

## Publications

### Theses

- 1982 Time Evolution and Path Integrals in Schrödinger Quantum Mechanics. cand. scient. Master Thesis. *University of Copenhagen*.
- 1988 A Many Particle Adiabatic Invariant of Strongly Magnetized Pure Electron Plasmas. Ph.D. Thesis *University of California, San Diego*.

### Papers

- 1979 PGH, Fluid Drop Impact on a Fluid Surface (in Danish) *Fysisk Tidsskrift* 77: 107.
- 1982a PGH, Teuber, J., On Inertia, Gravitation and Cosmology (in Danish) *Astronomisk Tidsskrift* 15: 116.
- 1982b PGH, Alstrøm, P., Mattock, R., A Paradox in the Classical Interpretation of the Stern-Gerlach Experiment *American Journal of Physics* 50: 697.
- 1983 PGH, Damgaard, H., Brownian Motion (in Danish) *Naturens Verden* 10: 249.
- 1985a PGH, A Trotter Formula Computation of the Kernel for the Harmonic Oscillator, *Reports in Mathematical Physics* 21: 205.
- 1985b PGH, O'Neil, T.M., Collisional Dynamics of a Strongly Magnetized Pure Electron Plasma *Physics of Fluids* 28: 3241.
- 1987a PGH, Teuber, J., Inertia in Friedmann Cosmologies *Il Nuovo Cimento* 97B: 131.
- 1987b PGH, O'Neil, T.M., Molecular Dynamics Simulation of Strongly Magnetized Pure Electron Plasmas *Physics of Fluids* 30: 2613.
- 1990 PGH, Stability of free Surface Sediment Flow *Journal of Geophysical Research* 95 C11: 20363.
- 1992 PGH, Villemoes, L., Teuber, J., Florentin Nielsen, R., Wavelet Analysis of Double Quasar Photometric Data *Astronomy and Astrophysics* 255: L20-L23.
- 1992a PGH, Thejll, P., Damgaard P.H., A Note on Positivity of of Equilibrium Populations in Radiative Transfer Theory, *Astronomy and Astrophysics* 254: 422.
- 1996 PGH, Brøns, M., Kliem, W., Coriolis effects in the dynamics of a rotating elastic structure, *Acta Mechanica* 116: 223.
- 1998 PGH, Markvorsen, S., Lisonek, P., Thomassen, C., Finite Metric Spaces of Strictly Negative Type, *Linear Algebra and its Applications* 270: 255.
- 1999 PGH, Benettin, G., Sempio, P., Exponentially Long Equilibration times in a 1-D collisional Model of a Classical Gas, *Journal of Statistical Mechanics* 94: 871.
- 2002a PGH, Markvorsen, S., Kokkendorff, S., Hyperbolic Spaces are of Strictly Negative Type *Proceedings of the American Mathematical Society* 130: 175.
- 2002b PGH, Røgen, P., Bywater, R., Construction of the Simplest Model to Explain Complex Receptor Activation Kinetics *Journal of Theoretical Biology* 218: 239.
- 2003a PGH, Deriaby, M., Stability of a Heavy Rigid Body Sinking in an Ideal Fluid *ZAMP* 54: 1.
- 2003b PGH, Deriaby, M., High Dimensional Bowling, with M. Deriaby, *Regular and Chaotic Dynamics* 8: 319.
- 2003c PGH, Knudsen, M., Relative to what does the Earth Rotate? (in Danish) *KVANT* 4: 10.
- 2004 PGH, Bywater, R., Røgen, P., Poulsen, T., De Novo Generation of Molecular Structures using Optimization to Select Graphs on a Given Lattice, *J. Chem. Information, and Computer Science* 44 (3): 856.

- 2005 PGH, Perram, J., Andersen, M., Experiences in Evaluating Outcome in Tool Based Competence Building Education in Dynamical Systems using Symbolic Computer Algebra, *Int. J. Technology in Mathematics Education* 11: 139.
- 2006 PGH, Distance of Sample Measurement Points to Prototype Catalog Curve *Journal of Physics: Conference Series*, 52 (Eds. R. Melnik and F. Voss: Mathematics for Industry in Denmark).
- 2009 PGH, Deriaby, Tip of the Iceberg *European Journal of Applied Mathematics* 20, 3: 298.
- 2012 PGH, Starke, J., Corradi, O., Equation-free Detection and Continuation of a Hopf bifurcation Point in a Particle Model of Pedestrian Flow, *SIAM Journal of Applied Dynamical Systems* 11: 3.
- 2014 PGH, Starke, J., Berg Thomsen, K., Sorensen, A., Marschler, C., Schilder, F., Dederichs, A., Nonlinear effects in examples of crowd evacuation scenarios, *Intelligent Transportation Systems (ITSC)*, IEEE 17th International Conference (2014).
- 2014 PGH, Starke, J., Marschler, C., Sieber, J., Equation-Free Analysis of Macroscopic Behavior in Traffic and Pedestrian Flow, in *Traffic and granular Flow* (Chrabi and Boltes, eds.) Springer Verlag, ISBN 978-3-319-10628-1.

### Books

- 2006 PGH, Lunde Petersen, C. (Eds.), *Dynamics on The Riemann Sphere*, European Mathematical Society Publishing, ISBN 0-517-00393-7
- 2002 PGH, Knudsen, J.M., *Elements of Newtonian Mechanics*, Springer Verlag, 3. ed., 2nd printing, ISBN 978-3-642-57234-0
- 2000 PGH, Hansen, V.L., Thimm, U., *Matematik og Modelling med Matematik*, Gyldendal, ISBN: 978-8-700-48286-9
- 1993 PGH, Branner, B., *Real and Complex Analysis*, NATO Advanced Study Institute, Kluwer, ISBN 978-94-015-8439-5

### Reports

- 1998 PGH, Gravesen, J., Report of the 38th European Study group with Industry, Technical University of Denmark, 1998.
- 2005 PGH, Dias, K., Please, C., et al., Beneath the Wheel, *ESGI Report* University of Southern Denmark, 2005.
- 2007 PGH, Gould, T., Zyskin, M., Aggregation of stochastic models, *ESGI Report* University of Bath, 2007.
- 2008 PGH, Duursma, G., Freeze Protection in Gas Holders, *ESGI Report* Heriot-Watt University, 2008.
- 2007 PGH, Ockendon, J., Dellar, P., Bohun, C., Etch Rate Prediction for Ion Milling Machines, *Study Group Report* City University of Hong Kong, 2007.
- 2009 PGH, Allwright, D., Blout, M., et al., Reaction-diffusion models of decontamination, *ESGI Report* University of Oxford, 2009.
- 2009 PGH, Richardson, G., Cooker, M., et al., Particle Impact Analysis of Bulk Powder During Pneumatic Conveyance, *ESGI Report* University of Limerick, 2009.
- 2011 PGH, Carlsen, M. Darula, R. et al., Efficiency of a gyroscopic device for conversion of mechanical wave energy to electrical energy: *ESGI Report* University of Southern Denmark,

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- 2012 PGH, Burke, M., Burns, S., et al., High speed video capture for mobile phone cameras *ESGI Report* University of Cardiff, 2011.
- 2012 PGH, Booth, C., Cummings, C., et al., Brewing of Filter Coffee *ESGI Report* University of Limerick, 2012.
- 2014 PGH, Bazhlekov, S., Dimova, P., et al., Relaxation of surface tension after large initial perturbation *ESGI Report* Institute of Mathematics and Informatics, Bulgarian Academy of Sciences, 2014.
- 2014 PGH, Karamehmedovic, M. , Sizing of Microparticles from Angular Scattering Ratio *DTU Flying Squad Report*, DTU Compute, 2014.

### **Dissimination**

- 1978 PGH, Brøns, M., Damgaard, P.H., Water and Electricity (in Danish) *Naturens Verden* **4**, 154.
- 1978 PGH, Damgaard, P.H., Drop Impact (in Danish) *Naturens Verden* **11**, 369.
- 1979 PGH, Thejll, P., Damgaard, P.H., Floating Drops (in Danish) *Naturens Verden* **9**, 318.
- 1996 PGH, Hansen, V.L., Markvorsen, S., Mathematics Between Man and Machine (in Danish) *Matematikundervisning i Lyset og Skyggen af edb*, ed. G. Fosgerau et al, KvaN.
- 1999 PGH, Markvorsen S., Experimentel Matematisks-Mathematical Experiments, *Naturens Verden* **3**, 33. Reprinted in a special issue supported by the Danish Natural Science Research Council (2000).
- 2003 PGH, A Place in The Sun (in Danish), *Perspektiv* **3**.
- 2005 PGH, Intelligent Design (in Danish), *Aktuel Naturvidenskab* **5**, 30.
- 2007 PGH, Kjær, C., Industry Challenges the Mathematicians, (in Danish) *Aktuel Naturvidenskab* **1**, 20.
- 2010 PGH, Hansen, V.L., Tal og Geometri på date giver Abelpris til Tate, *Aktuel Naturvidenskab* **6**, 40.
- 2011 PGH, Hansen, V.L., Eksotiske Strukturer i syv dimensioner giver Abelpris til Milnor på seks millioner, *Aktuel Naturvidenskab* **6**, 38.
- 2012 PGH, An Interview with Bodil Branner, *Newsletter of the European Mathematical Society*, June 2012.
- 2012 PGH, Hansen, V.L., Abelpris til informatikkens teoretiske stjerne: Kombinatorik i en klarsynet hjerne, *Aktuel Naturvidenskab* **6**, 12.
- 2013 PGH, Hansen, V.L., Abelpris til Pierre Deligne for banebrydende matematisk rapsodi om de algebraiske ligningers geometri, *Aktuel Naturvidenskab* **6**, 47.
- 2014 PGH, Hansen, V.L., På dynamikken fik han skik-og Abelprisen til Sinai gik, *Aktuel Naturvidenskab* **5**, 15.