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## Ansættelse

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Institut for Naturvidenskab og Miljø  
Roskilde Universitet  
31 dec. 2015 → present

### Matematik og Fysik (IMFUFA)

Roskilde Universitet  
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## Publikationer

### Multiplicity of time scales in complex systems: Challenges for sciences and dissemination

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#### **The zeta-determinant and canonical determinant on the Grassmannian in dimension one**

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#### **Grassmannian and chiral anomaly**

Booss-Bavnbek, B., 1997, I: Journal of Geometry and Physics. 22, s. 219-244

#### **Anmeldelse af Ole Skovsmose: Towards a philosophy of critical mathematics education. 1996.**

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#### **Grassmannian and chiral anomaly**

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#### **Memories and memorials**

Booss-Bavnbek, B., 1995, I: Mathematical Intelligencer. 17, 2, s. 15-20

**Mode - prediction - action: mathematics induced changes in science, technology and public thinking**

Booss-Bavnbek, B., 1995, I: Res Humanae. 1, s. 113-172

**The Maslov index: a functional analytical definition and the spectral flow formula**

Booss-Bavnbek, B. & Furutani, K., 1995, Roskilde: Roskilde Universitet. (Tekster fra IMFUFA; Nr. 305).

**Perspectives on Teichmüller and the Jahresbericht**

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**Dirac operators and manifolds with boundary**

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**Partitioned manifolds and invariants in dimensions 2, 3, and 4**

Booss-Bavnbek, B. & Wojciechowski, K. P., 1993, Roskilde: Roskilde Universitet. (Tekster fra IMFUFA; Nr. 260).

**Perspectives on Teichmüller and the jahresbericht addendum to Schappacher, Scholz, et al.**

Booss-Bavnbek, B., 1993, Roskilde: Roskilde Universitet. (Tekster fra IMFUFA; Nr. 249).

**Pseudo-differential projections and the topology of certain spaces of elliptic boundary value problems**

Booss-Bavnbek, B. & Wojciechowski, K. P., 1989, I: Communications in Mathematical Physics. 121, 1, s. 1-99 s.

**Vurdering af matematisk teknologi**

Booss-Bavnbek, B., Plate, G., Jensen, J. H. & Bohle-Carbonell, M., 1988, Roskilde: Roskilde Universitet, 94 s.

**Desuspension of splitting elliptic symbols - addendum**

Booss-Bavnbek, B. & Wojciechowski, K. P., jan. 1987, I: Annals of Global Analysis and Geometry. 5, 1, s. 87-111 s.

**Machbarkeit nichtbeherrschbarer Technik durch Fortschritte in der Erkennbarkeit der Natur**

Booss-Bavnbek, B. & Bohle-Carbonell, M., 1987, Roskilde: Roskilde Universitet, 31 s.

**Pseudo-differential projections and the topology of certain spaces of elliptic boundary value problems**

Booss-Bavnbek, B. & Wojciechowski, K. P., 1987, Roskilde: Roskilde Universitet, 17 s.

**The Calderón projector for operators with splitting elliptic symbols**

Booss-Bavnbek, B. & Wojciechowski, K. P., 1987, Roskilde: Roskilde Universitet, 23 s.

**Desuspension of splitting elliptic symbols 11**

Booss-Bavnbek, B. & Wojciechowski, K. P., 1985, Roskilde: Roskilde Universitet, s. 63.

**Von Mathematik und Krieg: über die Bedeutung von Rüstung und militärischen Anforderungen für die Entwicklung der Mathematik in Geschichte und Gegenwart**

Booss-Bavnbek, B. & Høyrup, J., 1984, Marburg. (Schriftenreihe Wissenschaft und Frieden ; Nr. 1984:1). (Tekster fra IMFUFA; Nr. 64).

## **Aktiviteter**

### **2nd Nordic Biomathematics Days**

Johnny T. Ottesen (Arrangør), Rasmus Kristoffer Pedersen (Arrangør), Christian Berrig (Taler), Thomas Stiehl (Taler), Bernhelm Booss-Bavnbek (Taler) & Morten Andersen (Arrangør)

9 maj 2022 → 10 maj 2022

**Interfaces between Geometric Analysis and Mathematical Physics**

Bernhelm Booss-Bavnbek (Deltager)

7 maj 2018 → 11 maj 2018

**Crossroads in the process of mathematization exemplified by early astronomy**

Bernhelm Booss-Bavnbek (Oplægsholder)

11 okt. 2017

**International workshop on graphs, semigroups, and semigroup acts**

Bernhelm Booss-Bavnbek (Deltager)

10 okt. 2017 → 13 okt. 2017

**Emeriti-Seminar Institut for Naturvidenskab og Miljø**

Bernhelm Booss-Bavnbek (Deltager)

18 aug. 2017

**Analysis and Geometry of Graphs and Manifolds**

Bernhelm Booss-Bavnbek (Deltager)

31 jul. 2017 → 4 aug. 2017

**Interfaces between Geometric Analysis and Mathematical Physics**

Bernhelm Booss-Bavnbek (Arrangør)

4 jul. 2016 → 8 jul. 2016

**Udstilling på RUB "1970ernes vesttyske Berufsverbot: 'Glemt' historie. Om politisk sindelagskontrol i Forbundsrepublikken Tyskland" (in english)**

Bernhelm Booss-Bavnbek (Arrangør), Karin Englev (Arrangør), Trine Winther Johannsen (Arrangør) & Marianne Grothe (Arrangør)

11 apr. 2016 → 10 maj 2016

**Temadag**

Bernhelm Booss-Bavnbek (Arrangør)

8 apr. 2016

**Liv i en matematiseret verden?: Om at tælle, tænke og handle**

Bernhelm Booss-Bavnbek (Foredragsholder)

24 nov. 2015 → 8 dec. 2015

**2015 annual meeting of the Deutschen Mathematiker-Vereinigung**

Bernhelm Booss-Bavnbek (Arrangør)

22 sep. 2015 → 23 sep. 2015

**Workshop on geometric and singular analysis**

Bernhelm Booss-Bavnbek (Deltager)

11 feb. 2015 → 13 feb. 2015

**The multi-dimensional Morse-Smale index: Analytic and Geometric Structures, Brainstorming**

Bernhelm Booss-Bavnbek (Foredragsholder)

10 feb. 2015

**Elliptic operators on manifolds with boundary and pseudo-differential projections: Dedicated to Matthias Lesch**

Bernhelm Booss-Bavnbek (Foredragsholder)

17 maj 2014

**Geometric Structures and Spectral Invariants**

Bernhelm Booss-Bavnbek (Arrangør)

16 maj 2014 → 19 maj 2014

**Geometric and Singular Analysis**

Bernhelm Booss-Bavnbek (Taler)

28 mar. 2014

**The Maslov index in symplectic Banach spaces**

Bernhelm Booss-Bavnbek (Foredragsholder)

28 mar. 2014

**The *mathematical microscope* in bio-medicine: Organs, populations, metabolic diseases**

Bernhelm Booss-Bavnbek (Foredragsholder)

23 okt. 2009

**International Conference on "New Developments in Spectral Theory"**

Bernhelm Booss-Bavnbek (Deltager)

5 okt. 2009 → 6 okt. 2009

**Tokyo University of Science**

Bernhelm Booss-Bavnbek (Gæsteforsker)

2 okt. 2009 → 8 okt. 2009

**MoNa-ansøgningen til *Villum Kann Rasmussen Fund*: Model-based Nanoparticle Labelling of Pancreatic  $\beta$ -cells (MoNa)**

Bernhelm Booss-Bavnbek (Deltager)

1 apr. 2009 → 30 sep. 2009

**REx Workshop "Systems Biology of Regulated Exocytosis in Pancreatic Beta-Cells"**

Bernhelm Booss-Bavnbek (Arrangør)

16 feb. 2009 → 19 feb. 2009

**FP7-NMP Proposal *SCAN*: System for Cellular Analysis by Nanotechnology**

Bernhelm Booss-Bavnbek (Deltager)

1 dec. 2008 → 31 maj 2009

**FP7-HEALTH Proposal *REx*: Systems Biology of Regulated Exocytosis in Pancreatic Beta-Cells**

Bernhelm Booss-Bavnbek (Deltager)

31 okt. 2008 → 28 feb. 2009

**Quantum Gravity - An Assessment**

Bernhelm Booss-Bavnbek (Oplægsholder)

17 maj 2008 → 18 maj 2008

**FP7-NMP Proposal *CIGN*: Capturing Insulin Granule Dynamics by Nanotechnology**

Bernhelm Booss-Bavnbek (Deltager)

1 dec. 2007 → 31 dec. 2008

**Kriegens neue Qualität**

Bernhelm Booss-Bavnbek (Oplægsholder)

8 okt. 1999 → 9 okt. 1999

### **Intersection indices in Lagrangian analysis and spectral invariants of partitioned manifolds**

Bernhelm Booss-Bavnbek (Oplægsholder)

29 aug. 1999 → 3 sep. 1999

### **Sécurité, liberté et qualité de recherche en modèles mathématiques d'environnement fondé sur les obligations courantes de l'enseignement**

Bernhelm Booss-Bavnbek (Oplægsholder)

10 dec. 1998 → 11 dec. 1998

### **Zukunftsorientierung durch simulationen und modellberechnungen?**

Bernhelm Booss-Bavnbek (Oplægsholder)

17 okt. 1995 → 20 okt. 1995

### **Elliptic boundary problems and chiral symmetry breaking**

Bernhelm Booss-Bavnbek (Oplægsholder)

2 maj 1995

### **Model-prediction-action: mathematics induced changes in science, technology and public thinking**

Bernhelm Booss-Bavnbek (Oplægsholder)

18 feb. 1995

## **Presse/medie**

### **3/14: Nu skal pi fejres**

Bernhelm Booss-Bavnbek

14/03/2014

1 element af Mediedækning

### **3/14: Nu skal pi fejres**

Bernhelm Booss-Bavnbek

14/03/2014

1 element af Mediedækning

### **3/14: Nu skal pi fejres: I dag er det pi-dag, og det forunderlige tal fejres over hele kloden. Pi fascinerer, fordi det har uendelig mange decimaler, og fordi det dukker op, ja, utallige steder. Her er et portræt af »den matematiske skønhed«.**

Bernhelm Booss-Bavnbek

14/03/2014

1 Mediebidrag

### **Ekstotisk matematik giver nyt syn på det uforklarlige**

Bernhelm Booss-Bavnbek

05/10/2010

1 element af Mediedækning

### **Ekstotisk mtematik giver nyt syn på det uforklarlige**

Bernhelm Booss-Bavnbek

18/10/2010

1 element af Mediedækning

### **Et univers af uforenelige størrelser**

Bernhelm Booss-Bavnbek

22/10/2010

1 element af Mediedækning

### **Hvorfor matematikere fejrer pi-dagen året**

Bernhelm Booss-Bavnbek

14/03/2015  
1 element af Mediedækning

#### **Kommunister forbudt i Nazi-lærerværelset**

Bernhelm Booss-BavnbeK  
24/04/2016  
1 element af Mediedækning

#### **Lange Haare, kurzer Verstand? Die 68er: Wie sehen Alt-68er am Beginn des Rentenalters die Rebellion von damals? Was haben sie erreicht? Interview und Talkshow mit Prof. Dr. Bernhelm Booss-BavnbeK, Mathematiker, ehemaliger AStA-Vorsitzender Bonn**

Bernhelm Booss-BavnbeK  
24/11/2007  
1 Mediebidrag

#### **Matematikere vil hjælpe diabetikere**

Bernhelm Booss-BavnbeK  
15/06/2011  
1 element af Mediedækning

#### **Systemkritiker: Demokratiet må kunne tåle kritik**

Bernhelm Booss-BavnbeK  
16/04/2016  
1 element af Mediedækning

#### **The number $\pi$ : Interview on $\pi$ -Day 3/14\_15**

Bernhelm Booss-BavnbeK  
14/03/2015  
1 Mediebidrag

Bernhelm Booss-BavnbeK [booss@ruc.dk] is an emeritus at Roskilde Universitet (Denmark). He was educated at Universität Bonn (Germany) where in 1966 he was elected as president of the AStA (the student council) on a liberal program. He demanded a normalization of the relations to West Germany's eastern neighbors, including a higher appreciation of the scientific results achieved in these countries, and a wider range of possibilities for students to comment and criticize classes and to raise questions – all achievements quite common in Departments of Mathematics, but rather rebellious in humanities, law and economics. He wrote his PhD thesis under Fritz Hirzebruch as adviser and became director of an interdisciplinary center for the mathematization of the individual sciences at Universität Bielefeld (Germany). Without success, he ran for the Federal Parliament and for the Parliament of the state North-Rhine-Westphalia on a ticket of the Communist Party, and earned a Berufsverbot – professional interdiction. In the Western part of the divided Germany that was not so seldom at that time, the 1970s. To continue his academic career he had to leave the Federal Republic of Germany. In 1977, he found a challenging position at the newly founded Roskilde Universitet where he taught and researched since then. Challenging because half of the mathematics and science teaching in Roskilde is not in courses but in student initiated problem-oriented projects, organized by group work and under the supervision of an academic teacher.

Hence, besides of the scheduled rather standard classes, he had to learn something new in each semester in 40 years. Consequently, he earned a wide view on the full range of the history of mathematics and of the use (and misuse) of mathematical models in mathematics supported technology and research fields. While giving his teaching the priority in all these years, he struggled to keep the blood rolling in the umbilical cord connecting him with some of the most advanced segments of modern mathematical research, the geometric analysis and spectral geometry of global boundary value problems for Dirac type operators. He authored several books on index theory, low-dimensional geometry and mathematical physics and edited two anthologies, which became standard in the respective fields, one on Mathematics and War, the other on Systems Theory of Regulated Exocytosis of Pancreatic  $\beta$  Cells. In The Mathematical Intelligencer, he wrote occasionally about these two topics. His most recent book is joint work with ZHU Chaofeng (Tianjin). It is on The Maslov index in symplectic Banach spaces, in press with the Memoirs of the Amer. Math. Soc.. Presently he is working on a textbook Leben in einer mathematisierten Welt? [Life in a mathematized world?] to summarize his experiences with project work and mathematics applications - in his German mother tongue.

Since his retirement, he lives and works parts of the year in Italy and in different places of Eastern Europe that are favored by him and his wife, a military historian. To him, having fun with his grandchildren is the best relaxation and the most rewarding use of time.