Curriculum Vitae September 13, 2007

Rodney A. KENNEDY BE ME PhD FIEEE

Current Position and Work Address

Professor and Head of Department

Department of Information Engineering
Research School of Information Sciences and Engineering
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Personal Details

Place and Date of Birth:	Sydney Australia, 23 October 1960
Nationality:	Australian

Academic Qualifications

PhD *(Syst. Eng.), ANU (1988) "Operational Aspects of Decision Feedback Equalizers"*
ME *(Elect. Eng.), N'cle (NSW) (1985) "Digital Servo Control of a Large Radio Telescope"*
BE *(Elect. Eng., Hons.1, Uni Medal), UNSW (1982)*

Highlights

⋄ Fellow IEEE (est 40 in Australia)

⋄ 240+ Publications

⋄ 29 PhD Students (4 current), 4 Research Masters Students

⋄ Multiple Prizes including ATERB Medal and University Medal

⋄ QEII Fellow

⋄ 19 External Grants/Contracts to value of $4M

⋄ 7 Large ARC/Discovery Grants, 2 SPIRT (APA(I))

⋄ 2 Internal Grants to value of $132K

⋄ 1994-2004 Head of Department, Telecommunications Engineering, RSISE

⋄ 2006-present Head of Department, Information Engineering, RSISE

⋄ Extensive Outreach including IEEE Trans. on Communications Assoc. Editor

⋄ Conference co-Chair, 2005 IEEE International Symposium on Information Theory

Main Research Interests

Signal Processing Aspects of Telecommunications, System Identification, Nonlinear Receivers and Equalization, Blind Adaptation and Blind Equalization, Multi-User Detection, Reduced Complexity Receiver Structures, Spatially Information and Signal Processing, Multi-Access Mobile Communications, Broadband Arrays, Acoustical Signal Processing and Nearfield Arrays.

Appointments

Present Appointment

May 2006 - present	Professor and Head of Department (Level E) Information Engineering, RSISE ANU

Previous Appointments (Substantive)

Sep 2004 - Apr 2006	Professor and Program Leader WSP NICTA (Level E) Information Engineering, RSISE ANU
Jul 2000 - Aug 2004	Professor and Head of Department (Level E) Telecommunications Engineering, RSISE ANU
Jul 1997 - Jul 2000	Senior Fellow and Head of Department (Level D) Telecommunications Engineering, RSISE ANU
Jun 1994 - Jun 1997	Fellow and Head of Department (Level C) Telecommunications Engineering, RSISE ANU
Jul 1990 - Jun 1994	Senior Lecturer (Level C) Dept of Eng., FEIT ANU
Mar 1990 - Mar 1993	Queen Elizabeth II Fellow Dept Syst. Eng., RSPhysS/E ANU
Dec 1988 - Mar 1990	CISR Fellow (Level B) Dept of Syst. Eng., RSPhysS ANU
Feb 1986 - Dec 1988	PhD Scholar Dept of Syst. Eng., RSPhysS ANU
Jan 1983 - Jan 1986	Experimental Scientist CSIRO Division of Radiophysics

Previous Appointments (Concurrent)

Jun 1995 - Jul 1995	Visiting Professor (5 weeks) School of Electrical Engineering, Cornell University USA
May 1995 - Jun 1995	Visiting Professor (6 weeks) Department of Electrical Engineering Auburn University USA
Apr 1992 - Jun 1992	Visiting Professor (3 months) Elektrotechnik, Energie- und Informationstechnik, Universität Kaiserslautern, Germany
May 1988 - Dec 1988	Chercheur Libre (9 months) Laboratoire d'Automatique, Université Catholique Louvain, Louvain-la-Neuve, Belgium

Academic Awards and Distinctions

▷ 2005, Fellow of the IEEE (est 25 in Australia)

▷ 2001-2004, Senior Member of the IEEE (8% of the 365,000 members of IEEE hold this grade)

▷ 1995 – 2005, Associate Editor of IEEE Transactions on Communications Editor for Data Communications in the Area of Modulation and Signal Design for the IEEE Transactions of Communications.

▷ 1993 ATERB Medal *"Outstanding Young Investigator in Telecommunications and Electronics"* – to recognize outstanding contributions in the fields of telecommunications and electronics endowed by the Australian Telecommunications and Electronics Research Board.

▷ 1991 – present, Member of the Editorial Board of International Journal of Adaptive Control and Signal Processing (Wiley Journal).

▷ 1990 – 1993, Queen Elizabeth II Fellowship

▷ 1988, Student Paper Prize Finalist Certificate 27th IEEE Conf. on Decision and Control, Austin Texas.

▷ 1986 – 1988, ATERB Scholar Australian Telecommunications and Electronics Research Board Supplementary Stipend during PhD.

▷ 1982, University Medal in Electrical Engineering from UNSW.

▷ 1981, Austral Crane Prize, UNSW *"Best Performance in Bachelor of Engineering in Electrical Engineering Degree Course Year 3"*.

▷ 1980, School of Mathematics Prize, UNSW *"Best Performance in Basic Second Year Higher Mathematics"*.

▷ 1979, John Frazer Memorial Award, UNSW *"Best Performance in 1st Year of the Full-time or Equivalent Part-time Course in the Faculty of Engineering"*.

▷ 1979, School of Mathematics Prize, UNSW *"Best Performance in 10.011 Higher Mathematics"*.

1   Teaching and its Scholarship

1.1   PhD Student Supervision

01 Pulford, Graham W. (1992) *Developments in Nonlinear Equalization* (joint)

02 Yamazaki, Ken (1994) *Convex Methods for Blind Equalizationin QAM Transmission Systems*

03 Doğançay, Kutluyıl (1994) *Blind Error Detection and Channel Equalisation in Communication Systems*

04 Ward, Darren B. (1996) *Theory and Application of Broadband Frequency Invariant Beamforming* (joint)

05 McGinty, Nigel C. (1998) *Reduced Complexity Equalization for Data Communication*

06 Hasnie, Shazia (1999) *Modified Decision Feedback Equalization Techniques for Data Communications*

07 Cheung, Peter K.P. (1999) *Blind Linear Multiuser Detection for DS-CDMA Wireless Networks* (joint)

08 Borah, Deva K. (1999) *Detection and Estimation in Digital Wireless Communications* (joint)

09 Abhayapala, Thushara D. (1999) *Modal Analysis and Synthesis of Broadband Nearfield Beamforming Arrays* (joint)

10 **Wang, Qi (2000)** *Near Optimal Decoding for Trellis Coded Modulation* (joint)

11 **Radlović, Biljana D. (2001)** *Dereverberation of Speech Signals in Acoustic Environments* (joint)

12 **Jones, Haley M. (2001)** *On Multipath Spatial Diversity in Wireless Multiuser Communications* (joint)

13 **Teal, Paul (2001)** *Real Time Characterisation of the Mobile Multipath Channel* (joint)

14 **Pollock, Tony (2003)** *On Limits of Multi-Antenna Wireless Communications in Spatially Selective Channels* (joint)

15 **Lim, Wee Gin (2003)** *Switch-Mode Blind Equalizers for Single-User Systems*

16 **Ho, Jaunty Tsun Yue (2004)** *Space-Time Wireless Communications* (joint)

17 **Zhang, Jian (2004)** *Short-Range High-Speed Ultra Wideband Communications* (joint)

18 **Trajevic, Vladimir (2005)** *Advance Multiuser Receiver Structures* (joint)

19 **Miniutti, Dino (2006)** *Timing and Carrier Recovery in Frequency Selective Channels*

20 **Williams, Michael (2006)** *Performance limits of Array Signal Processing* (joint, under examination)

21 **Lamahewa, Tharaka (2006)** *Space-Time Coding for Distributed Spatial Systems* (joint)

22 **Krusevac, Zarko (2007)** *Model based approach to time-varying communication channels* (joint)

23 **Dickins, Glenn (2007*)** *Applications of Continuous Spatial Models in Multiple Antenna Signal Processing* (joint)

24 **Krusevac, Snezana (2007*)** *Mutual Coupling and Spatial Correlation in MIMO Communications* (joint)

25 **Qiu, Lei (2007*)** *Wireless Localization and Spatial Resolution* (joint)

26 **Zhang, Wen (2006–present)** *HRTF Modeling* (joint)

27 **Luo, Lin (2006–present)** *OFDM* (joint)

28 **Shams, Ramtin (2007–present)** *Mutual Information Based Image Processing* (joint)

29 **Kodituwakku, Sandun (2007–present)** *Modeling Bioloogical Systems* (joint)

1.2 Research Masters Student Supervision

01 **Muthu, Suneetha R. (1997)** *Performance Study of Qualcomm CDMA System on Satellite Mobile Channels*

02 **Brooks, Michael (1998)** *Pitch Modification Techniques for Sampled Voice*

03 **Qiu, Lei (2001)** *Improving the Performance of Concatenated Systems*

04 **Dickins, Glenn (2003)** *Soundfield Representation, Recontruction and Perception*

2 Scholarship: Research, Professional Practice

2.1 Publications

See list at end of CV.

2.2   External Government Related Grants

◇ $160,000 – QEII Fellowship: 1992-1994.

◇ $210,000 – Large ARC Grant: "*Adaptive Signal Processing in Telecommunications*" (Chief Investigator[1], joint), 1992-1994.

◇ $124,000 – Large ARC Grant: "*Dynamics of Learning*" (Associate Chief Investigator, joint), 1994-1996.

◇ $90,000 – Large ARC Grant: "*Robust Signal Processing*" (Associate Chief Investigator, joint), 1996-1998.

◇ $181,853 – Large ARC Grant: "*Signal Processing for Microphone Arrays*" (Associate Chief Investigator, joint), 1999-2001.

◇ $62,268 – SPIRT APAI: "*Adaptive Receivers for Wireless Multimedia Applications*" (with Dr P.D. Rapajic of Teleng, RSISE), 1999-2001.

◇ $183,009 – ARC Postdoc: "*Control of Sound Fields Using Loudspeaker Arrays*" (Supervisor for Dr D.B. Ward), 2000-2002.

◇ $225,000 – SPIRT Grant C00001936: "*Performance Improvement of xDSL and Cable Modems for Internet Service Delivery in the Presence of Noise*" (with Dr L. Wei of The Faculties and Uni. Wollongong), 2000-2002. (Government Contribution Only.)

◇ $162,536, ARC Discovery Grant DP0343804: "System Theoretical Aspects of Spatial Signal Processing" (with Dr T.D. Abhayapala), 2003-2005.

◇ $172,536, ARC Discovery Grant DP0346430: "Adaptive Multi-user Detectors for Mobile Space-Time Communications Systems over Time Variable Fading Channels" (with A/Prof P.D. Rapajic and Prof V Solo), 2003-2005.

◇ $315,000, ARC Discovery Grant DP0773898: "Model-Based Approach to Adaptive Channel Coding and Estimation for Future Wireless Communication Systems" (with Dr P. Sadeghi and A/Prof P.D. Rapajic), 2007-2009.

2.3   External Industry Related (Excluding Private Consultancies)

Total Industry Sourced Grants to $1.7M.

◇ $60,000 – Contract Research: Joint investigator for "*Comparison of Technologies Project*", with Dr L. Wei of Teleng, RSISE (Sep'95–Jun'96).

◇ $23,000 – Software Royalties: Audio and internet software through ANUTech Pty Ltd (1997–1998).

◇ $40,000 – University Consultancy: "Research Programme for Improved DTV Receivers Phase 1 (DTV Phase 1)"; News Limited (May'99–Jul'99).

◇ $15,000 – NEC SPIRT Support Grant: "*Adaptive Receivers for Wireless Multimedia Applications*" (with Dr P.D. Rapajic), 1999-2001.

◇ $240,000 – University Consultancy: "Improved DTV Receivers (DTV Phase 2)"; News Limited (Sep'99–Apr'00).

◇ $30,000 – Motorola SPIRT Support Grant: "*Performance Improvement of xDSL and Cable Modems for Internet Service Delivery in the Presence of Noise*" (with Dr L. Wei and Uni. Wollongong), 2000-2002.

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[1]Chief Investigator when in The Faculties, Associate Chief Investigator when in the IAS

⋄ $271,000 (US$160,000) – University Consultancy: "Collaborative Research, Development and Commercialization Agreement"; Fox Television Stations, Inc. (May'00–Oct'00).

⋄ $100,000 (US$53,500) – University Consultancy: "Collaborative Research, Development and Commercialization Agreement Amendment No.2"; Fox Television Stations, Inc. (Nov'00–Dec'00).

⋄ $613,000 (US$325,000) – University Consultancy: "Collaborative Research, Development and Commercialization Agreement Amendment No.3"; Fox Television Stations, Inc. (Jan'01–Aug'15).

⋄ $420,000 (US$210,000) – University Consultancy: "Collaborative Research, Development and Commercialization Agreement Amendment No.4"; Fox Television Stations, Inc. (Aug'16–Dec'31).

2.4   External Sourced Grants

Total ATERB Grants to $58K.

⋄ $15,000 – ATERB Grant: "*Stochastic dynamics of decision feedback equalizers*" (joint), 1986-89 (over 3 years).

⋄ $15,000 – ATERB Grant: "*Modelling of rare and damaging events in packet switched networks*" (joint), 1988-90 (over 3 years).

⋄ $12,000 – ATERB Grant: "*Study of encoder performance in the CCITT G.721 ADPCM standard*" (joint), 1989-91 (over 3 years).

⋄ $6,000 – ATERB Grant: "*Non-Linear Signal Processing for Removal of Noise from Discontinuous Signals*" (joint), 1990-92 (over 2 years).

⋄ $10,000 – ATERB Grant: "*Adaptive Schemes for Blind Channel Equalization*" (joint), 1991-92 (over 2 years).

2.5   Internal ANU Sourced Grants

Total Internal Grants to $132K.

⋄ $80,000 – Equipment Grant: Major Equipment Special Startup Grant (Dec'95).

⋄ $52,000 – Equipment Grant: "ADSL/CDMA Testbed for Studying, Emulating and Evaluating High Speed Internet Access by Home and Small Business Users" (with Dr L. Wei) (Dec'99).

2.6   Other Grants

⋄ $150,000 (1994) + $200,000/year – Strategic Development Fund Grant: For establishment of Telecommunications Engineering Group in RSISE.

⋄ CRC for Robust and Adaptive Systems: Participant since inception (1991) in the Cooperative Research Centre for Robust and Adaptive Systems (CRASys). Researcher in centre projects; academic supervisor of 10 centre-based students; and CRCSys Student Coordinator, see §3.1 (CRC Annual Indexed Grant $1,600,000).

⋄ $1,500,000, ARC Research Network RN0459498: "Australian Communications Research Network", (named leading participant), 2004-2009.

2.7   Cross Campus Research Links

◇ Biomedical Research: Joint research with Protein Dynamics Unit of the Department of Chemistry (Dr S-H. Chung).

◇ Joint PhD Supervision: Department of Engineering FEIT PhD Student co-supervision (Dr L. Wei and Dr R.C. Williamson).

◇ Joint Academic Appointment: Joint Senior Lecturer appointment with Department of Systems Engineering RSPhysSE and Department of Engineering, Faculty of Science (now Faculty of Engineering and Information Technology) from 1990 to 1994.

◇ Joint Large ARC Grants: Primary or secondary investigator on three successful Large ARC Grants with academic staff in Department of Engineering.

2.8   Continued Professional Development

◇ Time Management Course: CEDAM course run for members of Department of Systems Engineering (August 1992).

◇ Skills for Managing People: Graduate Diploma in Management course run by ANU Staff Development and Training Unit (July-October 1994).

◇ High Tech Small Business Management: Short course run by CPMC Education and Training, organised by the CRC for Robust and Adaptive Systems (September 1994).

◇ Strategic Planning Retreats: CEDAM retreats for members of Department of Systems Engineering (August 1992) and RSISE (September 1994).

◇ Leading Change Program: ANU Senior Management Development Strategy run by Brownhill Learning Consultancies and ANU Staff Development and Training Unit (August 1995 with follow ups).

◇ Media Skills Workshop: Multi-Media Communications Pty Ltd run one day workshop organised by the CRC for Robust and Adaptive Systems (September 1995).

◇ Business Planning Seminar: one day workshop run by Mr Chris Golis, Executive Chairman of Nanyang Management (June 1999).

3   Administration

3.1   Student Advising, Co-ordinating and Enrolling

◇ Convenor of the Graduate Program in Engineering: (1993–1995, and 2003–2004) Responsibilities included: recruitment, enrollment and graduate student administration. Currently, a member of the Board of Studies.

◇ Student Manager for CRC for Robust and Adaptive Systems: (From 1991 to 1999.) Responsibilities included: student administration covering recruitment, supplementary scholarships, student domestic and international travel, industrial outplacement, and student policy. Approximately $100,000 annual budget.

◇ Academic Advisor: Member of a number of other academic committees for PhD students from other departments at ANU.

3.2   Contributions to Administration of Department

◇ **Head of Department – Telecommunications Engineering, RSISE:** Head of Department from 1994 to 2004. Responsibilities for budget, infrastructure establishment and strategic planning. Supervision of academic and general staff.

◇ **Acting Head of Department – Systems Engineering, RSPhysSE:** Accumulated experience of 6 months as acting head.

◇ **Acting Head of Department – Department of Engineering, FEIT:** Accumulated experience of 2 months as acting head.

3.3   Membership of Department/Faculty/University Committees

3.3.1   School Based

1994 - present   Member of Faculty Board

3.3.2   University Based

1991 - 1992   Member of the Board of the Faculties

1994 - 1998   Member of the Board of the Institute of Advanced Studies

1997 - 1998   Member of the General Policy Committee

1997 - 1998   Member of Communications Review Steering Committee

1999 - 2001   Member of Major Equipment Committee

4   Service and Outreach

4.1   Details of Professional Practice

◇ **Experience/Qualifications:** Three years non-academic experience as an design and analysis research engineer. Qualified electrician in NSW and ACT.

◇ **Consultancy:** Research contracting through ANUTech and University Consultancy through RSISE Business Office.

◇ **Service:** Court expert witness.

4.2   Membership of Relevant Professional Societies

◇ **Institute of Electrical and Electronics Engineers (IEEE):** Member from 1986 to present (Student Member, Member, Senior Member, Fellow)

◇ **Member of the IEEE Communications Society:** Regular contributor to its journals and Associate Editor to its main journal. Contributor to its conferences.

◇ **Member of the IEEE Information Theory Society:** Regular contributor to its journal and conferences.

◇ **Member of the IEEE Circuits and Systems Society:** Contributor to its journal.

◇ **Member of the IEEE Control Systems Society:** Regular contributor to its conferences.

◇ **Member of the IEEE Signal Processing Society:** Regular contributor to its journals and conferences.

◇ **Acoustical Society of America (ASA):** Full Member of the Acoustical Society of America since 1996. Contributor to the its journal and workshops.

4.3   Selected Organisation of Conferences/Seminars

◇ Member of Technical Program Committee: for multiple national and international conferences.

◇ Chairman of Session: for multiple national and international conferences.

◇ General Chair: 7th Communication Theory Mini-Conference, Sydney 1998.

◇ General Chair: 4th Australian Communications Theory Workshop, AusCTW 2003, Canberra 2003.

◇ General Co-Chair: IEEE International Symposium on Information Theory, Adelaide 2005.

4.4   Journal Editing

◇ Member of the Editorial Board of IJACSP: Member of the Editorial Board of the Wiley Journal International Journal of Adaptive Control and Signal Processing from 1991 to present.

◇ Associate Editor of IEEE Transactions on Communications: Editor for Data Communications in the Area of Modulation and Signal Design for the IEEE Transactions of Communications, from 1995 to 2005. This transactions is the premier journal in the telecommunications area.

◇ Member of the Editorial Board of Foundations and Trends in Communications and Information Theory.:

4.5   Journal Paper Refereeing

Regular reviewer for the following international journals:

◇ IEEE Transactions on Information Theory:

◇ IEEE Transactions on Communications:

◇ IEEE Transactions on Signal Processing:

◇ International Journal of Adaptive Control and Signal Processing:

◇ Electronic Letters:

Reviewer for the following international journals:

◇ IEEE Transactions on Automatic Control:

◇ IEEE Signal Processing Letters:

◇ IEEE Transactions on Circuits and Systems:

◇ IEEE Journal on Oceanic Engineering:

◇ International Federation for Automatic Control (IFAC) Automatica:

◇ Mathematics of Control, Signals, and Systems (MCSS):

Reviewer for the following Australian journals:

◇ Journal of the Australian Mathematical Society:

◇ Journal of the Australian Acoustical Society:

◇ Acoustics Australia:

5   R.A. Kennedy Publication List

Theses

[Th1] R. A. Kennedy, "Digital servo control of a large radio telescope," Master's thesis, School of Elcectrical and Computer Engineering, University of Newcastle, Newcastle NSW, December 1985.

[Th2] R. A. Kennedy, "Operational aspects of decision feedback equalizers," Ph.D. dissertation, Department of Systems Engineering, The Australian National University, Canberra ACT, December 1988.

Chapters in Books

[Bc1] Z. Ding, C. R. Johnson Jr, and R. A. Kennedy, "Global convergence issues with linear blind adaptive equalizers," in *Blind Deconvolution*, S. Haykin, Ed. Prentice Hall, Englewood Cliffs, NJ, 1994, ch. 3, pp. 60–120.

[Bc2] R. J. Evans, I. M. Y. Mareels, L. J. Sciacca, D. N. Cooper, R. H. Middleton, R. E. Betz, and R. A. Kennedy, "Adaptive servo control of large antenna structures," in *Model Identification and Adaptive Control*, G. Goodwin, Ed. Springer-Verlag, London Limited, 2001, ch. 7, pp. 127–151.

[Bc3] R. A. Kennedy, Z. Ding, and S. Hasnie, "Quantizer optimization: Application of passivity in telecommunications," in *Model Identification and Adaptive Control*, G. Goodwin, Ed. Springer-Verlag, London Limited, 2001, ch. 8, pp. 153–177.

[Bc4] D. B. Ward, R. A. Kennedy, and R. C. Williamson, "Constant directivity beamforming," in *Microphone Arrays*, M. Brandstein and D. B. Ward, Eds. Springer, Berlin, 2001, ch. 1, pp. 3–17.

[Bc5] T. S. Pollock, T. D. Abhayapala, and R. A. Kennedy, "Spatial characterization of multiple antenna channels," in *Signal Processing for Telecommunications and Multimedia*, T. A. Wysocki, B. Honary, and B. J. Wysocki, Eds. Springer, 2005, ch. 12, pp. 145–158.

Papers in Refereed Journals

[Jr1] R. A. Kennedy, "Parametric study of shaped cassegrain antennas," *IEE Proceedings, Part H - Microwaves, Antennas and Propagation*, vol. 134, no. 3, pp. 297–302, June 1987.

[Jr2] R. A. Kennedy and B. D. O. Anderson, "Error recovery of decision feedback equalizers on exponential impulse response channels," *IEEE Trans. Commun.*, vol. 35, no. 8, pp. 846–848, August 1987.

[Jr3] R. A. Kennedy and B. D. O. Anderson, "Recovery times of decision feedback equalizers on noiseless channels," *IEEE Trans. Commun.*, vol. 35, no. 10, pp. 1012–1021, October 1987.

[Jr4] R. A. Kennedy, B. D. O. Anderson, and R. R. Bitmead, "Tight bounds on the error probabilities of decision feedback equalizers," *IEEE Trans. Commun.*, vol. 35, no. 10, pp. 1022–1029, October 1987.

[Jr5] D. N. Cooper, B. F. Parsons, G. G. Moorey, R. A. Kennedy, G. L. James, B. Wilcockson, and G. C. J. van der Meulen, "The Australian Landsat station at X-band," *J. Electrical and Electronics Eng., Australia–IE Aust., and IREE Aust.*, vol. 7, no. 4, pp. 285–293, December 1987.

[Jr6] M. R. Frater, R. A. Kennedy, and B. D. O. Anderson, "Reverse-time modeling, optimal control and large deviations," *Systems and Control Letters*, vol. 12, no. 4, pp. 351–356, June 1989.

[Jr7] R. A. Kennedy, G. W. Pulford, B. D. O. Anderson, and R. R. Bitmead, "When has a decision directed equalizer converged?" *IEEE Trans. Commun.*, vol. 37, no. 8, pp. 879–884, August 1989.

[Jr8] R. A. Kennedy, B. D. O. Anderson, and R. R. Bitmead, "Channels leading to rapid error recovery for decision feedback equalizers," *IEEE Trans. Commun.*, vol. 37, no. 11, pp. 1146–1155, November 1989.

[Jr9] M. R. Frater, R. R. Bitmead, R. A. Kennedy, and B. D. O. Anderson, "Fast simulation of rare events using reverse-time models," *Computer Networks and ISDN Systems, North Holland*, vol. 20, no. 1-5, pp. 315–321, December 1990.

[Jr10] Z. Ding, R. A. Kennedy, B. D. O. Anderson, and C. R. Johnson Jr, "Ill-convergence of Godard blind equalizers in data communication systems," *IEEE Trans. Commun.*, vol. 39, no. 9, pp. 1313–1327, September 1991.

[Jr11] S. H. Chung and R. A. Kennedy, "Forward-backward nonlinear filtering technique for extracting small biological signals from noise," *J. Neurosci. Methods*, vol. 40, pp. 71–86, November 1991.

[Jr12] D. Williamson, R. A. Kennedy, and G. W. Pulford, "Block decision feedback equalization," *IEEE Trans. Commun.*, vol. 40, no. 2, pp. 255–264, February 1992.

[Jr13] Z. Ding and R. A. Kennedy, "On the whereabouts of local minima for blind adaptive equalizers," *IEEE Trans. Circuits Syst.*, vol. 39, no. 2, pp. 119–123, February 1992.

[Jr14] R. A. Kennedy and Z. Ding, "Blind adaptive equalizers for quadrature amplitude modulated communication systems based on convex cost functions," *Opt. Eng.*, vol. 31, no. 6, pp. 1189–1199, June 1992.

[Jr15] G. W. Pulford and R. A. Kennedy, "Maximum a posteriori decision feedback detection," *IEE Proceedings, Part I - Communications, Speech and Vision*, vol. 139, no. 5, pp. 546–552, October 1992.

[Jr16] Z. Ding, C. R. Johnson Jr, and R. A. Kennedy, "On the (non)-existence and undesirable equilibria of godard blind equalizers," *IEEE Trans. Signal Processing*, vol. 40, no. 10, pp. 2425–2432, October 1992.

[Jr17] Z. Ding, R. A. Kennedy, B. D. O. Anderson, and C. R. Johnson Jr, "Local convergence of Sato blind algorithm and generalizations under practical constraints," *IEEE Trans. Inform. Theory*, vol. 39, no. 1, pp. 129–144, January 1993.

[Jr18] S. Verdú, B. D. O. Anderson, and R. A. Kennedy, "Blind equalization without gain identification," *IEEE Trans. Inform. Theory*, vol. 39, no. 1, pp. 292–297, January 1993.

[Jr19] R. A. Kennedy, B. D. O. Anderson, and R. R. Bitmead, "Blind adaptation of decision feedback equalizers: Gross convergence properties," *Int. J. of Adapt. Contr. and Signal Processing*, vol. 7, no. 6, pp. 497–524, November 1993.

[Jr20] G. W. Pulford, R. A. Kennedy, and B. D. O. Anderson, "An upper bound on the performance of a novel feedforward perceptron equalizer," *IEEE Trans. Inform. Theory*, vol. 39, no. 6, pp. 1923–1929, November 1993.

[Jr21] S. Crisafulli, G. J. Rey, C. R. Johnson Jr, and R. A. Kennedy, "A coupled approach to ADPCM adaptation," *IEEE Trans. Speech and Audio Processing*, vol. 2, no. 1, pp. 90–93, January 1994.

[Jr22] K. Doğançay and R. A. Kennedy, "Testing for the convergence of a linear decision directed equaliser," *IEE Proc. I. Vision, Image and Signal Processing.*, vol. 141, no. 2, pp. 129–136, April 1994.

[Jr23] K. Yamazaki and R. A. Kennedy, "Reformulation of linearly constrained adaptive equalization and its application to blind equalization," *IEEE Trans. Signal Processing*, vol. 42, no. 7, pp. 1837–1841, July 1994.

[Jr24] S. Vembu, S. Verdú, R. A. Kennedy, and W. Sethares, "Convex cost functions in blind equalization," *IEEE Trans. Signal Processing*, vol. 42, no. 8, pp. 1952–1960, August 1994.

[Jr25] G. W. Pulford, J. C. Gallant, R. A. Kennedy, and S. H. Chung, "Evaluation and estimation of various Markov models with application to membrane channel kinetics," *Biometrical Journal*, vol. 37, no. 1, pp. 39–63, January 1995.

[Jr26] D. B. Ward, R. A. Kennedy, and R. C. Williamson, "Theory and design of broadband sensor arrays with frequency invariant far-field beam patterns," *J. Acoust. Soc. Am.*, vol. 97, no. 2, pp. 1023–1034, February 1995.

[Jr27] G. W. Pulford, R. A. Kennedy, and S. H. Chung, "Identification of individual channel kinetics from recordings containing many identical channels," *Signal Processing*, vol. 43, no. 2, pp. 207–221, May 1995.

[Jr28] S. H. Chung and R. A. Kennedy, "Coupled markov chain model: Characterization of membrane channel currents with multiple conductance sublevels as partially coupled elementary conducting pores," *Mathematical Biosciences*, vol. 133, no. 2, pp. 111–137, March 1996.

[Jr29] D. B. Ward, R. A. Kennedy, and R. C. Williamson, "FIR filter design for frequency invariant beamformers," *IEEE Signal Processing Lett.*, vol. 3, no. 3, pp. 69–71, March 1996.

[Jr30] R. A. Kennedy and S. H. Chung, "Modeling and identification of coupled Markov chain model with application," *Int. J. of Adapt. Contr. and Signal Processing*, vol. 10, no. 6, pp. 623–634, November 1996.

[Jr31] K. Yamazaki and R. A. Kennedy, "Blind equalization for QAM systems based on general linearly-constrained convex cost functions," *Int. J. of Adapt. Contr. and Signal Processing*, vol. 10, no. 6, pp. 707–744, November 1996.

[Jr32] N. C. McGinty and R. A. Kennedy, "Reduced state sequence estimator with reverse-time structure," *IEEE Trans. Commun.*, vol. 45, no. 3, pp. 265–268, March 1997.

[Jr33] K. Doğançay and R. A. Kennedy, "Least squares approach to fractionally spaced blind channel equalization," *Signal Processing*, vol. 58, no. 1, pp. 63–78, April 1997.

[Jr34] K. Doğançay and R. A. Kennedy, "Blind detection of equalization errors in communication systems," *IEEE Trans. Inform. Theory*, vol. 43, no. 2, pp. 469–482, March 1997.

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