Research outputs:

**Application of data clustering to railway delay pattern recognition**
Research output: Research - peer-review › Journal article – Annual report year: 2018

**Assessing spatial correlations of sea surges around Copenhagen**
Research output: Research - peer-review › Conference abstract in proceedings – Annual report year: 2018

**Parisian types of ruin probabilities for a class of dependent risk-reserve processes**
Research output: Research - peer-review › Journal article – Annual report year: 2018

**Passenger arrival and waiting time distributions dependent on train service frequency and station characteristics: A smart card data analysis**
Research output: Research - peer-review › Journal article – Annual report year: 2018

**Staff optimization for time-dependent acute patient flow**
Research output: Research - peer-review › Journal article – Annual report year: 2018

**A probabilistic approach to urban flooding from sea surges in Copenhagen**
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

**A simulation-based Markov Decision Process for the Scheduling of Operating Theatres**
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

**Matrix-Exponential Distributions in Applied Probability**
Research output: Research - peer-review › Book – Annual report year: 2017

**Modelling Dietary Exposure to Chemical Components in Heat-Processed Meats**
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2017

**Optimization of hospital ward resources with patient relocation using Markov chain modeling**
Research output: Research - peer-review › Journal article – Annual report year: 2017
Causal Analysis of Railway Running Delays
Research output: Research - peer-review › Paper – Annual report year: 2016

On the use of functional calculus for phase-type and related distributions
Research output: Research - peer-review › Journal article – Annual report year: 2015

Probabilistic modelling of sea surges in coastal urban areas
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2016

Calculation of ruin probabilities for a dense class of heavy tailed distributions
Research output: Research - peer-review › Journal article – Annual report year: 2014

Optimization of Overflow Policies in Call Centers
Research output: Research - peer-review › Journal article – Annual report year: 2015

Maximizing entropy over Markov processes
Research output: Research - peer-review › Conference article – Annual report year: 2014

Multivariate phase type distributions - Applications and parameter estimation
Research output: Research › Ph.D. thesis – Annual report year: 2014

Obituary: Marcel F. Neuts 1935-2014
Research output: Communication › Journal article – Annual report year: 2014

On the use of functional calculus for phase-type and related distributions
Research output: Research › Report – Annual report year: 2014

Estimating passenger numbers in trains using existing weighing capabilities
Research output: Research - peer-review › Journal article – Annual report year: 2013

Matrix Analytic Methods in Applied Probability with a View towards Engineering Applications
Research output: Research › Doctoral thesis – Annual report year: 2013

Maximizing Entropy over Markov Processes
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013
Analysis of Queues with Rational Arrival Process Components - A General Approach
Bean, N. G. & Nielsen, B. F. 2012 In: SIGMETRICS Performance Evaluation Review. 39, 4, p. 31
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2012

An overview of multivariate gamma distributions as seen from a (multivariate) matrix exponential perspective
Bladt, M. & Nielsen, B. F. 2012 In: SIGMETRICS Performance Evaluation Review. 39, 4, p. 34
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2012

Bilateral matrix-exponential distributions
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2012

First in Line Waiting Times as a Tool for Analysing Queueing Systems
Research output: Research - peer-review › Journal article – Annual report year: 2012

LBTool: A stochastic toolkit for leave-based key updates
IEEE, p. 868-875
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Logics and Models for Stochastic Analysis Beyond Markov Chains
Research output: Research › Ph.D. thesis – Annual report year: 2013

Moment distributions of phase-type
Research output: Research - peer-review › Conference abstract in journal – Annual report year: 2012

On the representation of distributions with rational moment generating functions
Research output: Research › Report – Annual report year: 2012

Analysis of Queues with Rational Arrival Process Components - A General Approach
Research output: Research › Report – Annual report year: 2011

A Probabilistic Model of the LMAC Protocol for Concurrent Wireless Sensor Networks
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

A Stochastic Broadcast Pi-Calculus
Research output: Research - peer-review › Conference article – Annual report year: 2011

Fisher information and statistical inference for phase-type distributions
Research output: Research - peer-review › Journal article – Annual report year: 2011
Maximum likelihood estimation of phase-type distributions
Research output: Research › Ph.D. thesis – Annual report year: 2010

Moment Distributions of Phase Type
Bladt, M. & Nielsen, B. F. 2011 In : Stochastic Models. 27, 4, p. 651
Research output: Research - peer-review › Journal article – Annual report year: 2011

Queues with waiting time dependent service
Bekker, R., Koole, G. M., Nielsen, B. F. & Nielsen, T. B. 2011 In : Queueing Systems. 68, 1, p. 61-78
Research output: Research - peer-review › Journal article – Annual report year: 2011

Call Center Capacity Planning
Research output: Research › Ph.D. thesis – Annual report year: 2010

Effective population management practices in diabetes care - an observational study
Research output: Research - peer-review › Journal article – Annual report year: 2010

Model Checking Multivariate State Rewards
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Multivariate Matrix-Exponential Distributions
Research output: Research - peer-review › Journal article – Annual report year: 2010

On the Construction of Bivariate Exponential Distributions with an Arbitrary Correlation Coefficient
Research output: Research - peer-review › Journal article – Annual report year: 2010

Quasi-Birth-and-Death Processes with Rational Arrival Process Components
Research output: Research - peer-review › Journal article – Annual report year: 2010

Moment Distributions of Phase Type
Research output: Research › Report – Annual report year: 2009

Multivariate matrix-exponential distributions
Research output: Research › Report – Annual report year: 2008

Multivariate matrix-exponential distributions
Research output: Research › Article in proceedings – Annual report year: 2008
On the construction of bivariate exponential distributions with an arbitrary correlation coefficient
Research output: Research › Report – Annual report year: 2008

Queues with waiting time dependent service
Research output: Research - peer-review › Journal article – Annual report year: 2008

Higher order moments and conditional asymptotics in the Batch Markovian Arrival Process
Research output: Research - peer-review › Journal article – Annual report year: 2007

Quasi-Birth-and-Death Processes with Rational Arrival Process Components
Research output: Research › Report – Annual report year: 2007

Estimation of Interrupted Poisson Process Parameters from Counts
Research output: Research › Report – Annual report year: 2005

Statistical Analysis of Hypercalcaemia Data related to Transferability
Frølich, A. & Nielsen, B. F. 2005
Research output: Research - peer-review › Report – Annual report year: 2005

On the Time Reversal of Markovian Arrival Processes
Research output: Research - peer-review › Journal article – Annual report year: 2004

Phase-Type Models of Channel-Holding Times in Cellular Communication Systems
Research output: Research - peer-review › Journal article – Annual report year: 2004

Vertical migration and dispersion of sprat (Sprattus sprattus) and herring (Clupea harengus) schools at dusk in the Baltic Sea
Research output: Research - peer-review › Journal article – Annual report year: 2003

Decay Rates of Discrete Phase-Type Distributions with Infinitely-many Phases
Research output: Research - peer-review › Article in proceedings – Annual report year: 2002

Modelling the dispersive migration of sprat Sprattus sprattus
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On the Use of Second-Order Descriptors To Predict Queueing Behavior of MAPs
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A Computational Framework for a Quasi Birth and Death Process with a Continuous Phase Variable.
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An application of superpositions of two-state Markovian sources to the modelling of self-similar behaviour
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Discrete-Time Analysis of a Finite Queue with Rework
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Predator foraging in patchy environments: the interrupted Poisson process (IPP) model unit
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Andersen, A. T. & Nielsen, B. F. 1995 IMM.
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Interceptor and Asymptotic Behaviour of the nGI/G/1
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Modelling and performance study of packet-traffic with self-similar characteristics over several timescales with Markovian Arrival Processes MAP
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Modelling of apparently self-similar packet arrival processes with Markovian Arrival Processes MAP
Andersen, A. T., Jensen, A. & Nielsen, B. F. 1995 IMM.
Research output: Research - peer-review › Report – Annual report year: 1995

Statistik undersøgelse af arbejdsbelastningen på en fødegang
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Analysis of the Telecommunication Demands in a Large, Geographically Dispersed Company
Møller, D. M. & Nielsen, B. F. 1994 IMM.
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Modelleing a Buffer System as an M/PH/1/N
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Using Program Package NSPCG to Analyze the Trunk Reservation Service Protection Method
Research output: Research - peer-review › Journal article – Annual report year: 1994

Analysis of the Telecommunication Demands in a Large Geographically Dispersed Company
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A transient queueing study of delay during changeover in the Message Transfer Part MTP
Research output: Research - peer-review › Article in proceedings – Annual report year: 1993

Evaluation of a method for online control of the metering system in the analoque telephone network
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Filtering clinically significant hypercalcaemia from non-significant hypercalcaemia at the laboratory level
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Modelling the End-to-End Message Transfer Distribution in the ATCS Communication System
A Phase Type Model for the Trunk Reservation Protection Method

Traffic models of the Message Transfer Part MTP

A Combined Petri-Net and Markov Chain Analysis of an FMS

Alternative diagnostic hypercalcaemia discriminant functions varied on incomplete datasets

Does Quality Control Work Between Local Hospitals?

The Use of Phase Type Distributions for Modelling Packet-Switched Traffic
Elsevier Science Publishers, p. 593-599

Discriminant functions in different geographical areas

Handling incomplete data sets with statistical techniques
Frølich, A., Nielsen, B. F., Conradsen, K. & McNair, P. 1990 Handling incomplete data sets with statistical techniques. p. 61-64

Investigation of the transferability of clinical chemical data
Frølich, A. & Nielsen, B. F. 1990 Proceedings of the 8th Nordic Meeting on Medical and Biological Engineering.

Respective roles of PTH and substrate for the l-hydroxylation of vitamin D in primary hyperparathyroidism PHP

The Analysis of a Manufacturing Unit by Sparse Matrix Techniques

Anvendelse af kønetværk til produktionsstyring
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A Tool for Performance Analysis of Product Form Queueing Networks - ANQUEUE
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Estimation of traffic models for a packet-switched network
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The analysis of service protection methods in service integrated networks by large scale Markov processes
Research output: Research - peer-review › Article in proceedings – Annual report year: 1989

The exact evaluation of the {M/D/1/n
Research output: Research - peer-review › Article in proceedings – Annual report year: 1989

Modelling of Multiple Access Systems with Phase Type Distributions
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Service Protection by Time-In
Research output: Research - peer-review › Article in proceedings – Annual report year: 1988

The exact evaluation of the {M/D/1/n
Iversen, V. B., Kragh, A. L. & Nielsen, B. F. 1988 IMSOR.
Research output: Research - peer-review › Report – Annual report year: 1988

A Service Protection Model
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Respective roles of PTH and substrate for the l-hydroxylation of vitamin D in primary hyperparathyroidism PHP
Research output: Research - peer-review › Article in proceedings – Annual report year: 1987

Comments to a Paper by V. Giorno, C. Negri and A. G. Nobile
Research output: Research - peer-review › Journal article – Annual report year: 1986

Estimation af parametroverdier i Cox-fordelinger til trafikanalyse
Nielsen, B. F. 1986 NTS-6, p. 1-12
Research output: Research - peer-review › Article in proceedings – Annual report year: 1986

Coxfordelinger egenskaber og anvendelser
Nielsen, B. F. 1985 IMSOR.
Research output: Research - peer-review › Report – Annual report year: 1985

Some Properties of Coxian Distributions with Applications
Research output: Research - peer-review › Article in proceedings – Annual report year: 1985
Projects:

**Stochastic Models for Predictive Maintenance**  
Andersen, J. F., Nielsen, B. F. & Kulahci, M.  
Institut stipendie (DTU)  
01/01/2018 → 31/12/2020  
Project: PhD

**Risk assessment with matrix-analytic methods**  
Campillo Navarro, A., Nielsen, B. F. & Bladt, M.  
Institut stipendie (DTU)  
15/07/2015 → 14/10/2018  
Project: PhD

**Matrix-exponential methods in finance, risk and queuing theory**  
Peralta Gutierrez, O., Nielsen, B. F. & Bladt, M.  
Forskningsrådsstipendium  
01/10/2015 → 30/09/2018  
Project: PhD

**Bayesian Modelling for Multi-Agent control**  
Quinonero, J., Hansen, L. K., Rasmussen, C. E., Nielsen, B. F., Andersen, J. D. & Williams, C. K. I.  
Eksternt EU-finansieret  
01/04/2001 → 01/10/2004  
Project: PhD

**Real Time Decision Support in the Face of Evolving Natural Hazards**  
Anders, A., Nishijima, K., Faber, M. H., Nielsen, B. F., Chatzi, E. & Kroon, I. B.  
Ansat eksternt  
01/03/2011 → 28/04/2014  
Project: PhD

**Optimal foraging theory applied to simple models of patchy environments**  
Forskningsrådsfinansiering  
15/03/2001 → 08/02/2007  
Project: PhD

**Evaluering og dimensionering af signalingssystemer for digitale kommunikationssystemer**  
Andersen, A. T. & Nielsen, B. F.  
Gammel ordning u/skema-SU  
01/11/1992 → 13/02/1996  
Project: PhD

**Call Center Capacity Planning**  
Nielsen, T. B., Nielsen, B. F., Iversen, V. B., Stolletz, R., Borst, S. & Nyberg, C.  
DTU-lønnet stipendie  
01/08/2006 → 31/03/2010  
Project: PhD

**Design of computer experiments**  
Dehliendorff, C., Andersen, K. K., Kulahci, M., Nielsen, B. F., Lophaven, S. N. & Tyssedal, J.  
DTU-lønnet stipendie  
01/03/2007 → 08/12/2010  
Project: PhD
Applications of and statistical inference for Multivariate Matrix Exponential Distributions
Esparza, L. J. R., Nielsen, B. F., Bladt, M., Thygesen, U. H., Casale, G. & Telek, M.
DTU-lønnet stipendie
15/08/2007 → 30/03/2011
Project: PhD

Performance of Multi-Service Mobile Networks
Benetis, V., Iversen, V. B., Dittmann, L., Nielsen, B. F., Emstad, P. J. & Giner, V. C.
DTU-lønnet stipendie
01/10/2003 → 29/10/2007
Project: PhD

Probabilistic Networks: Diagnostic Decision Support Systems
Andersen, M. N., Winther, O., Hansen, L. K., Nielsen, B. F., Gerds, T. A. & Heskes, T.
DTU-lønnet stipendie
15/05/2003 → 05/11/2007
Project: PhD

Estimationsteori for stokastiske differentilågninger
Nolsøe, K., Madsen, H., Kessler, M., Nielsen, B. F., Jørgensen, B. & Rydén, T.
DTU-lønnet stipendie
01/10/2002 → 15/01/2007
Project: PhD

Identification of Ecological Thresholds of Sustainability in Marine Ecosystems
Møller, J. K., Madsen, H., Carstensen, N. J., Nielsen, B. F., Ditlevsen, S. & Guttorp, P.
1/3 DTU-stip, 2/3 FUR/andet
01/08/2006 → 25/05/2011
Project: PhD

Logics and models for stochastic analysis of information systems
Zeng, K., Nielsen, B. F., Nielsen, F., Zhang, L., Buchholz, P. & Hillston, J.
1/3 FUU, 1/3 inst 1/3 Andet
01/11/2009 → 07/03/2013
Project: PhD

Refinement and application of the method of successive calculations in transport project evaluations
Meisch, D., Nielsen, B. F., Leleur, S., Van Dijk, N. M., Conradsen, K., Telek, M. & Van Dijk, N. M.
1/3 FUU, 1/3 inst 1/3 Andet
01/06/2010 → 02/09/2014
Project: PhD

Methods for analysis and dimensioning of heterogeneous telecommunication networks
Møller, M. & Nielsen, B. F.
samarbejdsaftale-finans.
01/02/1992 → 24/04/1995
Project: PhD

Queueing and Optimization Models for Hospital Patient Flow
Andersen, A. R., Stidsen, T. J. R., Nielsen, B. F., Reinhardt, L. B., Røpke, S., Boucherie, R. J. & De Causmaecker, P.
Samfinansierede - Virksomhed
01/07/2015 → 30/06/2018
Project: PhD

TDM prestudy
Nielsen, B. F., Thyregod, P. & Larsen, P. B.
Ukendt
02/04/1997 → 15/05/1997
Project: Research

**Hypercalcaemia Discriminant Functions**
Nielsen, B. F., Conradsen, K., Frølich, A., McNair, P., Transbøl, I. & Nielsen, J.
01/10/1985 → …
Project: Research

**Research visit at Bell Communications Research**
Nielsen, B. F. & Ramaswami, V.
Ukendt
01/09/1995 → 31/08/1996
Project: Research

**Activities:**

**Burden of disease of barbecued meat - who's at risk?**
Jakobsen, L. S. (Guest lecturer), Georgiadis, S. (Guest lecturer), Nielsen, B. F. (Guest lecturer), Stockmarr, A. (Guest lecturer), Boriani, E. (Guest lecturer), Duedahl-Olesen, L. (Guest lecturer), Hald, T. (Guest lecturer), Pires, S. M. (Guest lecturer)
31 Mar 2017
Activity: Talks and presentations › Conference presentations