Confidential

Curriculum Vitae
for

Leigh Andrea Johnston

Personal Details

Name	Leigh Andrea Johnston
Date of Birth	23 September 1973
Citizenship	Australian
Occupation	Research Fellow in Statistical Signal Processing
Address	Department of Electrical and Electronic Engineering The University of Melbourne 3010 VIC, Australia
Phone	+ 61 3 8344 4962
Fax	+ 61 3 8344 6678
Email	l.johnston@ee.mu.oz.au

Education

1997 – 2000	Ph.D., Commonwealth Research Centre for Sensor, Signal and Information Processing, Department of Electrical and Electronic Engineering, University of Melbourne, Australia Thesis title: *Iterative Algorithms for Estimation of Nonlinear Stochastic Dynamical Systems* Supervisor: Professor Vikram Krishnamurthy
Aug. – Oct. 1998	PhD Research, Signals, Sensors and Systems Department, Royal Institute of Technology (KTH), Stockholm, Sweden
1992 – 1996	Bachelor of Engineering (Electrical) (1st class Honours), and Bachelor of Science (Computer Science and Statistics) University of Melbourne, Australia
1996 (12 months)	Student Exchange, Queen's University, Ontario, Canada

Recent Employment History

Jul.2000 – Jun.2001	Postdoctoral Research Assistant, Centre for Systems Engineering and Applied Mechanics, Université catholique de Louvain, Belgium
Summer 1998,1999,2000	Lecturer, 2nd and 3rd Year Mathematics for Engineers summer courses, University of Melbourne
Semester 2 1999	Lecturer, 2nd Year Engineering Analysis A course, Mechanical and Manufacturing Engineering stream, University of Melbourne
1998	Tutor, 4th Year Mechanical and Manufacturing Engineering course, Optimisation for Productive Systems I, University of Melbourne
1997 – 2000	Tutor, 2nd and 3rd Year Mathematics for Engineers courses, Melbourne University

Awards and Achievements

1997 – 2000	Australian Postgraduate Award (APA)
1997 – 2000	CSSIP Supplementary Scholarship
1996	University of Melbourne Exchange Bursary
1995	John Monash Exhibition in Electrical Engineering
1992	Australian Students' Prize
1992	OTC Scholarship for Women in Electrical Engineering
1992	Offered National Undergraduate Scholarship
1991 – 1996	CRA Scholar

Computing Experience

Languages	Highly proficient in C, Miranda, Pascal, Fortran, ML Some experience in Prolog, SQL, Nial and C^{++}
Packages	Matlab, Maple, LaTeX, Splus
Systems	Unix, Windows and MS-DOS, Mac-O/S

Other

July 2001	Competed in 2001 European Ultimate Club Championships, Czech Republic
2000 – 2001	Member of the Brussels Ultimate Frisbee team
1999	Faculty of Engineering Board, Postgraduate Representative
1998 – 1999	Elec. Eng. Dept. Occupational Health and Safety Committee
1998 – to date	Member of the IEEE
1997 – 2000	Competed in the Australian Ultimate Frisbee Nationals as member of the Victorian Women's Ultimate Team
1991 – 2000	Allan Hessey Big Band Member, Tenor Saxophone
1996	Queen's University Ultimate Frisbee Team Member
1994 – 1995, 1997	Executive Committee Member, University of Melbourne Soccer Club
1993 – 1995, 1997	University of Melbourne Women's Soccer Team Member

Journal Papers

- L.A. Johnston and M. Gevers, *A comparison of model order reduction approaches*, in prep'n, 2001.
- L.A. Johnston and V. Krishnamurthy, *An improvement to the interacting multiple model (IMM) algorithm*, to appear, IEEE Transactions on Signal Processing, December 2001.
- L.A. Johnston and V. Krishnamurthy, *Performance Analysis of a Dynamic Programming Track Before Detect Algorithm*, to appear, IEEE Transactions on Aerospace and Electronic Systems, Vol. 38, No. 1, January 2002.
- L.A. Johnston and V. Krishnamurthy, *Derivation of a sawtooth iterated extended Kalman smoother via the AECM algorithm*, IEEE Transactions on Signal Processing, Vol. 49, No. 9, pp. 1899-1909, September 1999.
- L.A. Johnston and V. Krishnamurthy, *Finite dimensional smoothers for MAP state estimation of bilinear systems*, IEEE Transactions on Signal Processing, Vol. 47, No. 9, pp. 2444-2459, September 1999.
- L.A. Johnston and V. Krishnamurthy, *Hidden Markov model algorithms for narrowband interference suppression in CDMA spread spectrum systems*, Signal Processing, Vol. 79, pp. 315-324, 1999.

Conference Papers

- L.A. Johnston, V. Krishnamurthy and L. Davis, *On the formation of extrinsic information in Turbo decoding*, 2001 IEEE International Symposium on Information Theory, Washington D.C., p.192, June 2001.
- L.A. Johnston and M. Gevers, *Iterative methods for reduced order estimation*, Benelux Meeting on Systems and Control, La Houffalize, p. 99, March 2001.
- L.A. Johnston and V. Krishnamurthy, *Performance analysis of a track before detect dynamic programming algorithm*, ICASSP'2000, Istanbul, Turkey, pp. 49-52, June 2000.
- L.A. Johnston and V. Krishnamurthy, *On the equivalence of the extended Kalman smoother and the Expectation Maximisation algorithm*, IFAC'99, Beijing China, Vol. H, pp. 145-150, July 1999.
- L.A. Johnston, C. Carlemalm and A. Logothetis, *A modal approach to time delay estimation in asynchronous CDMA systems*, 1999 Canadian Workshop on Information Theory, Kingston, Canada, pp.91-94, June 1999.
- L.A. Johnston and V. Krishnamurthy, *Mode–matched filtering via the EM algorithm*, 1999 American Control Conference, San Diego, pp.1930-1934, June 1999.
- L.A. Johnston and V. Krishnamurthy, *On the equivalence of the extended Kalman smoother and the Expectation Maximisation algorithm for polynomial signal models*, 1999 Conference on Information, Decision and Control, Adelaide, Australia, pp.303-308, February 1999.
- L. Johnston and V. Krishnamurthy, *Finite dimensional hybrid smoothers*, 37th IEEE Conf. on Decision and Control, Tampa, Florida, pp.3942-3947, December 1998.
- L.A. Johnston and V. Krishnamurthy and A. Logothetis, *Iterative algorithms for optimal MAP estimation of bilinear systems*, 1998 IEEE International Symposium on Information Theory, MIT, Massachusetts, p.23, August 1998.
- L.A. Johnston and V. Krishnamurthy, *A recursive prediction error algorithm for narrowband interference suppression in spread spectrum systems*, 1998 IEEE International Conference on Communications, Atlanta, USA, pp.733-737, June 1998.
- V. Krishnamurthy, L. Johnston and A. Logothetis, *Optimal MAP estimation of bilinear systems via the EM algorithm*, ICASSP'98, pp.2373-2376, Seattle, USA, May 1998.

Referees

- **Professor Vikram Krishnamurthy**
  Department of Electrical and Electronic Engineering
  University of Melbourne
  Victoria 3010 Australia
  61-3-8344 6702
  v.krishnamurthy@ee.mu.oz.au

- **Associate Professor Doreen Thomas**
  Head of Department of Electrical and Electronic Engineering
  University of Melbourne
  Victoria 3010 Australia
  61-3-8344 6663
  d.thomas@ee.mu.oz.au

- **Professor Michel Gevers**
  Centre for Systems Engineering and Applied Mechanics
  Université catholique de Louvain
  Bâtiment Euler
  Avenue Georges Lemaître 4,
  1348 Louvain-la-Neuve Belgium
  gevers@auto.ucl.ac.be

- **Dr. Linda Davis**
  Global Wireless Systems Research
  Bell Laboratories, Lucent Technologies
  Level 1, 68 Waterloo Road
  North Ryde, NSW, 2113, Australia
  lindadavis@lucent.com