PERSONAL DATA RÉSUMÉ

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CITIZENSHIP
Australian and Argentinian

EDUCATION

1992-96	Ph.D. degree in Electrical Engineering from the University of Newcastle, Australia.
College 1981-89	*Ingeniero Electrónico* (Electronic Engineer) degree from the Universidad Nacional de Rosario (UNR), Rosario, Argentina.

RESEARCH EXPERIENCE

Jan. 2008 to date	Research Academic, Programme Leader (Industrial Control and Optimisation) and Project Leader (Optimisation-Based Operator Guidance, in partnership with BHP Billiton), ARC Centre of Excellence for Complex Dynamic Systems and Control, The University of Newcastle, Australia.
Aug. 2002 to Dec. 2007	Research Academic and Project Leader (Optimisation-Based Operator Guidance, in partnership with BHP Billiton), Centre for Complex Dynamic Systems and Control, The University of Newcastle, Australia.
Nov. 2001 to Mar. 2004	Research Fellow (*Investigador Adjunto*), Argentina National Council for Scientific Research and Technology (CONICET). Project: “Performance of Nonlinear Control Systems.”
Aug. 1999 to Aug. 2002	Associate Professor, Department of Science and Technology, Universidad Nacional de Quilmes, Argentina.
Mar. 1998 to Jul. 1999	Research Academic at the Department of Electrical and Computer Engineering, The University of Newcastle, Australia.
Jan. 1997 to Jan. 1998	Visiting Researcher at the Center for Control Engineering & Computation (CCEC), Department of Electrical & Computer Engineering, University of California, Santa Barbara, USA.
Sep. 1996 to Dec. 1996	Postdoctoral Fellow (Chercheur Libre) at the Centre for Systems Engineering, Automatics and Applied Mechanics (CESAME), Université Catholique de Louvain, Louvain-la-Neuve, Belgium.
Oct. 1995 to Aug. 1996	Research Associate at the Department of Electrical and Computer Engineering, The University of Newcastle, Australia.

TEACHING EXPERIENCE

2003–2008 Undergraduate course: “ELEC4410 Control System Design and Management”, School of Electrical Engineering and Computer Science, The University of Newcastle.

1999–2002 Graduate and undergraduate courses on automatic control, nonlinear systems, and technical writing. Automation and Industrial Control Engineering, Universidad Nacional de Quilmes, Buenos Aires, Argentina.

1996–1998 Short course: “Performance Limitations in Filtering and Control”, at the 1998 American Control Conference, Universidad Nacional de Rosario, Argentina (1998), University of California, Santa Barbara, USA (1997), Linköping University, Sweden (1997), Université Catholique de Louvain, Belgium (1996), Royal Institute of Technology, Stockholm, Sweden (1996), and Lund Institute of Technology, Sweden (1996).

1989-1990 Short course: “Algebra for Automatic Control”, Department of Electronics, UNR.

1986-1992 Undergraduate course: “Physical System Dynamics”, Department of Electronics, UNR.

GRANTS AND SCHOLARSHIPS

2010 University of Newcastle 2010 Near Miss grant G0900210. Project *New methods in analysis and design of switched control systems*. Jointly with Dr Hernan Haimovich, from National University of Rosario, Argentina. Grant: $20,000.

2009-2012 CSIRO Energy Technology grant to fund a postgraduate student on the project *Multiobjective optimisation for building comfort and energy*, at The University of Newcastle. Jointly with Dr John K. Ward, from CSIRO Energy Technology. Grant: AU$ 78,420.

2008 Travel Grant to attend the 17th IFAC World Congress, Convention and Exhibition Centre, Seoul Korea, 6/7/2008 - 11/7/2008. The University of Newcastle. Grant: AU$ 2,477.

2008-2010 Chief Investigator (one of 14) and Programme Leader of the Industrial Control and Optimisation Programme, Australian Research Council Centre of Excellence for Complex Dynamic Systems and Control. Funding extension on ARC Project ID CE0348165; amount of additional funding: AU$ 5,400,000.

2007-2009 Chief Investigator (one of 14) and Programme Leader of the Industrial Control and Optimisation Programme, Australian Research Council Centre of Excellence for Complex Dynamic Systems and Control. Grant: AU$ 323,084

2004–2009 Chief Investigator (one of 3) and Leader of the Optimisation-Based Operator Guidance Project, ARC Centre for Complex Dynamic Systems and Control, funded by BHP Billiton Innovation Pty Ltd. Grant: AU$ 250,000.

2003-2007	Chief Investigator (one of 12) Australian Research Council Centre for Complex Dynamic Systems and Control, ARC Project ID CE0348165. Grant: AU$ 6,929,432.
2001	Chief Investigator (solo), Scientific and Technological Research Project Grant from FONCYT, National Agency for the Promotion od Science and Technology. Project: “Performance Limitations and Design of Nonlinear Control Systems,” code 11-09270. Grant: US$ 32,865.
Sep. 1996 to Dec. 1996	Postdoctoral Scholarship, Université Catholique de Louvain, Louvain-La-Neuve, Belgium.
1993-95	The University of Newcastle Research Scholarship to support Ph.D. degree studies at the Department of Electrical and Computer Engineering, The University of Newcastle, Australia.
1992-95	Overseas Postgraduate Research Scholarship from the DEET, Australia, to support Ph.D. Degree studies at the Department of Electrical and Computer Engineering, The University of Newcastle, Australia.
1991-92	Advanced Research Scholarship from CONICET (Argentina National Council for Research). Subject: “Computational Methods for the Design of Implementable Controllers for Distributed Parameter Systems and Sentinels”.
1989-91	Initial Research Scholarship from CONICET. Subject: “Structural Problems in Multi-variable Control Theory. Algebraic Aspects and Computational Algorithms”.
Summer 1988	Scholarship from the Brazilian-Argentine Program for Informatica for the III Brazilian-Argentine School of Informatica, Curitiba, Brazil.

PROFESSIONAL ACTIVITIES

- Editorial Board Member from 2007, IET Control Theory & Applications.
- Subject Editor from 2003 to 2007, Latin American Applied Research, ISSN 0327-0793.
- Member IEEE Control Systems Society since 1999.
- Grant assessor for The Israel Science Foundation (2008), The Australian Research Council Discovery Projects (as Expert of International Standing, 2007–2008), The National Agency for the Promotion of Scientific and Technological Research (Agencia Nacional de Promoción Científica y Tecnológica) Argentina (2007).
- Regular reviewer for the major journals and conferences in control and systems theory.

PUBLICATIONS

Book

[1] M. M. Seron, J. H. Braslavsky, and G. C. Goodwin. *Fundamental Limitations in Filtering and Control*. Springer-Verlag, London, 1997.

Ph.D. Thesis

[1] J. H. Braslavsky. *Frequency domain analysis of sampled-data control systems*. PhD thesis, The University of Newcastle, Newcastle, Australia, October 1995. ISBN 7259 0905 6.

Journal Papers

[1] J. S. Freudenberg, R. H. Middleton, and J. H. Braslavsky. Minimum variance control over a Gaussian communication channel. *IEEE Trans. on Automatic Control*, 2010. Conditionally accepted for publication 5 December 2009.

[2] R. H. Middleton and J. H. Braslavsky. String instability in classes of linear time invariant formation control with limited communication range. *IEEE Trans. on Automatic Control*, July 2010. To appear. Accepted 25 August 2009.

[3] K. Lau, J. H. Braslavsky, J. C. Agüero, and G.C. Goodwin. An errors-in-variables method for non-stationary data with application to mineral exploration. *Automatica*, 45(12):2971–2976, 2009.

[4] R. H. Middleton, A. J. Rojas, J. S. Freudenberg, and J. H. Braslavsky. Feedback stabilization over a first order moving average Gaussian noise channel. *IEEE Trans. on Automatic Control*, 54(1):163–167, 2009.

[5] A. J. Rojas, J. H. Braslavsky, and R. H. Middleton. Fundamental limitations in control over a communication channel. *Automatica*, 44(12):3147–3151, 2008.

[6] A. J. Rojas, J. H. Braslavsky, and R. H. Middleton. Channel signal-to-noise ratio constrained feedback control: Performance and robustness. *IET Control Theory and Applications*, 2(7):595–605, 2008.

[7] M. E. Romero, J. H. Braslavsky, and M. I. Valla. Ripple reduction in direct torque and flux control of induction motors via sliding modes. *Latin American Applied Research*, 37(4):289–297, 2007.

[8] J. H. Braslavsky, R. H. Middleton, and J. S. Freudenberg. Feedback stabilization over signal to noise ratio constrained channels. *IEEE Transactions on Automatic Control*, 52(8):1391–1403, 2007.

[9] K. Lau, R. H. Middleton, and J. H. Braslavsky. Undershoot and settling time trade-offs for nonlinear non-minimum phase systems. *IEEE Trans. on Automatic Control*, 48(8):1389 – 1393, August 2003.

[10] J. H. Braslavsky, R. H. Middleton, and J. S. Freudenberg. Cheap control performance of a class of non-right-invertible nonlinear systems. *IEEE Trans. on Automatic Control*, 47(8):1314–1319, August 2002.

[11] G. C. Goodwin, J. H. Braslavsky, and M. M. Seron. Non-stationary stochastic embedding for transfer function estimation. *Automatica*, 38(1):47–62, January 2002.

[12] M. Arcak, M. Seron, J. H. Braslavsky, and P. Kokotović. Robustification of backstepping against input unmodeled dynamics. *IEEE Trans. on Automatic Control*, 45(7):1358–1363, 2000.

[13] M. M. Seron, J. H. Braslavsky, P.V. Kokotović, and D.Q. Mayne. Feedback limitations in nonlinear systems: From Bode integrals to cheap control. *IEEE Trans. on Automatic Control*, 44(4):829–833, April 1999.

[14] J. H. Braslavsky, M. M. Seron, D.Q. Mayne, and P.V. Kokotović. Limiting performance of optimal linear filters. *Automatica*, 35(2):189–199, February 1999.

[15] J. H. Braslavsky, R. H. Middleton, and J. S. Freudenberg. L_2-induced norms and frequency-gains of sampled-data sensitivity operators. *IEEE Trans. on Automatic Control*, 43(2):252–8, 1998.

[16] J. S. Freudenberg, R. H. Middleton, and J. H. Braslavsky. Robustness of zero-shifting via generalized sampled-data hold functions. *IEEE Trans. on Automatic Control*, 42(12):1681–92, December 1997.

[17] J. H. Braslavsky, G. Meinsma, R. H. Middleton, and J. S. Freudenberg. On a key sampling formula relating the Laplace and Z transforms. *Systems & Control Letters*, 29(4):181–190, 1997.

[18] J. H. Braslavsky and R. H. Middleton. Global and semi-global stabilizability in certain cascade nonlinear systems. *IEEE Trans. on Automatic Control*, 41(6):876–881, June 1996.

[19] J. S. Freudenberg, R. H. Middleton, and J. H. Braslavsky. Inherent design limitations for linear sampled-data feedback systems. *International Journal of Control*, 61(6):1387–1421, June 1995.

Refereed Conference Papers

[1] H. Haimovich, J. H. Braslavsky, and F. Felicioni. On feedback stabilisation of switched discrete-time systems via Lie-algebraic techniques. In *Proc. Joint 48th IEEE Conference on Decision and Control and 28th Chinese Control Conference*, pages 1118–1123, Shanghai, China, 2009.

[2] D. Ugryumova, K. Lau, J. Braslavsky, and G. Meinsma. An application of system identification techniques to impedance estimation in magnetotelluric surveying. In *Proceedings of the 15th IFAC Symposium on System Identification*, pages 970–975, Saint-Malo, France, July 2009. IFAC-PapersOnline.

[3] B. I. Godoy, J. H. Braslavsky, and J. C. Aguero. A simulation study on model predictive control and extremum seeking control for heap bioleaching processes. In *Proceedings of the 17th IFAC World Congress*, pages 9368–9373, Seoul, Korea, July 2008.

[4] K. Lau, J. H. Braslavsky, J. C. Aguero, and G. C. Goodwin. Application of non-stationary eiv methods to transient electromagnetic mineral exploration. In *Proceedings of the 17th IFAC World Congress*, pages 438–443, Seoul, Korea, July 2008.

[5] J. S. Freudenberg, R. H. Middleton, and J. H. Braslavsky. Minimum variance control over a gaussian communication channel. In *Proceedings of the 2008 American Control Conference*, pages 2625–2630, Seattle, Washington, USA, June 2008.

[6] A. J. Rojas, R. H. Middleton, J. S. Freudenberg, and J. H. Braslavsky. Input disturbance rejection in channel signal-to-noise ratio constrained feedback control. In *Proceedings of the 2008 American Control Conference*, pages 3100–3105, Seattle, Washington, USA, June 2008.

[7] J. S. Freudenberg, R. H. Middleton, and J. H. Braslavsky. Stabilisation with disturbance attenuation over a Gaussian channel. In *Proceedings of the 46th IEEE Conference on Decision and Control*, pages 3958–3963, New Orleans, USA, 2007.

[8] B. I. Godoy, J. H. Braslavsky, and J.C. Agüero. A model-based feedback control strategy for heap bioleaching processes. In *Proceedings of the 46th IEEE Conference on Decision and Control*, pages 1850–1855, New Orleans, USA, 2007.

[9] K. Lau, J. H. Braslavsky, and G. C. Goodwin. Errors-in-variables problems in transient electromagnetic mineral exploration. In *Proceedings of the 46th IEEE Conference on Decision and Control*, pages 3628–3633, New Orleans, USA, 2007.

[10] A. J. Rojas, J. H. Braslavsky, and R. H. Middleton. Output feedback sensitivity functions under signal to noise ratio constraint. In *Proceedings of the 2007 American Control Conference*, pages 287–292, New York, July 2007.

[11] J. H. Braslavsky, E. Kofman, and F. Felicioni. Effects of time quantization and noise in level crossing sampling stabilization. In *Anales del XX Congreso Argentino de Control Automático (AADECA 2006)*, Buenos Aires, Argentina, August 2006.

[12] E. Kofman and J. H. Braslavsky. Level crossing sampling in feedback stabilization under data rate constraints. In *Proceedings of the 45th IEEE Conference on Decision and Control*, pages 4423–4428, San Diego, USA, December 2006.

[13] A. Rojas, J. S. Freudenberg, J. H. Braslavsky, and R. H. Middleton. Optimal signal to noise ratio in feedback over communication channels with memory. In *Proceedings of the 45th IEEE Conference on Decision and Control*, pages 1129–1134, San Diego, USA, December 2006.

[14] A. Rojas, J. H. Braslavsky, and R. H. Middleton. Output feedback stabilisation over bandwidth limited, signal to noise ratio constrained communication channels. In *Proceedings of the 2006 American Control Conference*, pages 2789–2794, Minneapolis, USA, June 2006.

[15] B. I. Godoy, J. H. Braslavsky, and K. Mahata. Low complexity modelling and parameter estimation in copper bioleaching processes. In *Proceedings of the 14th International Federation of Automatic Control Symposium on System Identification, SYSID 2006*, pages 690–695, March 2006.

[16] R. McVinish, J. H. Braslavsky, and K. Mengersen. A bayesian-decision theoretic approach to model error modelling. In *Proceedings of the 14th International Federation of Automatic Control Symposium on System Identification, SYSID 2006*, pages 1015–1020, March 2006.

[17] J. S. Freudenberg, J. H. Braslavsky, and R. H. Middleton. Control over signal-to-noise ratio constrained channels: Stabilization and performance. In *Proceedings of the Joint 44th IEEE Conference on Decision and Control and European Control Conference 2005*, pages 191–196, Seville, Spain, December 2005.

[18] A. Rojas, J. H. Braslavsky, and R. H. Middleton. Control over a bandwidth limited signal to noise ratio constrained communication channel. In *Proceedings of the Joint 44th IEEE Conference on Decision and Control and European Control Conference 2005*, pages 197–202, Seville, Spain, December 2005.

[19] J. H. Braslavsky, R. H. Middleton, and J. S. Freudenberg. Effects of time delay on feedback stabilisation over signal-to-noise ratio constrained channels. In *Proceedings of the 16th IFAC World Congress*, Prague, Czech Republic, July 2005.

[20] R.H. Middleton, J. H. Braslavsky, and J. S. Freudenberg. Stabilisation of non-minimum phase plants over signal-to-noise ratio constrained channels. In *Asian Control Conference*, pages 1914–1922, Melbourne, Australia, July 2004.

[21] J. H. Braslavsky, R. H. Middleton, and J. S. Freudenberg. Feedback stabilization over signal-to-noise ratio constrained channels. In *Proceeding of the 2004 American Control Conference*, pages 4903–4908, Boston, MA, USA, June 2004.

[22] R. H. Middleton, K. Lau, and J. H. Braslavsky. Conjectures and counterexamples on optimal L_2 disturbance attenuation in nonlinear systems. In *Proceedings of the 42nd IEEE Conference on Decision and Control*, Maui, Hawaii, USA, December 2003.

[23] M.E. Romero, J. H. Braslavsky, and M.I. Valla. A ripple minimization strategy for direct torque and flux control of induction motors using sliding modes. In *Proceedigns of the 15th IFAC World Congress on Automatic Control*, Barcelona, Spain, July 2002.

[24] R. H. Middleton and J. H. Braslavsky. Towards quantitative time domain design tradeoffs in nonlinear control. In *Proceedings of the 2002 American Control Conference*, volume 6, pages 4896–4901, Anchorage, USA, May 2002.

[25] R. H. Middleton and J. H. Braslavsky. On the relationship between logarithmic sensitivity integrals and limiting optimal control problems. In *Proc. of the 39th IEEE Conference on Decision and Control*, volume 5, pages 4990–4995, Sydney, December 2000.

[26] J. H. Braslavsky, R. H. Middleton, and J. S. Freudenberg. Cheap control performance of a class of non-right-invertible nonlinear systems. In *Proc. of the 38th IEEE Conference on Decision and Control*, Phoenix, AZ, USA, 1999.

[27] M. Arcak, M. Seron, J. H. Braslavsky, and P. Kokotović. Robustification of backstepping against input unmodeled dynamics. In *Proc. of the 38th IEEE Conference on Decision and Control*, Phoenix, AZ, USA, 1999.

[28] W. Reinelt, A. Garully, L. Ljung, J. H. Braslavsky, and A. Vicino. Model error concepts in identification for control. In *Proc. of the 38th IEEE Conference on Decision and Control*, Phoenix, AZ, USA, 1999.

[29] J. H. Braslavsky, R. H. Middleton, and J. S. Freudenberg. Performance limitations in a class of single-input two-output nonlinear systems. In *Proc. of the 1999 American Control Conference*, San Diego, USA, 1999.

[30] H. Hjalmarsson and J. H. Braslavsky. Tuning of controllers and generalized hold functions in sampled-data systems using Iterative Feedback Tuning. In *Proc. of the IFAC 14th World Congress*, Beijing, China, June 1999.

[31] G. C. Goodwin, J. H. Braslavsky, and M. M. Seron. Non-stationary stochastic embedding for transfer function estimation. In *Proc. of the IFAC 14th World Congress, Beijing, China*, July 1999.

[32] J. H. Braslavsky, M. M. Seron, and P.V. Kokotović. Near-optimal cheap control of nonlinear systems. In *Preprints of the 4th IFAC Nonlinear Control Systems Design Symposium (NOLCOS)*, volume 1, pages 109–14, University of Twente, Enschede, The Netherlands, July 1998.

[33] M. M. Seron, J. H. Braslavsky, P.V. Kokotović, and D.Q. Mayne. Feedback limitations in nonlinear systems: From Bode integrals to cheap control. In *Proc. of the 36th Conference on Decision and Control*, pages 2067–72, San Diego, USA, December 1997.

[34] J. H. Braslavsky, M. M. Seron, D.Q. Mayne, and P.V. Kokotović. Limiting performance of optimal linear filters. In *Proc. of the 35th Annual Allerton Conference*, The University of Illinois at Urbana-Champagne, IL, 1997.

[35] J. H. Braslavsky, M. M. Seron, G. C. Goodwin, and R.W. Grainger. Tradeoffs in multivariable filter design with applications to fault detection. In *Proc. of the 35th Conference on Decision and Control*, Kobe, Japan, December 1996.

[36] J. H. Braslavsky, R. H. Middleton, and J. S. Freudenberg. Frequency response of generalized sampled-data hold functions. In *Proc. of the 34th Conference on Decision and Control*, pages 3596–3601, New Orleans, LO, USA, December 1995.

[37] J. H. Braslavsky, R. H. Middleton, and J. S. Freudenberg. Sensitivity and robustness of sampled-data control systems: a frequency domain viewpoint. In *Proc. of the 1995 American Control Conference*, pages 1040–1044, Seattle, WA, USA, June 1995.

[38] J. S. Freudenberg, R. H. Middleton, and J. H. Braslavsky. Robustness of zero-shifting via generalized sampled-data hold functions. In *Proc. of the 33th Conference on Decision and Control*, pages 231–235, Florida, December 1994.

[39] J. S. Freudenberg, R. H. Middleton, and J. H. Braslavsky. Inherent design limitations for linear sampled-data feedback systems. In *Proc. of the American Control Conference*, pages 3227–3231, Maryland, June 1994.

[40] J. H. Braslavsky and R. H. Middleton. Global and semi-global stabilizability in certain cascade nonlinear systems. In *Proc. of the 1994 American Control Conference*, pages 1761–1765, Baltimore, June 1994.

[41] J. H. Braslavsky and R. H. Middleton. On the stabilization of linear unstable systems with control constraints. In *Proc. of the 12th IFAC World Congress*, volume 7, pages 433–436, Sydney, July 1993.

Reports to Industry

[1] J. H. Braslavsky, G. J. Adams, and M. M. Seron. Fault accomodation in electricity networks: potential research areas inn coordinated voltage regulation. Technical Report EnergyAust/FaultAccom/09/01, CDSC, December 2009.

[2] K. Lau and J. H. Braslavsky. Sferics project report 27: Analysis of 50 Hz noise – Stuka Data (May 2008). Technical Report BHPB/OBOG/09/01, CDSC, November 2009.

[3] K. Lau and J. H. Braslavsky. Sferics project report No. 26: Low frequency noise analysis—total field sensors (September 2008 data). Confidential report to BHP Billiton BHPB/OBOG/08/09, Centre of Excellence for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, December 2008. Optimisation Based Operator Guidance Project.

[4] K. Lau and J. H. Braslavsky. Sferics project report No. 25: preliminary data analysis—total field sensors (September 2008 data)). Technical Report BHPB/OBOG/08/08, Centre of Excellence for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, October 2008. Optimisation Based Operator Guidance Project.

[5] K. Lau and J. H. Braslavsky. Sferics project report No. 24: frequency response estimation using transmitter-on data (March 2008 data). Technical Report BHPB/OBOG/08/06, Centre of Excellence for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, August 2008. Optimisation Based Operator Guidance Project.

[6] K. Lau and J. H. Braslavsky. Sferics project report No. 23: Matlab implementation of frequency response estimation and noise cancellation algorithms. Technical Report BHPB/OBOG/08/05, Centre of Excellence for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, July 2008. Optimisation Based Operator Guidance Project.

[7] K. Lau, D. Ugryumova, and J. H. Braslavsky. Sferics project report No. 22: X-Y to Z transfer function estimation, sferics cancellation on transmitter-on data, and magnetotellurics impedance estimation. Technical Report BHPB/OBOG/08/04, Centre of Excellence for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, May 2008. Optimisation Based Operator Guidance Project.

[8] K. Lau and J. H. Braslavsky. Sferics project report No. 21: New sensor HBO response compensation. Technical Report BHPB/OBOG/08/03, Centre of Excellence for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, March 2008. Optimisation Based Operator Guidance Project.

[9] K. Lau and J. H. Braslavsky. Sferics project report No. 20: X-Y to Z model estimation using auxilliary XY measurements (Mount Keith data, further results). Technical Report BHPB/OBOG/08/02, Centre of Excellence for Complex Dynamic Systems and Control,

The University of Newcaste, Callaghan NSW 2308, Australia, February 2008. Optimisation Based Operator Guidance Project.

[10] K. Lau and J. H. Braslavsky. Sferics project report No. 19: X-Y to Z model estimation using auxiliary XY measurements (Mount Keith data). Technical Report BHPB/OBOG/08/01, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, January 2008. Optimisation Based Operator Guidance Project.

[11] K. Lau and J. H. Braslavsky. Sferics project report No. 18: X-Y to Z model estimation using auxiliary measurements and further results (Wallaroo data). Technical Report BHPB/OBOG/07/07, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, November 2007. Optimisation Based Operator Guidance Project.

[12] K. Lau and J. H. Braslavsky. Sferics project report No. 17: Sferics cancellation from X-Y to Z (Wallaroo data). Technical Report BHPB/OBOG/07/06, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, September 2007. Optimisation Based Operator Guidance Project.

[13] K. Lau, J. H. Braslavsky, and G. C. Goodwin. Sferics project report No. 16: Estimation of models for sferics noise cancellation using spectral methods. Technical Report BHPB/OBOG/07/05, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, August 2007. Optimisation Based Operator Guidance Project.

[14] K. Lau, D. Allingham, and J. H. Braslavsky. Sferics project report No. 15: Sferics cancellation from X-Y to Z data, and further observations on wavelet and mdl analyses. Technical Report BHPB/OBOG/07/04, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, July 2007. Optimisation Based Operator Guidance Project.

[15] K. Lau, D. Allingham, and J. H. Braslavsky. Sferics project report No. 14: Wavelet analysis, first order models for sferics cancellation, and detection limits. Technical Report BHPB/OBOG/07/03, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, May 2007. Optimisation Based Operator Guidance Project.

[16] K. Lau, F. De Ridder, D. Allingham, and J. H. Braslavsky. Sferics project report No. 13: Overburden modelling, sferics azimuthdependence, and target detection. Technical Report BHPB/OBOG/07/02, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, April 2007. Optimisation Based Operator Guidance Project.

[17] K. Lau, D. Allingham, J.H Braslavsky, and G. C. Goodwin. Sferics project report No. 12: Using multinode correlations for overburden transient modelling and frequency-based sferics attenuation. Technical Report BHPB/OBOG/07/01, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, February 2007. Optimisation Based Operator Guidance Project.

[18] K. Lau, D. Allingham, G. C. Goodwin, and J. H. Braslavsky. Sferics project report No. 11: further multinode modelling. Technical Report BHPB/OBOG/06/12, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, December 2006. Optimisation Based Operator Guidance Project.

[19] K. Lau, D. Allingham, and J. H. Braslavsky. Sferics project report No. 10: Preliminary investigation into multinode methods. Technical Report BHPB/OBOG/06/10, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, November 2006. Optimisation Based Operator Guidance Project.

[20] K. Lau, D. Allingham, and J. H. Braslavsky. Sferics project report No. 9: Analysis of new coil measurements, Kalman filter spectra and Kalman smoother. Technical Report BHPB/OBOG/06/09, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, September 2006. Optimisation Based Operator Guidance Project.

[21] K. Lau, D. Allingham, and J. H. Braslavsky. Sferics project report No. 8: noise spectra and multinode coherence analysis. Technical Report BHPB/OBOG/06/08, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, July 2006. Optimisation Based Operator Guidance Project.

[22] B. I. Godoy and J. H. Braslavsky. Towards control of copper bioleaching processes. Technical Report EE06013/OBOG/06/06, Centre for Complex Dynamic Systems and Control, The University of Newcastle, Callaghan, NSW 2308, Australia, June 2006. Optimisation Based Operator Guidance Project.

[23] K. Lau, D. Allingham, and J. H. Braslavsky. Sferics project report No. 7. Technical Report BHPB/OBOG/06/05, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, June 2006. Optimisation Based Operator Guidance Project.

[24] K. Lau, D. Allingham, and J. H. Braslavsky. Sferics project report No. 6. Technical Report BHPB/OBOG/06/04, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, May 2006. Optimisation Based Operator Guidance Project.

[25] K. Lau, D. Allingham, and J. H. Braslavsky. Sferics project report No. 5. Technical Report BHPB/OBOG/06/03, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, April 2006. Optimisation Based Operator Guidance Project.

[26] K. Lau, D. Allingham, J. H. Braslavsky, and G. C. Goodwin. Sferics project report No. 4. Technical Report BHPB/OBOG/06/02, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, February 2006. Optimisation Based Operator Guidance Project.

[27] K. Lau, D. Allingham, J. H. Braslavsky, and G. C. Goodwin. Sferics project report No. 3. Technical Report BHPB/OBOG/06/01, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, January 2006. Optimisation Based Operator Guidance Project.

[28] K. Lau, D. Allingham, J. H. Braslavsky, and G. C. Goodwin. Sferics project report No. 2. Technical Report BHPB/OBOG/05/08, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, November 2005. Optimisation Based Operator Guidance Project.

[29] K. Lau and J. H. Braslavsky. Sferics project preliminary report. Technical Report BHPB/OBOG/05/06, Centre for Complex Dynamic Systems and Control, The University of Newcaste, Callaghan NSW 2308, Australia, October 2005. Optimisation Based Operator Guidance Project.

[30] B. I. Godoy and J. H. Braslavsky. Model refinement and system identification in bioleaching processes — Progress report. Confidential report to BHP Billiton EE05001 – BHPB/OBOG/05/04, Centre for Complex Dynamic Systems and Control, The University of Newcastle, Callaghan, NSW 2308, Australia, August 2005.

[31] K. Lau, J. H. Braslavsky, and R. H. Middleton. HBI riser report 1: System description and preliminary data analysis. Technical Report EE04026, Centre for Complex Dynamic Systems and Control, The University of Newcastle, Callaghan, NSW 2308, Australia, December 2004. Confidential Report to Industry.

[32] B. I. Godoy and J. H. Braslavsky. A first study of heap bioleaching modelling for control. Technical Report EE04023, Centre for Complex Dynamic Systems and Control, The University of Newcastle, Callaghan, NSW 2308, Australia, December 2004.

[33] J. H. Braslavsky. Review of HATCH project report: System identification of a heap leach model. Technical Report EE04015, Centre for Complex Dynamic Systems and Control, The University of Newcastle, Callaghan, NSW 2308, Australia, July 2004. Confidential Report to Industry.

[34] J. H. Braslavsky. HBI workshop summary. Technical Report EE04012, Centre for Complex Dynamic Systems and Control, The University of Newcastle, Callaghan, NSW 2308, Australia, March 2004.

[35] J. H. Braslavsky. A research proposal on control and optimisation of copper heap bioleaching processes. Technical Report EE03029, Centre for Complex Dynamic Systems and Control, The University of Newcastle, Callaghan, NSW 2308, Australia, July 2003.

Papers under Review

[1] H. Haimovich, J. H. Braslavsky, and F. E. Felicioni. On feedback stabilisation of switched discrete-time systems via Lie-algebraic techniques. Submitted to IEEE Transactions on Automatic Control, October 2009.

[2] R. McVinish, J. H. Braslavsky, and K. Mengersen. Bayesian nonparametric estimation of minimum phase transfer functions. Submitted to Technometrics, October 2008.