Palle E. T. Jorgensen

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U.S. citizen, 1979
Married, three children

Professional

Ph.D. in mathematics: University of Aarhus, 1973

1983– Professor, Dept. of Mathematics, University of Iowa (NSF grants for whole period)
1982–84 Visiting Associate Professor, Dept. of Mathematics, University of Pennsylvania (on leave from Aarhus first year, from Iowa second year; NSF grant, R.V. Kadison, PI)
1979–83 Associate Professor, Mathematics Institute, University of Aarhus, Denmark, on leave from Stanford the first year (Danish Research Council grants)
1977–79 Assistant Prof., Dept. of Mathematics, Stanford Univ. (NSF grant, Jorgensen, PI)
1973–77 Postdoctoral Research Fellow (support from Danish Natural Science Research Council; partial support from NSF, MCS 77-02831 in 1977, R.V. Kadison, PI)
1973–77 Visiting Scholar, University of Pensylvania and University of Washington

Throughout his career, Jorgensen has been supported in part by the US National Science Foundation. He has authored or co-authored more than 150 research papers and several books.

Special appointments

1976 Invited member, NSF Summer Research Institute in Operator Theory, U.N.H.
1982– Member of Danish Academy of Natural Sciences
1993– Member of NSF-AMS panel evaluating NSF-postdoc applications, other panels later
2000–03 Elected member of the Editorial Boards Committee of the AMS
2001–03 Member of the Committee on Publications of the AMS
2003– Member of International Editorial Committee, Foxwell & Davies Italia srl.

Editorship appointments

Acta Appl. Math. (1982–); *Proc. Amer. Math. Soc.* (1988–98); *Proyecciones*, *Panamer. Math. J.* (1993–); *J. Math. Sci.*, new series, Delhi, India (2000–); *J. Appl. Math. Comput.* (2001–).

Numbers on recent grants

- NSF: MCS-8300915, 1984; DMS-8502363; DMS-8500879, 1985; DMS-8801329, 1987; DMS-8803685, 1988; AMS-NSF, 1990
- 3-year NSF grants: DMS-9102488, 1991–94; DMS-9401252, 1994–97; DMS-9700130, 1997–2000; DMS-9987777, 2000–03 (ext. 2003–04)
- Cooperative Research: NATO, 1986–91; NSF US-W Europe, INT-9114401 1992-96, INT-9722779 1997–2000, U.S.-Australia, INT-9724781, 1998–2001
- NSF DMS-0139473, Collaborative Research (FRG): Focused Research on Wavelets, Frames, and Operator Theory, 2002–05 (ext. 2005–06)
- NSF DMS-0503990, Conference Support, GPOTS, 2005–06
- NSF DMS-0457581, Collaborative Research: Operator Algebras and Applications, 2005–08

Assignments and awards

- Fellowship from the Swedish Royal Academy of Science, April and May 1989
- Member of the Danish Research Academy International Faculty, appointed and paid by the Danish government (expenses only), 1991– , The New York Academy of Sciences, 1978–
- Semester Research Assignments, 1989 and 2000; UI Faculty Scholar (half teaching), 1992–94
- Special Research Visitor at universities in Australia, Denmark, Germany, Hong Kong, Singapore, Italy, Japan, Korea, Norway, and Wales (UK), 1990–present
- Member of the IEEE, Signal Processing, 1999– ; Listed in *Who's Who in America*
- Frequent invited/featured speaker at international conferences in mathematics/physics, e.g.:
  - Int'l Conference on Wavelet Analysis and Its Applications, Nov. 1999, Guangzhou, China;
  - National Research Symposium on Geometric Analysis and Applications, Australia, 2000;
  - International Congress on Mathematical Physics, July 2000 in London;

- GPOTS and IWOTA, 2002, plenary speaker;
- Co-organizer of *Wavelets and Frames* conference/workshop, Mathematisches Forschungsinstitut Oberwolfach, Germany, Feb. 15–21, 2004.
- Invited lectures at workshop on *Functional and harmonic analyses of wavelets and frames*, NUS, Singapore, August 2–12, 2004—lecture notes to be published by World Scientific.

Selection of Jorgensen's research publications

1. P.E.T. Jorgensen, *Analysis and Probability: Wavelets, Signals, Fractals*, Graduate Texts in Mathematics, vol. 234, Springer-Verlag, New York, to appear 2006.
2. D.E. Dutkay, P.E.T. Jorgensen, Wavelets on fractals, *Rev. Mat. Iberoamericana* **22** (2006), 131–180.
3. L.W. Baggett, P.E.T. Jorgensen, K.D. Merrill, J.A. Packer, A non-MRA C^r-frame wavelet with rapid decay, *Acta Appl. Math.* **89** (2006), 251–270. doi:10.1007/s10440-005-9011-4
4. D.E. Dutkay, P.E.T. Jorgensen, Hilbert spaces built on a similarity and on dynamical renormalization, *J. Math. Phys.* **47** (2006), no. 5, 20 pp.
5. D.E. Dutkay, P.E.T. Jorgensen, Methods from multiscale theory and wavelets applied to nonlinear dynamics, *Wavelets, Multiscale Systems and Hypercomplex Analysis* (D. Alpay, ed.), Oper. Theory Adv. Appl., vol. 167, Birkhäuser, Boston, 2006, pp. 87–126.
6. D.E. Dutkay, P.E.T. Jorgensen, Iterated function systems, Ruelle operators, and invariant projective measures, *Math. Comp.*, to appear (accepted July 2005). arxiv:math.DS/0501077
7. L.W. Baggett, P.E.T. Jorgensen, K.D. Merrill, J.A. Packer, Construction of Parseval wavelets from redundant filter systems, *J. Math. Phys.* **46** (2005), no. 8, 19 pp. doi:10.1063/1.1982768.
8. D.E. Dutkay, P.E.T. Jorgensen, Hilbert spaces of martingales supporting certain substitution-dynamical systems, *Conform. Geom. Dyn.* **9** (2005), 24–45.
9. P.E.T. Jorgensen, D.P. Proskurin, Yu. S. Samoĭlenko, On C^*-algebras generated by pairs of q-commuting isometries, *J. Phys. A: Math. Gen.* **38** (2005), 2669–2680.
10. P.E.T. Jorgensen, Measures in wavelet decompositions, *Adv. Appl. Math.* **23** (2005), 561–590.

Synergistic activities

In the past 5 years Jorgensen has created and taught courses for Mathematics and Engineering, designed and taught a course in Optimization for Mathematics and the Management Dept., and been organizer of a joint seminar in mathematics and physics and colloquium speaker in engineering departments.

Jorgensen's collaborators in the past 48 months (* indicates coeditor)

L. Baggett (U. Colorado), O. Bratteli (U. Oslo, Norway), D.E. Dutkay (Rutgers), D. Han* (UCF), C. Heil* (GATECH), K.H. Kim (Alabama State), D. Kribs (U. Guelph), D. Larson* (Texas A&M), K. Merrill (Colorado Coll.), A. Mohari (S.N. Bose Centre, Kolkata, India), P.S. Muhly* (U. Iowa), V. Ostrovs'kyĭ (N.A.S. Ukraine), J. Packer (U. Colorado), A. Paolucci (U. Leeds, U.K.), G. Price* (USNA), D.P. Proskurin (N.A.S. Ukraine), F. Roush (Alabama State), Yu. S. Samoĭlenko (N.A.S. Ukraine), Y. Wang (GATECH), A.I. Zayed* (DePaul).

Jorgensen's advisors

Graduate advisor: N. S. Poulsen (Denmark) Postdoctoral advisor: R. V. Kadison (U. Penn.)

Jorgensen's advisees

Ph.D. students in last 5 years: Ilona Svidersky (2003), Paul Johnson (2003), Dylmoon Hidayat (2003), Maria G. Viola (2003), Kurao Watabe (2004), Myung-Sook Ahn (2004), Dorin E. Dutkay (2005), Myung-Sin Song (2005), and Ionut Chifan, Le Gui, Scott Taylor, Alvaro Correa Rosado, Christian Roldan-Santos, Ko Woon Um, J.P. LaForge, Feng Tian, and YangHo Choi, in progress. *Postdoctoral scholars in last 5 years:* David Kribs (2000–02; U. Guelph), Fernando Souza (2002–03; Toledo, OH), A. Mohari (S.N. Bose Centre, Kolkata, India). *Summary:* During the past 5 years, 16 Ph.D. students and 3 postdocs (not counting former PhD students, several of whom I continued to supervise); in earlier years (U.S.), 11 Ph.D. students (total 27) and 8 postdocs (total 11).