)“, financed by the Personalamt der Freien und Hansestadt Hamburg
1996 - 2016	Scientific Consultant for Jauch & Hübener Reinsurance Brokers (now AON Benfield Analytics, Hamburg)
2000 - 2016	University Professor (C4) for Mathematics, University of Oldenburg [Chair for Applied Probability]
2002 - 2004	Head of the AON Re Europe Actuarial Science Team
2003 - 2007	Board Member of the DGVFM (Deutsche Gesellschaft für Versicherungs- und Finanzmathematik), Vice-President
2005 - 2007	Advisory Board Member of the DAA (Deutsche Aktuar-Akademie)
2006 - 2023	Elected Member of the Supervisory Board (Aufsichtsrat) of the GVO Mutual Insurance Company, Oldenburg
2007 - 2013	Teaching courses for the DAA (Actuarial Education)
2007 - 2014	Co-Founder and Associate of acs actuarial solutions consultancy [Ltd.], Hamburg
2009 - 2013	Head of the German ASTIN Section of the DAV (shared with Roland Voggenauer)
2014 - 2018	Co-Founder and Associate of eAs efficient actuarial solutions consultancy [Ltd.], Hamburg
2016	Retirement from Public Service
2019 - 2023	Chairman of the Supervisory Board (Aufsichtsrat) of the GVO Mutual Insurance Company, Oldenburg (now Bad Zwischenahn)

## List of Scientific Publications

### I. Statistics of Extremes

1. An application of record values to stochastic simulation. II. Symposium on Operations Research, RWTH Aachen 1977. In: *Methods of Operations Research* 29 (1978), 738 - 749.
2. Asymptotic expansions for the mean and variance of logarithmic inter-record times. *Methods of Operations Research* 39 (1981), 113 - 121.
3. Characterizations of exponential distributions by independent non-stationary record increments. *Journal of Applied Probability* 19 (1982), 127 - 135, 906.
4. Limit laws for inter-record times from non-homogeneous record values. *Journal of Organizational Behavior and Statistics* 1 (1984), 69 - 74.
5. A note on moments of certain record statistics. *Theory of Probability and Related Fields* 68 (1984), 293 - 296.
6. On a relationship between record values and Ross's model of algorithm efficiency. *Advances in Applied Probability* 17 (1985), 470 - 471.
7. On the rate of convergence for some strong approximation theorems in extremal statistics. European Meeting of Statisticians, Marburg 1984. In: *Statistics & Decisions* (1985), Supp. Iss. No. 2, 99 - 103.
8. Extremal processes, record times and strong approximation. *Publications de l'Institut de Statistique de l'Université Paris XXXI* (1986), 47 - 65.
9. On a joint strong approximation theorem for record and inter-record times. *Theory of Probability and Related Fields* 75 (1987), 213 - 221.
10. A note on stability of maxima and records of an iid sequence (with U. Gather). *Publications de l'Institut de Statistique de l'Université Paris XXXII* (1987), 71 - 79.
11. A survey on strong approximation techniques in connection with records (with Y.-S. Zhang). In: *Extreme Value Theory. Proceedings, Oberwolfach 1987*, 50 - 58. *Lecture Notes in Statistics* 51, Springer, N.Y.
12. Strong approximations of records and record times by Poisson and Wiener processes. 16th Conference on Stochastic Processes and Their Applications, Stanford 1987. In: *Stochastic Processes and Their Applications* 26 (1987), 209.
13. On a relationship between record times and record values of an i.i.d. sequence. Workshop on Extremes of Random Processes in Applied Probability, Santa Barbara 1987. In: *Advances in Applied Probability* 20 (1988), 12.
14. Extremal processes, secretary problems and the  $1/e$ -law. *Journal of Applied Probability* 26 (1989), 722 - 733.
15. Some remarks on Nevzorov's record model. *Advances in Applied Probability* (1991), 823 - 834.
16. On record indices and record times (with K. Borovkov). *Journal of Statistical Planning and Inference* 45 (1995), 65 - 79.
17. Study 4: Extreme value theory in actuarial consulting: windstorm losses in central Europe. In: R.-D. Reiss, M. Thomas: *Statistical Analysis of Extreme Values. With applications to insurance, finance, hydrology and other fields*. 2nd ed., Birkhäuser, Basel (2001), 373 - 378.
18. Maximum Likelihood Estimators in a Statistical Model of Natural Catastrophe Claims with Trend (with A. Kukush and Y. Chernikov). *Extremes* 7 (2004), 309 - 336.

## II. Semigroups of Operators

1. On a general probabilistic representation formula for semigroups of operators. *Journal of Mathematical Research and Exposition* 2 (1982), No. 4, 93 - 98.
2. On a probabilistic representation theorem of operator semigroups with bounded generator. *Journal of Mathematical Research and Exposition* 4 (1984), No. 1, 79 - 81.
3. A note on probabilistic representations of operator semigroups. *Semigroup Forum* 28 (1984), 335 - 340.
4. Probabilistic representations of operator semigroups - a unifying approach. *Semigroup Forum* 30 (1984), 17 - 34.
5. Approximation-theoretic aspects of probabilistic representations for operator semigroups. *Journal of Approximation Theory* 43 (1985), 271 - 296.
6. Probabilistic concepts of approximation theory in connexion with operator semigroups. *Journal of Approximation Theory and Its Applications* 1 (1985), No. 4, 93 - 118.
7. Some general probabilistic estimations for the rate of convergence in operator semigroup representations. *Applicable Analysis* 23 (1986), 111 - 118.
8. A probabilistic variant of Chernoff's product formula. *Semigroup Forum* 46 (1993), 279 - 285.

## III. Poisson Approximation

1. A semigroup-theoretic proof of Poisson's limit law. *Semigroup Forum* 26 (1983), 379 - 382.
2. A semigroup setting for distance measures in connexion with Poisson approximation. *Semigroup Forum* 31 (1985), 201 - 205.
3. Coupling methods in connection with Poisson process approximation. *Zeitschrift für Operations Research, Ser. A*, 29 (1985), 217 - 223.
4. A semigroup approach to Poisson approximation (with P. Deheuvels). *Annals of Probability* 14 (1986), 663 - 676.
5. Operator semigroups and Poisson convergence in selected metrics (with P. Deheuvels). *Semigroup Forum* 34 (1986), 203 - 224.
6. Semigroups and Poisson approximation (with P. Deheuvels). In: *New Perspectives in Theoretical and Applied Statistics*, herausgegeben von M.L. Puri, J.P. Vilaplana and W. Wertz. Wiley, N.Y. 1987, 439 - 448.
7. Poisson approximations of multinomial distributions and point processes (with P. Deheuvels). *Journal of Multivariate Analysis* 25 (1988), 65 - 89.
8. Poisson approximations in selected metrics by coupling and semigroup methods with applications (with P. Deheuvels, A.F. Karr and R.J. Serfling). *Journal of Statistical Planning and Inference* 20 (1988), 1 - 22.
9. On a relationship between Uspensky's theorem and Poisson approximations (with P. Deheuvels). *Annals of the Institute of Statistical Mathematics* 40 (1988), 671 - 681.
10. A new semigroup technique in Poisson approximation (with P. Deheuvels and M.L. Puri). *Semigroup Forum* 38 (1989), 189 - 201.
11. Poisson approximations of image processes in computer tomography. In: H.-H. Bock, P. Ihm (eds.): *Classification, Data Analysis, and Knowledge Organization. Models and Methods with Applications. Studies in Classification, Data Analysis, and Knowledge Organization*, 1991, 68 - 71. Springer, N.Y.

12. On improvements of the order of approximation in the Poisson limit theorem (with K. Borovkov). *Journal of Applied Probability* 33 (1996), 146 - 155.
13. Pseudo-Poisson approximation for Markov chains (with K. Borovkov). *Stochastic Processes and Their Applications* 61 (1996), 163 - 180.

#### IV. Statistical Ecology and Spatial Statistics

1. Spatial point processes and their applications to biology and ecology (with H.-P. Bäumer und M. Albrecht). *Modeling of Geo-Biosphere Processes* 1 (1992), 145 - 161.
2. Moving point patterns: the Poisson case (with H.-P. Bäumer und M. Albrecht). In: O. Opitz and B. Lausen (eds.): *Information and Classification: Concepts, Methods and Applications. Studies in Classification, Data Analysis, and Knowledge Organization*, 1993, 248 - 257. Springer, N.Y.
3. The analysis of spatial data from marine ecosystems (with U. Schleier-Langer und H.-P. Bäumer). In: H.-H. Bock, W. Lenski, and M.M Richter (eds.): *Information Systems and Data Analysis. Prospects - Foundations - Applications. Studies in Classification, Data Analysis, and Knowledge Organization*, 1994, 340 - 349. Springer, N.Y.
4. Stochastic modeling of spatial dynamic patterns. Applications in ecology (with H.-P. Bäumer, H. Ortleb und U. Schleier-Langer). In: Dutter, R. and Grossmann, W. (Eds.) (1994): *COMPSTAT. Proceedings in Computational Statistics. 11th Symposium, Vienna 1994. Physica-Verlag, Heidelberg*, 120 - 125.
5. The index-of-dispersion test revisited (with H. Ortleb, U. Schleier-Langer und H.-P. Bäumer). In: W. Gaul, D. Pfeifer (Eds.): *From Data to Knowledge: Theoretical and Practical Aspects of Classification, Data Analysis and Knowledge Organization*, 1995, 270 - 277. Springer, N.Y.
6. Modeling spatial distributional patterns of benthic meiofauna species by Thomas and related processes (with H.-P. Bäumer, H. Ortleb, G. Sach und U. Schleier). *Ecological Modelling* 87 (1996), *Modelling of Geo-Biosphere Processes Section*, 285 - 294.
7. Modeling dynamics and spatial aggregation of biological populations by stochastic networks (with K. Borovkov und H.-P. Bäumer). *Senckenbergiana maritima* 27 (1996), 129 - 136.
8. The "Minimal Area" problem in ecology: a spatial Poisson process approach (with H.-P. Bäumer und U. Schleier). *Computational Statistics* 11 (1996), 415 - 428.
9. Statistical tools for monitoring benthic communities (with H.-P. Bäumer, R. Dekker und U. Schleier). *Senckenbergiana maritima* 29 (1998), 63 - 76.
10. Size selection and competition for mussels *Mytilus edulis*, by oystercatchers, *Haematopus ostralegus*, herring gulls, *Larus argentatus*, and common eiders, *Somateria mollissima* (with G. Hilgerloh). *Ophelia* 56 (2002), 43-54.

#### V. Insurance, Finance and Dependence

1. An alternative proof of a limit theorem for the Pólya-Lundberg process. *Scandinavian Actuarial Journal* (1982), 176 - 178.
2. A note on the occurrence times of a Pólya-Lundberg process. *Advances in Applied Probability* 15 (1983), 886.

3. Zur Approximation von gemischten durch einfache Poisson-Prozesse. Blätter der Deutschen Gesellschaft für Versicherungsmathematik XVII (1986), 429 - 433.
4. Pólya-Lundberg Process. In: Encyclopedia of Statistical Sciences, Vol. 7. Wiley, N.Y. 1986, 63 - 65.
5. A martingale characterization of mixed Poisson processes (with U. Heller). Journal of Applied Probability 24 (1987), 246 - 251.
6. Bemerkung zur Approximation von gemischten durch einfache Poisson-Prozesse. Blätter der Deutschen Gesellschaft für Versicherungsmathematik XVIII (1987), 73.
7. On the distance between mixed Poisson and Poisson distributions. Statistics & Decisions 5 (1987), 367 - 379.
8. Martingale characteristics of mixed Poisson processes. Blätter der Deutschen Gesellschaft für Versicherungsmathematik XVIII (1987), 107 - 110.
9. The zero utility principle for scale families of risk distributions (with B. Heidergott). Blätter der Deutschen Gesellschaft für Versicherungsmathematik XXII (1996), 711 - 722.
10. A statistical model to analyse natural catastrophe claims by means of record values. Proceedings of the 28<sup>th</sup> International ASTIN Colloquium, Cairns, Australien 1997, 45 - 57.
11. Risikotheoretische Konzepte unter Maple und Excel (with Ch. Hipp). Der Aktuar (1998), 4. Jahrgang, Heft 1, 11 - 17.
12. A simple method to estimate parametric claim size distributions from grouped data (with J. Brix). Blätter der Deutschen Gesellschaft für Versicherungsmathematik XXIV (2000), 495 - 505.
13. Wissenschaftliches Consulting im Rückversicherungsgeschäft: Modelle, Erfahrungen, Entwicklungen. Zeitschrift für Versicherungswesen 21 (2000), 771 - 777.
14. On the distance between the distributions of random sums (with B. Roos). Journal of Applied Probability 40 (2003), 87 - 106.
15. On error bounds for the approximation of random sums (with B. Roos). International ASTIN Colloquium, Berlin, August 24 - 27 (2003).
16. Möglichkeiten und Grenzen der mathematischen Schadenmodellierung. Zeitschrift für die gesamte Versicherungswissenschaft, Heft 4 (2003), 667 - 696.
17. Modeling dependence in finance and insurance: the copula approach (with J. Neslehova). Blätter der DGVFM Band XXVI, Heft 2 (2003), 177 - 191.
18. Modeling and generating dependent risk processes for IRM and DFA (with J. Neslehova). ASTIN Bulletin 34 (2004), 333 - 360.
19. Solvency II: neue Herausforderungen an Schadenmodellierung und Risikomanagement? In: Risikoforschung und Versicherung - Festschrift für Elmar Helten zum 65. Geburtstag, Verlag Versicherungswirtschaft (2004), 467 - 481.
20. Dependence matters! (with D. Straßburger). 36<sup>th</sup> International ASTIN-Colloquium, ETH Zürich, 4. - 7. September 2005.
21. Stochastische Differentialgleichungen für Finanzmarktmodelle (with D. Straßburger). In: Die Kunst des Modellierens: Mathematisch-Ökonomische Modelle. B. Luderer (Hrsg.), Teubner 2008, 351 - 359.
22. Solvency II: Stability problems with the SCR aggregation formula (with D. Straßburger). Scandinavian Actuarial Journal (2008). No. 1, 61 - 77.
23. Risikotheorie - wesentliche Grundlage für die Versicherungs- und Finanzmathematik. In: Deutsche Aktuarvereinigung (Hrsg.): Risiken kalkulierbar machen. Der Berufsstand der Aktuar. VVW Karlsruhe (2009), 73 - 78.

24. Modelling and simulation of dependence structures in nonlife insurance with Bernstein copulas (with D. Straßburger und J. Philipps). 41<sup>th</sup> International ASTIN-Colloquium, 1. – 4. Juni 2009, Helsinki.
25. Aktuarwissenschaften: Schaden-/Unfallversicherung. Lektion 6 des schriftlichen Management-Lehrgangs "Finanzmathematik" unter der fachlichen Leitung von M. Heinrich und R. Eller. EUROFORUM Verlag, Düsseldorf 2010.
26. A probabilistic storm surge risk model for the German North and Baltic Sea coast (with J.-H. Grabbert, J. Deepen, A. Reiner, S. Mai, H. Rodda and A. Kortenhaus). Abstract published in: Geophysical Research Abstracts Vol. 12, EGU2010-14148, 2010. Poster:  
[http://dr-smai.de/PDF\\_Poster/poster\\_egu\\_2010.pdf](http://dr-smai.de/PDF_Poster/poster_egu_2010.pdf)
27. Proposal for correction of the SCR calculation bias in Solvency II (with M. Hampel). Z.Vers.Wiss. (2011), 733 – 743 .
28. Das Management des operationellen Risikos in Versicherungsunternehmen (with J. Prokop). Market Study (in cooperation with Steria Mummert ISS) (2012)
29. Ein Reservierungsverfahren für die Rechtsschutzversicherung (with S. Henniges, D. Straßburger and A. Winkel). Zeitschrift für die gesamte Versicherungswissenschaft (2012), 581 - 595.
30. How do you deal with operational risk? A survey of risk management practices in the German insurance sector (with J. Prokop). Journal of Risk Management in Financial Institutions 6, Number 4 (2013), 444 - 454.
31. Correlation, tail dependence and diversification. In: C. Becker, R. Fried, S. Kuhnt (Hrsg.): Robustness and Complex Data Structures. Festschrift in Honour of Ursula Gather, 301 - 314, Springer, Berlin (2013).
32. Singular mixture copulas (with D. Lauterbach). In: P. Jaworski, F. Durante, W.K. Härdle (Eds.): Copulae in Mathematical and Quantitative Finance. Proceedings of the Workshop Held in Cracow, 10-11 July 2012. Lecture Notes in Statistics 213, Springer (2013), Berlin, 165 - 175.
33. From Bernstein polynomials to Bernstein copulas (with C. Cottin). Journal of Applied Functional Analysis (2014), 277 - 288.
34. Katastrophenrisiken und Extremwerttheorie. In: W. Gleißner , F. Romeike (Hrsg.): Praxishandbuch Risikomanagement. Konzepte - Methoden - Umsetzung, 287 - 303, Erich Schmidt Verlag, Berlin (2015).
35. Some Extensions of Singular Mixture Copulas (with D. Lauterbach). In: M. Hallin, D. Mason, D. Pfeifer, J. Steinebach (Eds.): Mathematical Statistics and Limit Theorems - Festschrift in Honour of Paul Deheuvels, Springer (2015), Heidelberg, 271 - 286.
36. New copulas based on general partitions-of-unity and their applications to risk management (with H. Awoumlac Tsatedem, A. Mändle and C. Girschig). Dependence Modeling (2016), 123 – 140. <http://dx.doi.org/10.1515/demo-2016-0006>
37. Hält das Standardmodell unter Solvency II, was es verspricht? In: R. Koch, M. Weber, G. Winter (Hrsg.): Der Forschung – der Lehre – der Bildung. 100 Jahre Hamburger Seminar für Versicherungswissenschaft und Versicherungswissenschaftlicher Verein in Hamburg e.V. (2016), Verlag Versicherungswirtschaft, Karlsruhe, 767 – 788.
38. New copulas based on general partitions-of-unity and their applications to risk management (part II) (with A. Mändle and O. Ragulina). Dependence Modeling (2017), 246 – 255. <https://doi.org/10.1515/demo-2017-0014>
39. Generating VaR scenarios under Solvency II with product beta distributions (with O. Ragulina). RISKS 2018, 6, 122. <https://www.mdpi.com/2227-9091/6/4/122>

40. Multivariate multiple test procedures based on nonparametric copula estimation (with A. Neumann, T. Bodnar and T. Dickhaus). *Biometrical Journal* 61 (2019), 40 – 61. <https://doi.org/10.1002/bimj.201700205>
41. New copulas based on general partitions-of-unity (part III) – the continuous case (with A. Mändle, O. Ragulina and C. Girschig). *Dependence Modeling* (2019), 181 – 201. <https://doi.org/10.1515/demo-2019-0009>
42. Modellvalidierung mit Hilfe von Quantil-Quantil-Plots unter Solvency II. *Zeitschrift für die gesamte Versicherungswissenschaft* (2019). <https://doi.org/10.1007/s12297-019-00451-y>
43. Adaptive Bernstein Copulas and Risk Management (with O. Ragulina). *Mathematics* 8 (12), 2221 (2020). <https://doi.org/10.3390/math8122221>
44. Generating unfavourable VaR scenarios under Solvency II with patchwork copulas (with O. Ragulina). *Dependence modelling* (2021), 327 – 346. <https://doi.org/10.1515/demo-2021-0115>
45. Insurance Business and Sustainable Development (with V. Langen). In: M. Sarfraz, L. Ivascu (Eds.): *Risk Management*, 3- 18. InTechOpen (2021) <http://dx.doi.org/10.5772/intechopen.96389>
46. A note on the estimation and simulation of distributions with Bernstein polynomials. *Journal of Risk and Financial Studies* (2022), Vol. 3, No. 1, 81 – 86.
47. Ein neuer Ansatz zur Frequenzmodellierung im Versicherungswesen. *Zeitschrift für die gesamte Versicherungswissenschaft* (2022). <https://doi.org/10.1007/s12297-022-00539-y>

## VI. Miscellaneous

1. The structure of elementary pure birth processes. *Journal of Applied Probability* 19 (1982), 664 - 667.
2. On the recursive generation of Markov chains. In: *Transactions of the 9th Prague Conference on Information Theory, Statistical Decision Functions and Random Processes 1982*. Academia (1983), 121 - 125.
3. A note on random time changes of Markov chains. *Scandinavian Actuarial Journal* (1984), 127 - 129.
4. An average-case analysis for a continuous random search algorithm. *Advances in Applied Probability* 17 (1985), 231 - 233.
5. On a Poisson model for the simplex algorithm and the "secretary problem". 11. Symposium über Operations Research, Darmstadt 1986. In: *Methods of Operations Research* 57 (1987), 233 - 242.
6. Tschernobyl und die Folgen aus der Sicht der Mathematik. *Einblicke* (1991): *Forschung an der Universität Oldenburg*, 31 - 34.
7. On asymptotic behavior of weighted sample quantiles (with K. Borovkov and H. Dehling). *Mathematical Methods of Statistics* 5 (1996), 173 - 186.
8. Estimates for the Syracuse problem via a probabilistic model (with K. Borovkov). *Teorija Verovatnostej i ee Primenenija* 45 (2000), 386 – 395.
9. On an estimation problem for type I censored spatial Poisson processes (with J. Hurt and P. Lachout). *Kybernetika* 37 (2001), 103 – 108.
10. Risikomanagement und Solvency II bei Versicherungsunternehmen. Marktstudie (with L. Dorenkamp and P. Ott), in Kooperation mit KPMG Deutsche Treuhand-Gesellschaft Aktiengesellschaft Wirtschaftsprüfungsgesellschaft (2007).



11. A note on Cardano's formula (2022), Annals of Mathematics and Physics 7(1), 64 – 66, DOI: <https://dx.doi.org/10.17352/amp.000107>, and <http://www.staff.uni-oldenburg.de/dietmar.pfeifer/Publ/P122.pdf>
12. Eine elementare Näherungskonstruktion des regelmäßigen Siebenecks mit Zirkel und Lineal (1967 / 2022). <http://www.staff.uni-oldenburg.de/dietmar.pfeifer/Publ/P123.pdf>
13. Eine elementare Näherungskonstruktion des regelmäßigen Elfecks mit Zirkel und Lineal (2022). <http://www.staff.uni-oldenburg.de/dietmar.pfeifer/Publ/P124.pdf>
14. Anmerkungen zu Schurigs "algebraischer Lösung" für den casus irreducibilis einer kubischen Gleichung (2023) <http://www.staff.uni-oldenburg.de/dietmar.pfeifer/Publ/P126.pdf>
15. For which complex numbers  $z$  is  $z^z$  real? (2023) <http://www.staff.uni-oldenburg.de/dietmar.pfeifer/Publ/P128.pdf>
16. Eine elementare Näherungskonstruktion des regelmäßigen Neunecks mit Zirkel und Lineal (2024). <http://www.staff.uni-oldenburg.de/dietmar.pfeifer/Publ/P129.pdf>

## VII. Monographs

1. "Record Values" in einem stochastischen Modell mit nicht-identischen Verteilungen. Dissertation, RWTH Aachen 1980; 97 S.
2. Stochastische Methoden in der Theorie der Halbgruppen linearer Operatoren. Habilitationsschrift, RWTH Aachen 1984; 103 S.
3. Einführung in die Extremwertstatistik. Skripten zur Mathematischen Stochastik, Teubner-Verlag, Stuttgart, 1989; 199 S. (Herausgeber: J. Lehn, N. Schmitz, W.Weil).
4. Stochastik für Informatiker (with R. Mathar). Leitfäden und Monographien der Informatik, Teubner-Verlag, Stuttgart, 1990; 359 S. (Herausgeber: V. Claus, G. Hotz, K. Waldschmidt).
5. W. Gaul, D. Pfeifer (Eds.): From Data to Knowledge: Theoretical and Practical Aspects of Classification, Data Analysis and Knowledge Organization, (edited by W. Gaul and D. Pfeifer). Springer Verlag, N.Y., 1995; 472 S.
6. Mathematical Statistics and Limit Theorems. Festschrift in Honour of Paul Deheuvels (edited by Marc Hallin, David M. Mason, Dietmar Pfeifer and Josef G. Steinebach). Springer Verlag 2015, Springer International Publishing AG Switzerland; 326 S.

## Most cited papers according to research areas

### I. Statistics of Extremes

1. Characterizations of exponential distributions by independent non-stationary record increments. Journal of Applied Probability 19 (1982), 127 - 135, 906 **(85 citations)**
2. Extremal processes, secretary problems and the  $1/e$ -law. Journal of Applied Probability 26 (1989), 722 – 733 **(57 citations)**
3. Limit laws for inter-record times from non-homogeneous record values. Journal of Organizational Behavior and Statistics 1 (1984), 69 – 74 **(31 citations)**



## II. Semigroups of Operators

1. Approximation-theoretic aspects of probabilistic representations for operator semigroups. *Journal of Approximation Theory* 43 (1985), 271 - 296 **(52 citations)**
2. Probabilistic concepts of approximation theory in connexion with operator semigroups. *Journal of Approximation Theory and Its Applications* 1 (1985), No. 4, 93 - 118 **(26 citations)**
3. Some general probabilistic estimations for the rate of convergence in operator semigroup representations. *Applicable Analysis* 23 (1986), 111 - 118 **(25 citations)**

## III. Poisson Approximation

1. A semigroup approach to Poisson approximation (with P. Deheuvels). *Annals of Probability* 14 (1986), 663 - 676 **(123 citations)**
2. On a relationship between Uspensky's theorem and Poisson approximations (with P. Deheuvels). *Annals of the Institute of Statistical Mathematics* 40 (1988), 671 - 681 **(58 citations)**
3. Poisson approximations of multinomial distributions and point processes (with P. Deheuvels). *Journal of Multivariate Analysis* 25 (1988), 65 - 89 **(50 citations)**

## IV. Statistical Ecology and Spatial Statistics

1. Statistical tools for monitoring benthic communities (with H.-P. Bäumer, R. Dekker und U. Schleier). *Senckenbergiana maritima* 29 (1998), 63 - 76 **(28 citations)**
2. The "Minimal Area" problem in ecology: a spatial Poisson process approach (with H.-P. Bäumer und U. Schleier). *Computational Statistics* 11 (1996), 415 - 428 **(24 citations)**
3. Spatial point processes and their applications to biology and ecology (with H.-P. Bäumer und M. Albrecht). *Modeling of Geo-Biosphere Processes* 1 (1992), 145 - 161 **(13 citations)**

## V. Insurance, Finance and Dependence

1. Solvency II: Stability problems with the SCR aggregation formula (with D. Straßburger). *Scandinavian Actuarial Journal* (2008). No. 1, 61 - 77 **(99 citations)**
2. Modeling and generating dependent risk processes for IRM and DFA (with J. Neslehova). *ASTIN Bulletin* 34 (2004), 333 - 360 **(70 citations)**
3. Modelling and simulation of dependence structures in nonlife insurance with Bernstein copulas. *arXiv:2010.15709* **(31 citations)**

## VI. Miscellaneous

1. The structure of elementary pure birth processes. Journal of Applied Probability 19 (1982), 664 – 667 **(32 citations)**
2. On the distance between mixed Poisson and Poisson distributions. Statistics & Risk Modeling 5 (1987), 367 – 380. **(31 citations)**
3. Estimates for the Syracuse problem via a probabilistic model (with K. Borovkov). Theory of Probability & Its Applications 45 (2001), 300 - 310 **(18 citations)**

## VII. Monographs

1. Stochastik für Informatiker (with R. Mathar). Leitfäden und Monographien der Informatik, Teubner-Verlag, Stuttgart, 1990; 359 S. **(67 citations)**
2. Einführung in die Extremwertstatistik. Skripten zur Mathematischen Stochastik, Teubner-Verlag, Stuttgart, 1989; 199 S. **(48 citations)**
3. Record Values in einem stochastischen Modell mit nicht-identischen Verteilungen (Ph.D.Thesis) **(17 citations)**

## Supervised students (1984 - today)

86 Diploma Students  
16 Professional Education Students  
24 Undergraduate Students (BSc.)  
36 Graduate Students (MSc.)  
15 internal PhD Students  
19 external PhD Students  
2 Habilitation Students

## Recent University Teaching Activities (Center for Life-Long Learning, C3L)

### Graduate Courses:

- Risk Models
- Quantitative Methods
- Quantitative Risk Management
- Qualitative Risk Management
- Monte Carlo Methods
- Special Topics in Risk Management

## Past University Teaching Activities

### Undergraduate Courses:

- Probability and Statistics
- Discrete Stochastic Finance

## Graduate Courses:

- Mathematical Risk Theory
- Quantitative Risk Management
- Spatial Statistics
- Monte Carlo Methods
- Mathematical Seminars on Insurance and Finance
- Probability and Statistics
- Game Theory
- Geostatistics
- Statistical Ecology
- Statistics of Extremes
- Semigroups and Probability
- Insurance Management Game

## Past Courses for the German Actuarial Society

- Statistical Methods in Risk Modelling
- Natural Catastrophes and Dependence Modelling

## Scientific and professional interests

- Quantitative Risk Management (including Non-Life Aspects of Solvency II)
- Actuarial Methods in Risk Theory (Risk Modelling, Portfolio Risk Analysis, Premium Calculation, Internal Risk Models, Loss Reserving, Reinsurance)
- Actuarial Consulting
- Non-Academic Actuarial Education

## Own Musical Works

Trio for two violins and piano (1967 / 2021)

Memories (1969 / 2022)

Dreams (1969 / 2022)

Violin sonata (1968 / 2022)

1. movement, e minor

2. movement, D major

3. movement, A major

4. movement, e minor

Fuga legata (1969 / 2022)

Piano Sonatina (1980)

Summer 2020 (Theme with variations)

Violin Sonatina (arrangement of the Piano Sonatina, 1990)

Piano Trio (arrangement of the Violin Sonatina, 2020)

Flute quartet (arrangement of the Piano Trio, 2021)

Menuett (2022)

Scores and audio files can be obtained here:

[https://imslp.org/wiki/Category:Pfeifer,\\_Dietmar](https://imslp.org/wiki/Category:Pfeifer,_Dietmar)

Version: May 5, 2024