

# RICHARD A. DAVIS: CURRICULUM VITAE

November 1, 2010

## Address

Department of Statistics  
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## Research Interests

Extreme value theory, time series, applied probability, and stochastic processes.

## Education

1979	Ph.D.	Mathematics	University of California, San Diego
1974	B.A.	Mathematics	University of California, San Diego

## Academic and Professional Positions

2007–present	Howard Levene Professor of Statistics, Columbia University
2009–present	Hans Fischer Senior Fellow, Institute for Advanced Study, Technical University of Munich
2006–2008	Professor Laureate, College of Natural Sciences, Colorado State University
2003–2005	Velux Visiting Professor, University of Copenhagen, supported by Villum Kann Rasmussen Foundation
1990–2008	Professor of Statistics, Colorado State University
2003–present	Co-director of PRogram for Interdisciplinary Mathematics, Ecology and Statistics (PRIMES), an NSF IGERT funded project.
1997–2005	Chair of Statistics, Colorado State University
Apr–May 1995	Visiting Professor, Department of Statistics Royal Melbourne Institute of Technology, Melbourne, Australia
Feb–Apr 1995	Visiting Professor, Department of Statistics University of New South Wales, Sydney, Australia
May 1989	Visiting Research Scholar, Department of Statistics University of Melbourne, Australia
1987–1988	Visiting Associate Professor (on sabbatical from CSU) Department of Mathematics, University of California, San Diego
1984–1989	Associate Professor of Statistics, Colorado State University
1984 (Spring)	Visiting Research Assistant Professor, Center for Stochastic Processes University of North Carolina at Chapel Hill

1981–1984      Assistant Professor of Statistics, Colorado State University  
1979–1981      Applied Mathematics Instructor, Massachusetts Institute of Technology  
1979 (Summer)   Postgraduate Research Mathematician, University of California, San Diego  
1978–1979      Research Assistant, Mathematics Department, University of California, San Diego

## Honors

Alumni Faculty of the Year, 1986, College of Natural Sciences, Colorado State University  
Koopmans Econometric Theory Prize for the period 1994–1996, inclusive.  
Professor Laureate, College of Natural Sciences, Colorado State University, 2006–2008

## Professional Society Memberships

American Statistical Association (elected Fellow 2002)  
Institute of Mathematical Statistics (elected Fellow 1995)  
International Statistics Institute (elected member 1992)

## Editorial Work/Board Membership

Editor-in-Chief, *Bernoulli* (Jan `10– present)  
Associate Editor, *Annals of Applied Probability*. (Jan '94–Jan '00)  
Associate Editor, *J. Statistical Planning and Inference*. (Jan '95–Jan '01)  
Associate Editor, *Proceedings of the American Mathematics Society*. (Feb '00– Dec `05)  
EURANDOM Steering Committee for Financial Stochastics (Sept '02–Dec `04)  
Associate Editor, *Extremes* (Jan '07 – present)  
Associate Editor, *Bernoulli* (Jan '07 – present)  
Editor, *Statistical Science* (Jan '08 – present)  
Associate Editor, *Stochastic Processes and Their Applications*. (Jan '93–Jan '96, Mar `08– Jan `10)

Business and Economics Statistics Section, Chair-elect (2009), Chair (2010)

## Other Professional Service

### (i) Refereeing

Advances in Applied Probability  
Annals of Applied Probability  
Annals of Probability  
Annals of Statistics  
Biometrika  
Canadian Journal of Statistics  
Communications in Statistics  
Ecological Applications  
Econometric Theory  
Extremes  
IEEE Transactions of Speech and Signal Processing

International Journal of Forecasting  
Journal of Applied Probability  
Journal of Econometrics  
Journal of Multivariate Analysis  
Journal of the American Statistical Association  
Journal of Risk and Insurance  
Journal of Statistical Computation and Simulation  
Journal of Statistical Planning and Inference  
Journal of Time Series Analysis  
Revstat  
Statistica Sinica  
Statistics and Probability Letters  
Stochastic Models  
Stochastic Processes and Their Applications  
The American Mathematical Monthly  
The American Statistician  
The Arabian Journal of Science and Engineering  
Zeitschrift für Wahrscheinlichkeitstheorie

**(ii) Peer Review Panels & Site Visits**

National Science Foundation: Statistics and Probability Screening Panel, December, 1999 & 2000.

National Science Foundation: VIGRE site team reviewing statistics departments at North Carolina State University and U. of California, Berkeley (2001).

**(iii) Grant Reviews**

Reviewer of National Science Foundation proposals in the probability and statistics section.

Reviewer of National Science Foundation proposals for International Programs and Joint Summer Research Conferences in the Mathematical Sciences.

Reviewer of proposals for the mathematics sections of the Air Force Office of Scientific Research, the Office of Naval Research, and the National Security Agency.

Reviewer for the Natural Sciences and Engineering Research Council (NSERC) of Canada.

Reviewer for the Swedish Research Council (Engineering Section).

Reviewer for the Australian Research Council (ARC).

Reviewer for National Security Agency proposals administered through the American Mathematical Society.

**(iv) Workshops/Short Courses**

Time Series Workshop, Washington Statistical Society, Oct 30–31, 1995, (10 hours of lectures).

Time Series and Forecasting, sponsored by Division of Educational Outreach and The Department of Statistics, Colorado State University. July 22–23, 1999, (16 hours of lectures).

Time Series and Forecasting, sponsored by Division of Educational Outreach and The Department of Statistics, Colorado State University. March 1–2, 2001, (16 hours of lectures).

PRIMES Workshop on Data Model Fusion, Colorado State University. June 9–11, 2003 (organizer and presenter, 3.5 hours of lectures.)

Alaska Chapter of ASA sponsored course, Kodiak, Alaska: *Short Course on Times Series*. Oct 20–21, 2010. (14 hours of lectures).

#### **(v) Conference Organization**

Program Chair: IMS Regional Meeting at Davis, CA, June 25–28, 1989.

Session Organizer: Topics in Time Series, IMS Regional Meeting, Baltimore MD, April 1990.

Session Organizer: Topics in Time Series, 3rd World Congress of The Bernoulli Society for Mathematical Statistics and Probability, Chapel Hill, NC. June 1994.

Conference Organizer and Host: 1994 NBER/NSF Workshop on Time Series Analysis, Ft. Collins, CO, Sept 30–Oct 1, 1994

Session Organizer: Modeling Time Series of Counts, Interface Meeting Minneapolis, May 14–16, 1998.

Session Organizer: Spatial Statistics, Interface Meeting Chicago, June 9–12, 1999.

Conference Organizer and Host: 2000 NBER/NSF Workshop on Time Series Analysis, Ft. Collins, CO, Sept 22–Sept 23, 2000

Senior Investigator, U.S.-Japan Joint Seminar: Statistical Time Series Analysis sponsored by NSF, Kyoto, Japan, June 18–22, 2001.

Program Committee for IMS Annual Meeting, Atlanta, August 5–9, 2001.

Co-organizer (with James Stock) NBER/NSF Workshops in Time Series, 2001–present.

Co-organizer (with Claudia Klüppelberg) “Statistics in Finance,” Oberwolfach, Germany, Jan 12–16, 2004.

Scientific Committee, International Workshop on Applied Probability 2004, University of Piraeus, Greece, March 22–25, 2004.

Scientific Program Committee, Sixth Bernoulli World Congress, Barcelona, Spain, July 26–31, 2004.

Scientific Organizing Committee, Extreme Value Analysis, Gothenburg, Sweden, August 15–19, 2005.

Scientific Program Committee, International Workshop on Applied Probability 2006, University of Connecticut, Storrs, CN, May 16–18, 2006.

Program Committee, Graybill VI Conference, “Symposium on Applied Probability and Time Series: a Conference in Honour of Peter Brockwell” and “Workshop in Bioinformatics,” Fort Collins, CO, June 13–15, 2007.

Scientific Organizing Committee, Extreme Value Analysis, Bern, Switzerland, July 23–27, 2007.

Co-organizer (with Jurgen Franke), Miniworkshop “Time Series with Sudden Structural Breaks,” Oberwolfach, Germany, Feb 25–29, 2008.

Co-organizer (with Thomas Mikosch and Paul Embrechts) “The Mathematics and Statistics of Quantitative Risk Management,” Oberwolfach, Germany, Mar 17–21, 2008.

Co-Organizer of Graybill VIII Conference, “6<sup>th</sup> International Conference on Extreme Value Analysis,” Fort Collins, CO, June 22–26, 2009.

#### **(vi) Other Reviews**

External reviewer for numerous promotions to full professor and to tenure and associate professor.

Opponent for Nader Tajvidi’s PhD thesis defense, Dec. 6, 1996; Department of Mathematics, U. of Gothenburg.

External PhD examiner for Bojan Basrak PhD defense, June 16, 2000; Department of Mathematics, U. of Groningen.

#### **University Service (CSU)**

Chair, Reappointment Committee for Chair of Computer Science, 2000.

Chair, Search Committee for Chair of Computer Science, 2001–02.

Member, Search Committee for Dean of the College of Natural Sciences, 2001–02.

Chair, Search Committee for Chair of Mathematics, 2002.

Member, Program Review Committee for Electrical and Computer Engineering, 2002.

Member, Executive Committee for Academic Enrichment Program for Bioinformatics, 2005–2007.

#### **Completed Masters Students**

Rocco Ballerina ‘83 (co-advisor with P.J. Brockwell)

Keizo Kinoshita ‘84

Sally Wampler ‘88 (co-advisor with P.J. Brockwell)

Karen Garrett ‘92 (co-advisor with P.J. Brockwell)

Veng Va Lam ‘92 (co-advisor with P.J. Brockwell)

Andy Sleeper ‘94

Ying Wang ‘95

Karin Chu ‘96 (co-advisor with Robert Lund)

Laurie Porth '97 (co-advisor with Duane Boes)  
Francis Parisi '98 (co-advisor with Robert Lund)  
Silvina Diaz '01  
Jeremy Wilhelm '02 (co-advisor with Jan Hannig)  
Melissa Kerchner '05 (co-advisor with Brad Biggerstaff)  
Wing Chan '07

### Completed PhD Students

Ed Mulrow '86 (co-advisor with S.I. Resnick), "*The Convex Hull Of a Random Sample in  $R^2$ .*"

James Marengo '86, "*Limit Theory For a Class Of Multivariate Moving Averages and Related Topics.*"

S.N. Gupta '86 (co-advisor with D.C. Boes) "*Parameter Estimation in Fractionally Differenced ARMA Processes.*"

Jian Liu '87 (co-advisor with P.J. Brockwell), "*Regression, ARMA Processes, and Bilinear Time Series With Finite and Infinite Variance.*"

F. Jay Breidt '91, "*On the Structure Of Innovations For Non-Gaussian Linear Processes.*"

Changhua Chen '91 (co-advisor with P.J. Brockwell), "*Model Selection and Missing Value Estimation in Time Series.*"

Jerry Johnson '92 (co-advisor with P.J. Brockwell), "*Exact Gaussian Likelihood for Irregularly Observed Non-Stationary Processes.*"

Rafe Donahue '92 (co-advisor with P.J. Brockwell), "*Estimation For Nearest 1-Neighbor Moving Average Processes.*"

Meijing Chen '96, "*Estimation and Inference for Non-invertible and Nearly Non-Invertible Moving Average Models.*"

Philippe Naveau '98 (co-advisor with R.L. Tweedie,) "*Almost Sure Convergence of the Maximum of a Stationary Sequence and Asymptotic Properties of Probability Weighted Moments.*"

Matthew Calder '98, "*Estimation of the Parameters of Non-causal Autoregressive Processes With Heavy Tails.*"

Alex Trindade '00 (co-advisor with P.J. Brockwell), "*Modified Burg Algorithms For Multivariate Subset Autoregression.*"

Sarah Streett '00, "*Some Observation Driven Models for Time Series.*"

Sandy Thompson '00 (co-advisor with J. Hoeting), "*Bayesian Model Averaging and Spatial Prediction.*"

Ying Wang '02, "*Modeling Time Series of Counts.*"

Beth Andrews '03, "*Parameter Estimation for All-Pass Time Series Models.*"

Gabriel Rodriguez-Yam '03, "*Estimation for State-Space Models and Bayesian Regression Analysis with Parameter Constraints.*"

Andrew Merton '06 (co-advisor with J. Hoeting), "*Geostatistical Models: Model Selection and Parameter Estimation Under Infill and Expanding Domain Asymptotics*"

Rongning Wu '07, "*Estimation for Some Linear and Nonlinear Time Series Models*"

Yu Yang '07 (co-advisor with P.J. Brockwell), "*Estimation for Lévy-driven CARMA Processes*"

Ke Wang '08 (co-advisor with F. Jay Breidt), "*Spatial Models with Applications in Computer Experiment*"

Wenying Huang '08 (co-advisor with F. Jay Breidt) "*Spatial Processes with Stochastic Heteroscedasticity*"

Stacey Hancock '08 (PhD, co-advisor with Hari Iyer) "*Estimation of Structural Breaks in Nonstationary Time Series*"

Josh French '09, "*Confidence Regions for Level Curves and a Limit Theorem for the maxima of Gaussian Random Fields*"

#### **Columbia Students:**

Li Song '10, "*Inference for Nonstandard MA and Noncausal VAR Models*"

Chun Yip Yau '10, "*A Change-Point Problem and Composite Likelihood Inference in Time Series Models*"

#### **Current Graduate Students**

Ivor Cribben (PhD)

#### **Postdoctoral Fellows**

Gabriel Rodriguez-Yam (11/03 – 6/05)

Daniel Cooley (11/05 – 7/07)

#### **Invited Conference Lectures and Short Courses**

Oct 20–21, 2010. Alaska Chapter of ASA sponsored course, Kodiak, Alaska: *Short Course on Times Series* (14 hours of lectures).

Aug 9–13, 2010. 73<sup>rd</sup> Annual Meeting of IMS, Gothenburg, Sweden: *Another Look at Moving Average Models with a Unit Root*.

June 17–18, 2010. Fourth IGSSE Forum 2010, Raitlenhaslach, Germany: *Another Look at Non-invertible MA Models*.

Apr 26–30, 2010. CIRM Workshop on "Spatio-temporal approaches for risk modeling," Marseille-Luminy: *Measuring Extremal Dependence for Time Series and Spatial Processes via the Extremogram*.

Apr 16, 2010. Volatility and System Risk, Stern School of Business, NYU: *Discussant to Bryan Kelly's paper "Risk Premia and the Conditional Tails of Stocks Returns."*

- Mar 26–27, 2010. Conference on Latest Developments in Heavy-Tailed Distributions, Brussels, Belgium: *Model Fitting for Autoregressive Processes with  $\alpha$ -Stable Noise*.
- Mar 19, 2010. Integration of Extremal Events in Quantitative Risk Management, Institut D’Economie Industrielle, Paris: *The Extremogram: a Correlogram for Extreme Events in a Time Series*.
- Dec 17–19, 2009. Nonlinear Time Series: Threshold Modelling and Beyond: An International Conference in Honour of Professor Howell Tong, Hong Kong: *Another Look at Non-invertible MA Models*.
- Nov 9–13, 2009. Spatio-temporal Extremes and Applications Workshop sponsored by Risk, Rare Events and Extremes Research Program, Bernoulli Center, Ecole Polytechnique Federale de Lausanne: Short course: *Space-time extremes in two parts*:
- *The extremogram: a correlogram for rare events*
  - *Another look at Gaussian processes and associated copulae with a view towards spatial extremes*
- Sep11–12, 2009. NSF/NBER Workshop in Time Series, Davis, CA: *The Extremogram: A Correlogram for Extreme Events*.
- Aug 24–Aug 28, 2009. Oberwolfach Conference on “Challenges in Statistical Theory: Complex Data Structures and Algorithmic Optimization,” Oberwolfach, Germany: *Application of Heteroscedastic Spatial Model to Computer Experiments*.
- Jun 28–Jul 1, 2009. “First IMS Asia Pacific Rim Meetings,” Seoul, Korea: *Spatial Models with Applications in Computer Experiments*.
- May 14–15, 2009. New Directions in Asymptotic Statistics, Athens, GA, keynote address: *The Extremogram: A Correlogram for Extreme Events*.
- Apr 25, 2009. New England Statistics Symposium, University of Connecticut. Featured keynote address: *Allpass Processes with Applications to Finance*.
- Apr 4–8, 2009. Fourth Brazilian Conference on Statistical Modelling in Insurance and Finance, Maresias, Brazil: *Heavy-Tailed Allpass Processes with Applications to Finance*.
- Apr 1, 2009. Satellite Meeting, “New Trends in Actuarial Practice,” Pontificia Universidade Catolica do Rio de Janeiro, Brazil: *The Extremogram: A Correlogram for Extreme Events*.
- Nov 6–7, 2008. “Statistical Modelling Multivariate Dependence and Extremes in Finance,” Oxford-Man Institute of Quantitative Finance, Oxford: *Heavy Tails and Financial Time Series Models*.
- Aug 3–7, 2008. Joint Statistical Meetings, Denver, CO. Session: Financial Economics, sponsored by the Business and Economic Statistics Section: *Inference for Lévy-Driven, Continuous-Time ARMA Processes*.
- Jun 23–26, 2008. “Statistical Modeling of Extremes in Data Assimilation and Filtering Approaches,” Strasbourg, France: *Spatial Models with Applications in Computer Experiments*.
- Jun 23–26, 2008. “Statistical Modeling of Extremes in Data Assimilation and Filtering Approaches,” Strasbourg, France: *Extreme Value Theory in Time Series Analysis*.

Jun 8–11, 2008. “Recent Advance in Time Series Workshop,” Cyprus: *Maximum Likelihood Estimation for  $\alpha$ -Stable and Allpass and Autoregressive Processes*.

Apr 4, 2008. Princeton Day of Statistics: *Maximum Likelihood Estimation for  $\alpha$ -Stable and Allpass and Autoregressive Processes*.

Feb 28–Mar 2, 2008. “Emerging Directions in Probability and Statistics”: South Bend, IN: *Break Detection for a Class of Nonlinear Time Series Models*.

Feb 25–29, 2008. Oberwolfach Workshop “Time Series with Sudden Structural Breaks”: *Some Theory Behind AutoPARM*.

Sep 16–19, 2007. SAMSI Opening Workshop on Risk Analysis, Extreme Events and Decision Theory, Raleigh, NC: *Heavy Tails and Financial Time Series Models*.

July 29–Aug 2, 2007. Joint Statistical Meetings, Salt Lake City, UT, Session: Nonlinear and Nonstationary Time Series Analysis: *Break Detection for a Class of Nonlinear Time Series Models*.

July 23–27, 2007. 5<sup>th</sup> Conference on Extreme Value Analysis, Bern, Switzerland: *Maximum Likelihood Estimation for  $\alpha$ -Stable Autoregressive and Allpass Processes*.

May 23–26, 2007. Statistical Models for Financial Data II, Graz, Austria: *Inference for Lévy-driven Continuous-time ARMA Processes*.

Apr 5, 2007. Clemson/University of Georgia Joint Seminar Lecture at Clemson: *Heavy Tails and Financial Time Series Models*.

Nov 20–24, 2006. Oberwolfach-Seminar “Dependence and Tail Modelling with Applications to Finance, Insurance, Teletraffic, and Climate,” Oberwolfach, Germany. Holger Drees, Thomas Mikosch, and Richard A. Davis, organizers and lecturers.

Nov 9, 2006. Workshop on Statistical Modelling in Insurance and Finance, Pontificia Universidade Católica do Rio de Janeiro, Brazil: *Structural Break Detection in Time Series Models*.

Nov. 6–7, 2006. Workshop on Statistical Modelling in Insurance and Finance, Universidade de São Paulo, São Paulo, Brazil: *Structural Break Detection in Time Series Models*.

Nov. 6–7, 2006. Workshop on Statistical Modelling in Insurance and Finance, Universidade de São Paulo, São Paulo, Brazil: *Heavy Tails and Financial Time Series Models*.

Oct. 18–20, 2006. Time Series Analysis Course for the European Central Bank, Frankfurt, Germany. (18 hours of lectures).

Sep 1–4, 2006. International Conference on Statistics, Combinatorics, and Related Areas, Tomar, Portugal, Plenary Speaker: *Structural Break Detection for a Class of Time Series Models*.

Aug 21–25, 2006. Prague Stochastics 2006, Prague, The Czech Republic: *Another Look at Estimation for MA(1) Processes with a Unit Root*.

June 27–30, 2006. IMS Western Regional Meeting, Flagstaff, Arizona: *Structural Break Detection for a Class of Nonlinear Time Series Models*.

June 24–29, 2006. BIRS Workshop “Statistics at the Frontiers of Science”, Banff International Research Station, Banff, Canada: *Structural Break Detection in Time Series Models*.

June 8–9, 2006. “Extremes in Action: Symposium for Georg Lindgren,” Lund, Sweden: *Extremes of Space-Time Processes with Heavy Tails*.

Jan 23–25, 2006. Waseda Workshop on Time Series Analysis and Its Related Topics, Waseda University, Tokyo, Japan: *Laplace Likelihood and LAD Estimation for Non-invertible MA(1)*.

Dec 12–14, 2005. Statistics and Probability Conference in Memory of Ching-Zong Wei, Academia Sinica, Taipei: *Structural Break Detection in Time Series Models*.

Dec 2–4, 2005. International Meeting on Statistics, Combinatorics, Mathematics, and Applications, Auburn University, Auburn, Alabama: *Structural Break Detection in Time Series Models*.

Sep 22–24, 2005. NSF/NBER Workshop in Time Series, Heidelberg, Germany: *Laplace Likelihood and LAD Estimation for Non-invertible MA(1)*.

Sep 20–21, 2005. Nonlinear and Nonstationary Time Series Workshop, Kaiserslautern, Germany: *Structural Break Detection in Time Series Models*.

Sep 7–9, 2005. Fourth Annual Conference Statistics for Aquatic Resources, Corvallis, Oregon: *Structural Break Detection in Time Series Models*.

Jul 17–20, 2005. IEEE Conference on Signal Processing, Bordeaux, France: *Structural Break Detection in Time Series Signals*.

Jul 6–8, 2005. 13th INFORMS Applied Probability Conference, Ottawa, Canada: *Structural Break Detection in Time Series Models*.

May 21–22, 2005. CIRANO-CIREQ Financial Econometrics Conference, University of Montreal, Montreal, Canada: *Structural Break Estimation in Time Series Models*.

Apr 22–24, 2005. Workshop on Heavy Tails and Long Range Dependence, Cornell University: *Heavy Tails and Financial Time Series Models*.

Mar 24, 2005. Public Lecture Sponsored by Alaska Consortium for Environmental Statistics, Fairbanks, Alaska: *Financial Time Series, Nobel Prize, and Ecology*.

Oct 25–27, 2004. INFORMS Annual Meeting 2004, Denver, Colorado: *Regular Variation and Financial Time Series Models*.

Oct 8, 2004. Mini-Course sponsored by Department of Statistics, University of Lisbon, Lisbon, Portugal.

- *Regular Variation and Financial Time Series Models*
- *Structural Break Detection in Time Series Models*

Oct 1, 2004. MaPhySto Workshop on "Nonlinear Time Series Modeling" sponsored by the Danish National Research Foundation Network in Mathematical Physics and Stochastics, Copenhagen, Denmark: *Extreme Value Theory for Space-Time Processes with Heavy-Tailed Distributions*.

Sept 27–30, 2004. MaPhySto concentrated advance course on "Nonlinear Time Series Modeling" sponsored by the Danish National Research Foundation Network in Mathematical Physics and Stochastics, Copenhagen, Denmark.

- Introduction to Linear and Nonlinear Time Series (4 lectures)

- Time Series Models in Finance (4 lectures)
- Nonlinear and NonGaussian State-Space Models (3 lectures)
- Structural Break Estimation in Time Series (2 lectures)

July 19–23, 2004. Third International Symposium on Extreme Value Theory: Theory and Practice. Aveiro, Portugal. *Extreme Value Theory for Space-Time Processes with Heavy-Tailed Distributions*.

July 12–16, 2004. Australian Statistics Conference and the International Biometrics Conference, Cairns, Australia (Keynote address): *Model Selection for Geostatistical Models*.

June 9–12, 2004. International Workshop on Recent Advances in Time Series Analysis, Protaras, Cyprus (Keynote address): *Structural Break Detection in Time Series*.

June 9–12, 2004. International Workshop on Recent Advances in Time Series Analysis, Protaras, Cyprus (Keynote address): *Parameter- and Observation-Driven State Space Models*.

May 19–22, 2004. Second Lehmann Symposium, Rice University, Houston, Texas: *Regular Variation and Financial Time Series Models*.

Mar 22–25, 2004. International Workshop in Applied Probability, Piraeus, Greece: *Estimation for Generalized State-Space Models*.

Feb 28–29, 2004. International Symposium on Financial Time Series, Tokyo, Japan: *Estimation for State-Space Models*.

Dec 4, 2003. Statistics in Ecology Workshop, Jackson Hole, Wyoming: *Model Selection for Geostatistical Models*. (Talk given by Jennifer Hoeting).

Oct 2–5, 2003. International Conference on Statistics, Combinatorics, and Related Areas, Portland, Maine, Plenary speaker: *Estimation for Parameter-Driven State-Space Models*.

Aug 23–25, 2003. NSF/NBER Workshop in Time Series, University of Chicago: *Estimation for State-Space Models: an Approximate Likelihood Approach*.

Sept 2–3, 2002. Academy Colloquium Masterclass, The Royal Netherlands Academy of Science, Amsterdam, Netherlands: *The Innovations Algorithm and Parameter Driven Models*.

Aug 29–31, 2002. Academy Colloquium, “State Space and Unobserved Components Models in Honour of James Durbin,” The Royal Netherlands Academy of Science, Amsterdam, Netherlands: *Observation Driven Models for Time Series of Counts*.

Aug 11–15, 2002. Joint Statistics Meetings, New York City: *Observation Driven Models for Time Series of Counts*.

July 15–19, 2002. International Conference on Current Advances and Trends in Nonparametric, Crete, Greece: *Maximum Likelihood and R- Estimation for All-Pass Time Series Models*.

June 14–16, 2002. Fourth Biennial Conference on Statistics, Probability and Related Topics, Northern Illinois University: *Maximum Likelihood Estimation for All-Pass Time Series Models*.

Mar 19–21, 2002. German Open Conference on Probability and Statistics, Magdeburg, Germany: *Maximum Likelihood Estimation for All-Pass Time Series Models*.

Jan 14–17, 2002. International Workshop on Applied Probability (plenary speaker) Caracas, Venezuela: *Applications of multivariate regular variation and point processes to financial time series*.

Nov 12–16, 2001. IMA Workshop: Time Series Analysis and Applications to Geophysical Systems, Minneapolis, MN: *Maximum Likelihood Estimation for All-Pass Models*.

Oct 29 – Nov 2, 2001. Oberwolfach Conference on stable laws and processes, Oberwolfach, Germany: *Limit Theory for Some Non-linear Time Series Models Including GARCH and Stochastic Volatility Models*.

June 25, 2001. Satellite Meeting of Japan-US Seminar on Time Series, ISM, Tokyo, JAPAN: *Modeling Time Series of Counts*.

June 18–22, 2001. Japan-US Seminar on Time Series, Kyoto, JAPAN: *Limit Theory for Some Nonlinear Time Series Models Including GARCH and Stochastic Volatility Models*.

September 17–21, 2000. First European Conference on Spatial and Computational Statistics, Ambleside, UK: *Modeling Time Series of Counts*.

June 15, 2000. Miniconference on Probability and Statistics, University of Groningen, Netherlands: *Modeling Time Series of Counts*.

May 15–20, 2000. Fifth World Congress of the Bernoulli Society for Probability and Mathematical Statistics, Guanajuato, Mexico: *Linear Processes with Nonlinear Behavior*.

May 10–12, 2000. Symposium on Inference for Stochastic Processes, Athens, Georgia: *Linear Processes with Nonlinear Behavior*.

Dec 10, 1999. Workshop on Extreme Values and Financial Risk, Munich University of Technology, Munich, Germany: *Linear Time Series Models with Nonlinear Behavior*.

Oct 2–6, 1999. Workshop on Extreme Values and Additive Laws, Lisbon (Estoril), Portugal: *Linear Time Series Models with Nonlinear Behavior*.

Aug 23–25, 1999. NSF/NBER Workshop in Time Series, Academia Sinica, Taipei, Taiwan: *Linear Time Series Models with Nonlinear Behavior*.

April 26–28, 1999. Workshop on Nonlinear Stochastic Models in Finance, EURANDOM, Eindhoven, The Netherlands.

March 28–31, 1999. IMS Spring Meeting, Atlanta, GA. Session: *Invited session on Current Issues in Time Series Analysis*.

Nov 18–19, 1998. Satellite Meeting of Young Dutch Statisticians and Probabilists, Lunteren, Netherlands (2 Lectures).

Nov 16–18, 1998. Annual Meeting of Dutch Statisticians and Probabilists, Lunteren, Netherlands (2 lectures).

October 12–16, 1998. Econometrics and Financial Time Series Workshop, Newton Institute, Cambridge University, UK: *Asymptotic Theory for Some Nonlinear Time Series Models*.

August 18–22, 1998. Extreme Value Theory Workshop, Gothenborg, Sweden.

March 23–27, 1998. Workshop on Time Series sponsored by Centre de Recherches Mathematiques (CRM), Universite de Montreal, Canada: *Modeling Time Series of Counts*.

Oct. 10–11, 1997. NSF/NBER Workshop in Time Series, Duke University: *Recent advances in the unit root problem for MA(1) processes.*

Jun 1–3, 1997. Canadian Statistical Society Annual Meeting, New Brunswick, Canada.

May 4–7, 1997. INFORMS Meeting, San Diego, CA.

Feb 1–18, 1997. Oberwolfach Conference on Extremes and Point Processes, Oberwolfach, Germany: *Point Process Theory of Bilinear and Stochastic Volatility Models.*

Sept 27–29, 1996. First NIU Symposium on Statistical Science, Northern Illinois: *Recent Advances in the Unit Root Problem in Time Series.*

Aug 23, 1996. Satellite Conference on Heavy Tailed Phenomena, Wroclaw, Poland: *Inference for Linear Processes with Stable Noise.*

Dec 2, 1995. Workshop on Stable Distributions, Santa Barbara, CA: *Estimation for ARMA models with heavy tailed noise.*

Nov 17–18, 1995. NSF/NBER Workshop in Time Series, Harvard University: *LAD estimation for time series models.*

Oct 30–31, 1995. Workshop on time series, Washington Statistical Society, Washington D.C. (10 hours of lectures).

Mar 24, 1995. Workshop on Time Series, U. New South Wales, Australia: *LAD Estimation in Time Series.*

Oct 20–21, 1994. Topics in Statistics, U. of Bern, Switzerland, Dept of Statistics: *4 Lectures on Time Series.*

Oct 23–26, 1993. NSF/NBER Workshop in Time Series, Vienna, Austria: *Inference for MA(1) processes with a root on or near the unit circle.*

Mar 1993. 2<sup>nd</sup> International Symposium: Probability and Applications, Bloomington, IN: Session: *Heavy Tail Modeling and Long Range Dependence.*

Aug 1992. Annual Meeting of ASA/IMS, Boston, MA: Session: *Computational Methods in Time Series.*

Nov 19, 1991. Australian Statistical Association, Brisbane Chapter Meeting: *Order Determination for Autoregressive Processes Using Resampling Methods.*

Oct 19–20, 1990. NBER/NSF Workshop in Time Series, La Jolla, CA: *Time-reversibility, Identifiably, and Independence of Innovations for Stationary Time Series.*

Jul 2–27, 1990. Time Series Analysis Workshop, University of Minnesota: *On Noncausal AR Processes, Reversibility, Identifiably, and Estimation.*

Aug 1988. IMS Symposium on Probability and Its Applications, Ft. Collins, CO: Session: *Extreme Value Theory and Applications.*

Dec 1987. Oberwolfach Conference on Dependence in Probability and Statistics, Oberwolfach, Germany.

Aug 1986. Annual Meeting of IMS/ASA, Chicago, IL: Session: *Inference for Stochastic Processes.*

Aug 1986. Nordic Research Course on Extreme Value Theory, Bastad, Sweden.

Aug 1985. 45<sup>th</sup> Session of the International Statistical Institute, Amsterdam, Holland: Session: *Multivariate Extremes*.

Mar 10–15, 1984. Oberwolfach Conference on Extremes and Point Processes, Oberwolfach, Germany.

### **Other Invited Lectures (since 1992)**

Sep 9, 2010. IBM Watson Research Center, Yorktown Heights, NY: *Application of Heteroscedastic Spatial Model to Computer Experiments*.

July 20, 2010. Inaugural Lecture of the IAS Focus Group “Risk Analysis and Stochastic Modeling”, TUM: *Estimating Structural Breaks in Time Series*.

Apr 19, 2010. Quantitative Financial Econometrics Seminar, Stern, NYU: *Estimating Extremal Dependence in Time Series via the Extremogram*.

Mar 30, 2010. Econometrics Seminar, Toulouse: *Structural Break Estimation in Time Series: Theory and Practice*.

Mar 24, 2010. Joint Econometrics and Statistics Seminar (CORE), Université catholique de Louvain, *The Extremogram: A Correlogram for Extreme Events*.

Mar 9, 2010. Operations Research and Industrial Engineering Colloquium, Cornell University: *Allpass Processes with Application to Finance*.

Nov 3, 2009. Center for Statistical Sciences and Department of Applied Mathematics, Brown University: *Application of Heteroscedastic Spatial Model to Computer Experiments*.

May 27, 2009. Institute for Advanced Study, Technical University of Munich, *The Extremogram: A Correlogram for Extreme Events*

May 7, 2009. Department of Statistics, University of California, Davis: *Allpass Processes with Applications to Finance*.

Mar 3, 2009. Department of Statistics, Michigan State University: *The Extremogram: A Correlogram for Extreme Events*.

Feb 12, 2009. Department of Statistics, University of Toronto: *The Extremogram: A Correlogram for Extreme Events*

Jan 13, 2009. The Chinese University of Hong Kong, Statistics Department Seminar: *Spatial Models with Applications in Computer Experiments*

Dec 2, 2008. Operations Research and Financial Engineering Colloquium, Princeton: *The Extremogram: A Correlogram for Extreme Events*

Nov 4, 2008. Joint Econometrics and Statistics Workshop Seminar, London School of Economics: *Structural Break Estimation in Time Series: Theory and Practice*

Oct 23, 2008. Econometrics Workshop, Columbia University: *Structural Break Estimation in Time Series: Theory and Practice*

Jul 3, 2008. Université de Paris X, Nanterre Mathematics Seminar: *Structural Break Estimation in Time Series: Practice and Theory*

Apr 23, 2008. Wharton Statistics Colloquium: *Structural Break Detection for Nonlinear Time Series*.

Apr 11, 2008. Joint Washington State University and University of Idaho Statistics and Applied Probability Seminar: *Structural Break Detection for Nonlinear Time Series*.

Apr 1, 2008. Applied Mathematics Colloquium, Columbia University: *Spatial Heteroscedastic Models with Applications in Computer Experiments*.

Nov 30, 2007. IOMS Department Seminar, Stern School of Business, New York University: *Another Look at Estimation for MA(1) Processes with a Unit Root*.

Oct 31, 2007. Department of Statistics, Rutgers University: *Structural Break Detection in Time Series Models*.

Oct 26, 2007. Department of Statistics, University of Michigan: *Structural Break Detection in Time Series Models*.

Sep 7, 2007. Probability Seminar, Columbia University: *Another Look at Estimation for MA(1) Processes with a Unit Root*.

Apr 24, 2007. College of Natural Sciences, Professor Laureate Lecture: *The Dynamics of Change: Volatility and Where to Find It*.

Apr 4, 2007. Distinguished Lecturer in the Mathematical Sciences, Clemson University: *Structural Break Detection in Time Series Models*.

Jan 22, 2007. Department of Statistics, University of Chicago: *Another Look at Estimation for MA(1) Processes with a Unit Root*.

Sep 15, 2006. National Center for Atmospheric Research, Institute for Mathematics Applied to Geosciences: *Structural Break Detection for a Class of Time Series Models*.

May 1, 2006. Department of Statistics, Columbia University, New York: *Structural Break Detection in Time Series Models*.

Apr 27, 2006. Department of Statistics, University of California, Davis. *Structural Break Detection in Time Series Models*.

Nov 9, 2005. Charles University, Prague, The Czech Republic: *Structural Break Detection in Time Series Models*.

Mar 25, 2005. Inaugural Alaska Consortium for Environmental Statistics (ACES), University of Alaska, Fairbanks, Alaska: *Thoughts on Model Selection*.

Oct 21, 2004. Mathematics Colloquium, Washington University, St. Louis: *Structural Break Detection in Time Series Models*.

Oct 5, 2004. Department of Mathematical Statistics, Lund University, Lund, Sweden. *Structural Break Detection in Time Series Models*.

March 31, 2004 Department of Statistical Science, Cornell University. *Estimation for State-Space Models with Application to Structural Break Detection*.

November 12, 2003. Department of Mathematics and Applied Statistics, University of Wollongong: *R-Estimation for All-Pass Time Series Models*.

October 15, 2003. Department of Statistics, University of Copenhagen: *Estimation for State-Space Models: an Approximate Likelihood Approach*.

September 3, 2003. Department of Statistics, University of New South Wales: *Estimation for State-Space Models: an Approximate Likelihood Approach*.

November 13, 2002. Joint Mathematics and Statistics Distinguished Lecture Series, University of Wyoming: *Estimation for Nonlinear State-Space Models*.

October 30, 2002. Statistics Colloquium, University of Connecticut: *Application of the Innovations Algorithm to Nonlinear State-Space Models*.

October 29, 2002. IBM Watson Research Center, Yorktown Heights, NY: *Application of the Innovations Algorithm to Nonlinear State-Space Models*.

September 27, 2001. Mathematics and Statistics Colloquium, Utah State University: *Linear Time Series with Nonlinear Behavior*.

April 20, 2001. Mathematics Colloquium, U. of North Carolina, Charlotte: *Sample Autocorrelation Functions for Financial Time Series Models*.

Nov 17, 2000. Applied Mathematics Colloquium, U. of Colorado: *Multivariate Regular Variation with Application to Financial Time Series Models*.

Nov 8, 2000. Econometrics and Statistics Colloquium, sponsored by the Graduate School of Business and the Statistics Department, University of Chicago: *Sample Autocorrelation Functions for Financial Time Series Models*.

Apr 12, 2000. Econometrics Seminar, Ohio State University: *Limit Theory for Some Nonlinear Time Series Models Including GARCH and Stochastic Volatility Models*.

Apr 11, 2000. Statistics Colloquium, Ohio State University: *Linear Processes with Nonlinear Behavior*.

Dec. 9, 1999. Demonstration of the ITSM2000 software, Munich University of Technology, Munich, Germany.

Aug 30, 1999. Academia Sinica, Institute of Statistical Science, Taipei, Taiwan: *Limit Theory for Some Nonlinear Time Series Models*.

Apr 22, 1999. University of Groningen, Department of Mathematics: *Recent Developments in the Unit Root Problem for Moving Averages*.

Nov 14, 1998. University of Groningen, Department of Mathematics: *Estimation for Nonstandard Time Series Models*.

Apr 23, 1998. Colorado State University, Dept of Mathematics: *Limit Theory for Nonlinear Time Series Models*.

Apr 10, 1998. Colorado School of Mines, Dept of Mathematics: *LAD estimation for time series models*.

Jan 30, 1998. University of Colorado at Colorado Springs, Dept of Mathematics: *LAD estimation for time series models*.

Jan 31, 1997. University of Bern, Dept of Statistics: *LAD estimation for time series models.*

Dec 6, 1996. University of Gothenburg, Dept of Mathematics: *Opponent for Nader Tajvidi's PhD thesis defense.*

Dec 5, 1996. University of Gothenburg, Dept of Mathematics: *LAD estimation for time series models.*

Dec 12, 1995. Cornell University, Dept of ORIE: *Inference for MA(1) processes with a root on or near the unit circle.*

May 17, 1995. RMIT, Dept of Statistics: *LAD Estimation in Time Series.*

Mar 17, 1995. U. of Sydney, Dept of Statistics: *Inference for MA(1) processes with a root on or near the unit circle.*

Nov 17, 1994. U. of Georgia, Dept of Statistics: *Inference for MA(1) processes with a root on or near the unit circle.*

Oct 26, 1994. Yale University, Dept of Econometrics: *Inference for MA(1) processes with a root on or near the unit circle.*

Oct 24, 1994. U. of Heidelberg, Germany, Dept of Statistics: *Inference for MA(1) processes with a root on or near the unit circle.*

May 25, 1994. UNSW, Dept of Statistics: *Processes With Infinite Variance.*

May 23, 1994. RMIT, Dept of Mathematics: *Processes With Infinite Variance.*

Oct 28, 1993. University of Gothenburg, Dept of Mathematics: *Inference for MA(1) processes with a root on or near the unit circle.*

Oct 25, 1993. Lund University, Dept of Statistics: *Inference for MA(1) processes with a root on or near the unit circle.*

Nov 13, 1992. York University, Dept of Mathematics: *Point process and partial sum convergence for weakly dependent random variables with infinite variance.*

Nov 12, 1992. University of Toronto, Dept of Statistics: *Inference for MA(1) processes with a root on or near the unit circle.*

Apr 3, 1992. University of Northern Illinois, Dept of Mathematics: *Improved Bootstrap Forecast Intervals for Autoregressions.*

Apr 2, 1992. University of Illinois, Dept of Statistics: *Order Determination for Autoregressive Processes Using Resampling Methods.*

Feb 21, 1992. NYU School of Business: *Improved Bootstrap Forecast Intervals for Autoregressions.*

## **Research Grant History**

Office of Naval Research, ONR N0014-75-C-0428. Two months' salary. 1978, Mathematics Department, University of California at San Diego.

National Science Foundation, NSF MCS 78-01108. Four months' salary. 1979, Mathematics Department, University of California at San Diego.

National Science Foundation, NSF MCS 79-04474. Two months' salary. 1980, Mathematics Department, M.I.T.

National Science Foundation, NSF MCS 80-05483. Two months' salary. 1981, Mathematics Department, M.I.T.

National Science Foundation, NSF MCS 82-92335. Two months' salary. Principal Investigator (with P. J. Brockwell and S. I. Resnick), 1982–1985, Statistics Department, Colorado State University.

National Science Foundation: Travel grant to attend a NATO Advance Study Institute in Vimeiro, Portugal, 1983.

ASA Travel Grant to attend 45<sup>th</sup> Session of the International Statistical Institute, Amsterdam, Holland, August 12–22, 1985.

National Science Foundation, NSF MCS 85-01763. Two months' salary. Principal Investigator (with P. J. Brockwell and S. I. Resnick), 1985–1988, Statistics Department, Colorado State University.

National Science Foundation, NSF MCS 88-02559. Two months' salary. Principal Investigator, 1988–1991, Statistics Department, Colorado State University.

National Science Foundation (SCREMS) NSF DMS 9105745. The award consisted of \$20,000 with \$30,000 matching funds from CSU for computer equipment. Principal Investigator (with P. J. Brockwell), 1991–1992, Statistics Department, Colorado State University.

National Science Foundation, NSF DMS 9100392. Two months' salary. Principal Investigator (with P. J. Brockwell), 1991–1994, Statistics Department, Colorado State University.

National Science Foundation, NSF DMS 9504596 . \$210,000. Principal Investigator (with P. J. Brockwell and M. Rosenblatt), 1995–1998, Statistics Department, Colorado State University.

ARS-USDA grant for prediction of peak power demand (2-month salary plus 2-year graduate student support), Aug `97–May `99.

ARS-USDA grant "Statistical Modeling for Farm Operations" (Co-PI with J. Hoeting) \$20K 1999. (supports graduate student and some salary for Hoeting).

USDA-USFS - Rocky Mtn. Research Station - CO "Statistical Estimation for Annual Forest Inventory and Modeling" \$29K 1999. (Supports graduate student on a research project.)

USDA Forest Service, "Small Area Estimation Techniques" \$27K, 1999. (Supports graduate student on a research project.)

National Science Foundation, NSF DMS-9972015. \$200,000. Principal Investigator (with P. J. Brockwell), 1999–2002, Statistics Department, Colorado State University.

Environmental Protection Agency (STAR-Program), "Applying Spatial and Temporal Models of Statistical Surveys to Aquatic Resources" (\$3 million) (Co-PIs: Davis and Urquhart), 2001–2005, Statistics Department, Colorado State University.

National Science Foundation IGERT Program, NSF DMS-0221595. \$2.85M. “Program for Interdisciplinary Mathematics, Ecology, and Statistics (PRIMES).” (PI R. Davis; co-PIs D. Estep, T. Hobbs, R. Miranda), 2003–2008, Colorado State University.

National Science Foundation, NSF DMS-0308109. \$450,000. “Applied Probability and Time Series Modeling.” (Co-PI with P. J. Brockwell), 2003–2006, Statistics Department, Colorado State University.

2003 IBM Faculty Award “Estimation for Time Series Models with Structural Breaks”, \$40,000.

National Science Foundation, NSF EF-0434354. \$500,000. “Applied MSPA-CSE: Novel A Posteriori Analysis of Ecological Models: The Carbon Cycle.” (PI D. Estep; co-PIs D. Ojima, F. J. Breidt, R.A. Davis), 2004–2007, Colorado State University.

National Science Foundation, NSF DMS-0529803. \$5,000. REU “Applied Probability and Time Series Modeling” (support for undergraduate student Michael Li) 2005.

CSU Academic Enrichment Program for Bioinformatics \$1.3M (principal writer with Tom Holtzer, Jeff Wilusz, and Hari Iyer).

National Science Foundation, NSF DMS-0743459 & 0744058. \$330,000. “Collaborative Research: Applied Probability and Time Series Modeling.” (PI with P. J. Brockwell at CSU), 2007–2010, Statistics Departments at Columbia University and Colorado State University.

National Science Foundation, NSF DMS “Sixth International Conference on Extreme Value Analysis.” (PI: R. Davis) 2009, Statistics Department at Columbia University.

## Book Reviews

Lambert, P. J. and Poskitt, D.S., Stationary Processes in Time Series Analysis, *JASA* 79 (1984), 484.

Leadbetter, M. R., Lindgren, G. and Rootzen, H., Extremes and Related Properties of Random Sequences and Processes, *JASA* 80 (1985), 251.

Tanaka, Katuso, Time Series Analysis: Nonstationary and Noninvertible Distribution Theory, *JASA* 93 (1998), 834–835.

## Software

Brockwell, P.J., Davis, R.A., and Mandarino, J.V. (1987). *Time Series: Theory and Methods Software*. Springer-Verlag, New York.

Brockwell, P.J. and Davis, R.A. (1991). *ITSM: An Interactive Time Series Modeling Package for the PC*. Springer-Verlag, New York.

Brockwell, P.J. and Davis, R.A. (1992). *ITSM: An Interactive Time Series Modelling Package for the SPARC workstation*. Springer-Verlag, New York.

Brockwell, P.J. and Davis, R.A. (2000). *ITSM2000* A new windows release of the ITSM software on CD that accompanies the fourth printing of the book, *Introduction to Time Series and Forecasting*. Springer-Verlag, New York.

## Books

- Brockwell, P.J. and Davis, R.A. (1987). *Time Series: Theory and Methods*. Springer-Verlag, New York.
- Brockwell, P.J. and Davis, R.A. (1991). *Time Series: Theory and Methods, 2nd Edition*. Springer-Verlag, New York. (Chinese translation published in 2001, paperback in 2009.)
- Brockwell, P.J. and Davis, R.A. (1991). *ITSM: An Interactive Time Series Modeling Package for the PC (the manual for ITSM)*. Springer-Verlag, New York.
- Brockwell, P.J. and Davis, R.A. (1994). *ITSM for Windows: A guide to time series modeling*. Springer-Verlag, New York.
- Brockwell, P.J. and Davis, R.A. (1996). *Introduction to Time Series and Forecasting.*, Springer-Verlag, New York. (Japanese translation published in 1999.)
- Brockwell, P.J. and Davis, R.A. (2002). *Introduction to Time Series and Forecasting, 2<sup>nd</sup> Edition*. Springer-Verlag, New York.
- Andersen, T. G., Davis, R.A., Kreiss, J.-P., Mikosch, T. editors. (2009). *Handbook of Financial Time Series*. Springer-Verlag, New York.
- Davis, R.A., Lii, K-S, and Politis, D., editors, (2011). *Selected Works of Murray Rosenblatt*, Springer Science + Business Media, LLC.

## Interviews/Edited Issues

- Brillinger, David R. and Davis, Richard A. (2009). “A Conversation with Murray Rosenblatt”, *Statistical Science* **24**, 116–140.
- Pourahmadi, Mohsen and Davis, Richard (2010). Special Issue in Honor of Emanuel Parzen on the Occasion of his 80th Birthday and Retirement from the Department of Statistics, Texas A&M University. *Journal of Statistical Planning and Inference*, **140** (Issue 12), 3577-3874.

## Papers

- Davis, R.A. (1979). Maxima and minima of stationary processes. *Annals of Probability* **7**, 453–460.
- Chernick, Michael R. and Davis, Richard A. (1982). Extremes in autoregressive processes with uniform marginal distributions. *Statistics and Probability Letters* **1**, 85–88.
- Davis, R.A. (1982). The rate of convergence in distribution of the maxima, *Statistica Neerlandica* **36**, 31–35.
- Davis, R.A. (1982). Extremes of one-dimensional diffusions. *Stochastic Processes and Their Applications* **13**, 1–9.
- Davis, R.A. (1982). Limit laws for the maximum and minimum of stationary sequences. *Z. Wahrscheinlichkeitstheorie und verw Gebiete* **61**, 31–42.
- Davis, R.A. (1983). Limit laws for upper and lower extremes from stationary mixing sequences. *J. Multivariate Analysis* **13**, 273–286.
- Davis, R.A. (1983). Stable limits for partial sums of dependent random variables. *Annals of Probability* **11**, 262–269.

- Davis, R.A. (1984). On upper and lower extremes in stationary sequences. *Statistical Extremes and Applications*, Tiago de Oliveira, Ed., 443–460. Reidel Publishing Company.
- Davis, R.A. and Resnick, S.I. (1984). Tail estimates motivated by extreme value theory. *Annals of Statistics* **12**, 1467–1487.
- Davis, R.A., Marengo, J., and Resnick, S.I. (1985). Extremal properties of a class of multivariate moving averages. *Proceedings of the 45<sup>th</sup> Session of the International Statistical Institute*, Vol. 4, Amsterdam. (With discussion. *Bull. Inst. Internat. Statist.* Vol. V, (1985), 185–192.)
- Davis, R.A. and Resnick, S.I. (1985). Limit theory for moving averages of random variables with regularly varying tail probabilities. *Annals of Probability* **13**, 179–197.
- Davis, R.A. and Resnick, S.I. (1985). More limit theory for the sample correlation function of moving averages. *Stochastic Processes and Their Applications* **20**, 257–279.
- Davis, R.A. and Resnick, S.I. (1986). Limit theory for the sample covariance and correlation function of moving averages. *Ann. Statist.* **14**, 533–558.
- Davis, R.A. and Resnick, S.I. (1986). Limit theory for the sample correlation function of moving averages. *Dependence in Probability and Statistics* (Eberlein and Taquq, Editors). Birkhäuser, 417–426.
- Yao, Y.C. and Davis, R.A. (1986). The asymptotic behavior of the likelihood ratio statistic for testing a shift in mean in a sequence of independent normal variables. *Sankya* **48**, 339–353.
- Davis, R.A., Mulrow, E., and Resnick, S.I. (1987). The convex hull of a random sample in  $\mathbb{R}^2$ . *Stochastic Models* **3**, 1–28.
- Brockwell, P.J. and Davis, R.A. (1988). On the applications of innovation representation in time series analysis. *Probability and Statistics: Essays in Honor of Franklin A. Graybill* (J. N. Srivastava, editor). North Holland, 61–84.
- Brockwell, P.J. and Davis, R.A. (1988). Simple consistent estimation of the coefficients of a linear filter. *Stochastic Processes and Their Applications*, 47–59.
- Davis, R.A. (1988). Discussion of ‘Extreme values-theory and technical applications’ by G. Lindgren and H. Rootzén. *Scandinavian Journal of Statistics* **14**, 271–274.
- Davis, R.A., Mulrow, E., and Resnick, S.I. (1988). Almost sure limit sets of random samples in  $\mathbb{R}^d$ . *Adv. Appl. Prob.* **20**, 573–599.
- Davis, R.A. and Resnick, S.I. (1988). Extremes of moving averages of random variables from the domain of attraction of the double exponential distribution. *Stochastic Processes Appl.* **30**, 41–68.
- Boes, D.C., Davis, R.A., and Gupta, S. (1989). Parameter estimation in low order fractionally differenced ARMA processes. *Stochastic Hydrol. and Hydraul.* **3**, 97–110.
- Davis, R.A. and McCormick, W.P. (1989). Estimation for first-order autoregressive processes with positive or bounded innovations. *Stochastic Processes and Their Applications* **31**, 237–250.
- Davis, R.A. and Resnick, S.I. (1989). Basic properties and prediction of max-ARMA processes. *Adv. App. Prob.* **21**, 781–803.

- Breidt, F.J., Davis, R.A., Lii, K.S., and Rosenblatt, M. (1990). Nonminimum phase non-Gaussian autoregressive processes. *Proc. Natl. Acad. Sci.* **Vol. 87**, 179–181.
- Davis, R.A. and Marengo, J. (1990). Limit theory for the sample covariance and correlation matrix function of a class of multivariate linear processes. *Stochastic Models* **6**, 483–498.
- Breidt, F.J., Davis, R.A., Lii, K.S., and Rosenblatt, M. (1991). Maximum likelihood estimation for noncausal autoregressive processes, *J. Multivariate Analysis* **36**, 175–198.
- Brockwell, P.J., Davis, R.A., and Salehi, H. (1991). A state-space approach to transfer-function modeling. *Statistical Inference in Stochastic Processes* (N.U. Prabhu and I.V. Basawa, Editors). Marcel Dekker, 233–248.
- Davis, R.A. and Resnick, S.I. (1991). Extremes of moving averages of random variables with finite endpoint. *Ann Probability* **19**, 312–328.
- Davis, R.A. and Rosenblatt, M. (1991). Parameter estimation for some time series models without contiguity. *Statistics and Probability Letters* **11**, 515–521.
- Breidt, F.J. and Davis, R.A. (1992). Time-reversibility, identifiability, and independence of innovations for stationary time series. *J. of Time Series Analysis* **13**, 377–390.
- Breidt, F.J., Davis, R.A., and Dunsmuir, W.T.M. (1992). On backcasting in linear time series models. *New Directions in Time Series Analysis, Part I* (Brillinger, Caines, Geweke, Parzen, Rosenblatt, and Taquq, editors). Springer-Verlag, 25–40.
- Brockwell, P.J., Davis, R.A., and Salehi, H. (1992). Transfer function models with non-stationary inputs. *New Directions in Time Series Analysis, Part I* (Brillinger, Caines, Geweke, Parzen, Rosenblatt, and Taquq, editors). Springer-Verlag, 65–74.
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- Chen, C., Davis, R.A., Brockwell, P.J., and Bai, Z.D. (1993). Order determination for autoregressive processes using resampling methods. *Statist. Sinica* **3**, 481–500.
- Davis, R.A. and Resnick, S.I. (1993). Prediction of stationary max-stable processes. *Ann. of Applied Probab* **3**, 497–525.
- Davis, R.A., Yao, Y.C., and Huang, D. (1994). On almost sure convergence of change-point estimators. *Change-point Problems* (Carlstein, Müller and Siegmund, editors). Institute of Mathematical Sciences, Lecture Notes-Monograph Series, **Volume 23**, 359–372.
- Breidt, F.J., Davis, R.A., and Dunsmuir, W.T.M. (1995). Improved bootstrap forecast intervals for autoregressions. *J. Time Series Anal.* **16**, 177–200.
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- Davis, R.A., Huang, D. and Yao, Y.C. (1995). Testing for a change in the parameter values and order of an autoregressive model. *Ann. Statist.* **23**, 282–304.

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- Chen, C., Davis, R.A., and Brockwell, P.J. (1996). Order determination for multivariate autoregressions using resampling methods. *J. Multivariate Analysis*, **57**, 175–190.
- Davis, R.A., Chen, M., and Dunsmuir, W.T.M. (1996). Inference for Seasonal Moving Average Models With a Unit Root. *Athens Conference on Applied Probability and Time Series: Volume II: Time Series Analysis in Memory of E.J. Hannan* (P.M. Robinson and M. Rosenblatt, editors), Springer-Verlag, 160–176.
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- Davis, R.A. and Dunsmuir, W.T.M. (1996). Maximum likelihood estimation for MA(1) processes with a root on or near the unit circle. *Econometric Theory* **12**, 1–29.
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- Calder, M. and Davis, R.A. (1997). Introduction to Whittle (1953) “The Analysis of Multiple Stationary Time Series”, *Breakthroughs in Statistics*, **Volume 3** (Kotz and Johnson, editors), Springer-Verlag, 141–148.
- Davis, R.A. and Dunsmuir, W.T.M. (1997). Least Absolute Deviation Estimation for Regression with ARMA Errors. *J. Theoretical Prob.* **10**, 481–497.
- Davis, R.A. and Wu, W. (1997).  $M$ -estimation for linear regression with infinite variance. *Probability and Mathematical Statistics* **17**, 1–20.
- Davis, R.A. and Wu, W. (1997). Bootstrapping  $M$ -Estimates in Regression and Autoregression with Infinite Variance. *Statistica Sinica*, **7**, 1135–1154.
- Breidt, F.J. and Davis, R.A. (1998). Extremes of Stochastic Volatility Models. *Ann. of Applied Prob.* **8**, 664–675.
- Calder, M. and Davis, R.A. (1998). Inference for Linear Processes with Stable Noise. *A practical Guide to Heavy Tails: Statistical Techniques and Applications* (Adler, R., Feldman, R., and Taqqu, M., editors) Birkhäuser, Boston, 159–176.
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- Basrak, B., Davis, R.A., and Mikosch, T. (1999). The Sample ACF of a Simple Bilinear Process. *Stoch. Process. Appl.* **83**, 1–14.
- Davis, R.A., Dunsmuir, W.T.M., and Wang, Y. (1999). Modelling Time Series of Count Data. *Asymptotics, Nonparametrics, and Time Series* (Subir Ghosh, editor) Marcel-Dekker, New York, 63–114.

- Davis, R.A. and Mikosch, T. (1999). The Maximum of the Periodogram of a Non-Gaussian Sequence. *Annals of Probability* **27**, 522–536.
- Davis, R.A., Dunsmuir, W.T.M., and Wang, Y. (2000). On Autocorrelation in a Poisson Regression Model. *Biometrika* **87**, 491–506.
- Brockwell, P.J. and Davis, R.A. (2000). Describing Data Over Time. CyberStats: An Introduction to Statistics, CyberGnostics. (CyberStats is a course delivered entirely on the Web.)
- Davis, R.A. and Mikosch, T. (2000). The Sample Autocorrelations of Financial Time Series Models. *Nonlinear and Nonstationary Signal Processing*, (W.J. Fitzgerald, R.L. Smith, A.T. Walden, P. Young, editors), Cambridge University Press, Cambridge, England, 247–274.
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