

CURRICULUM VITAE

Dr. Ali Chekima

Associate Professor,
School of Engineering and Information Technology
University Malaysia Sabah
Beg Berkunci No 2073,
88999, Kota Kinabalu, Sabah, Malaysia
Tel: 6088-32000 ext 3065 (Office)
6088-492221 (Home)
Fax: 6088-320349
e-mail: chekima@ums.edu.my

Research Interest

Source Coding, Analog Source Digitalization, Antenna Design, Optimal and Vector Quantization, Image Processing, Pattern Recognition, Signal Extrapolation., Neural Network Applications.

Education

Ph.D. in Electrical Engineering,
Electrical, Computer and Systems Engineering Department,
Rensselaer Polytechnic Institute, Troy, N.Y., USA, in May 1984.

Master of Sciences in Electrical Engineering,
Electrical, Computer and Systems Engineering Department,
Rensselaer Polytechnic Institute, Troy, N.Y., USA, in May 1978.

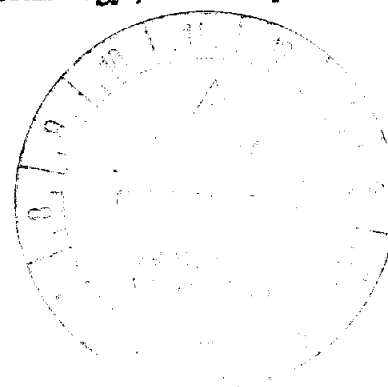
Degree of Engineer (5 years program) in Electronics,
Ecole Nationale Polytechnique d'Alger, Algeria, in June 1976.

Baccalaureat in Elementary Mathematics June 1971

Experience

October 1996 to date:

Associate Professor, School of Engineering and Information Technology , University Malaysia Sabah, Sabah, Malaysia.



Electrical and Electronics Engineering Programme Coordinator since January 1998,
Member of various Programme Committees and School of Engineering Committees.
Responsibilities include:

- ◆ Teaching various courses
- ◆ Research activity in pattern recognition and data compression
- ◆ Supervision of Final Year Projects, Master and Ph. D. theses
- ◆ Development of various laboratories: Basic Electricity, Electronics, Electromagnetics, Telecommunications, Power, CAD.

October 1995 - September 1996

**Associate Professor, Department of Electrical & Computer Engineering,
International Islamic University Malaysia.**
Responsibilities include:

- Teaching and carrying out research activities
- Development of different laboratories,

March 1989- June 1995

**Professor, & Head, Department of Electronics Engineering
Ecole Nationale Polytechnique d'Alger, Algeria.**
Responsibilities include:

- Development and supervision of Engineering labs, planning, development and administration of the Department, teaching undergraduate and post-graduate courses, organizing research seminars and carrying out research activities.
- In-charge of the post-graduate study program at the Ecole Nationale Polytechnique, from since September 1985.
- Director of research projects sponsored by the Ministry of Higher Education and Research in the area of "Image Processing and Pattern recognition" from, 1989 to 1993.
- Director of a joint Research Program between the Electronics Department E.N.P. (Algeria) and the Ecole Nationale d'Electricite et de Mecanique Institut National polytechnic de Lorraine: INPL (Nancy France) in the area of "Acquisition and Processing of Biological Signals" from 1988 till 1992.
- President of the Scientific Board of the Department of Electronics of the E.N.P from 1985 to 1994.
- Member of the Regional and National Graduate Studies programme committee (Ministry of Higher Education and Research) from 1987 to 1994.

- Member of National Committee in-charge of exams organization for post-graduate studies abroad from 1985 to 1992 under the Ministry of Higher Education and Research.
- Member of the National Committee for Assessment of equivalence between Algerian degrees and degrees obtained from overseas universities since 1986 to 1994 under the Ministry of Higher Education and Research.
- Member of "Commission Universitaire Nationale" which is in charge of the Promotion of all categories of lecturers since 1991 up to 1994 under the Ministry of Higher Education and Research.
- Member of the Scientific Committee of Technology in-charge of the selection of "Post-doctoral positions" (Ministry of Higher Education and Research) from 1990 to 1994.
- Member of the "Commission Paritaire du Corps des professeurs" in charge of Professor Assessments. from 1991 to 1994, under the Ministry of Higher Education and Research.

March 1986-March 1989

Associate Professor, Department of Electronics Engineering
Ecole Nationale Polytechnique d'Alger, Algeria.

Responsibilities include:

- Development and supervision of Engineering labs, Teaching, organizing research seminars and carrying out research activities.
- Director of research projects sponsored by the Ministry of Higher Education and Research in the area of "Image Processing and Pattern recognition" from, 1986 to 1989.

March 1984 -March 1986

Assistant Professor, Department of Electronics Engineering
Ecole Nationale Polytechnique d'Alger, Algeria.

Responsibilities include:

- Development & supervision of Engineering labs, teaching, organizing research seminars and carrying out research activities.

Supervision of theses

Several final year engineers projects, master theses and doctoral theses had been supervised.

Doctoral Theses

- Optimal vector quantization : The spiral quantizer-1991
(co-direction with Prof. J. P. Adoul ,University of Montreal Canada).
- Speech recognition using the global method.
- Contribution toward pattern recognition. application to Arabic alphabet with different characters.
- Optimization of a signal processing unit of a remote measurement block.
- Object Recognition For Visually Impaired Persons.
- Skin and Lips detection Using Neural Networks.
- Data Mining Using Neural networks Trees.
- Person Tracking for Intelligent Visual Surveillance
- Linear Active Element Signal Conditioner
- MC-CDMA Using TSC Spreading Coding for Telemedicine Application in Sabah.

Master's Theses

- Analog Source Digitalization With Several Constraints: Application to Gamma Source.
- A Computer Simulation of a Set-up Unit: Optimization With Respect to the Components Stock.
- Pattern Recognition: Application to the Recognition of Arabic Printed Alphabet.

- Sub-Optimal Vector Quantization: Implementation of Dictionary for the Gaussian Source.
- Extrapolation of Band Limited One-dimensional and Bidimensional Signals, a Comparative Study.
- Spectrometer Based on Nuclear Magnetic Resonance for Measurement of cell's Time Decay (co-direction).
- Video-phone: Coding at Very Low Bit Rate for Simultaneous Transmission of Picture and Speech (slow variation of picture).
- Image Processing Software for an Audible Aid to Autonomous Navigation of Blind Person.
- Design of A Smart Patch Antenna.
- Form Processing.
- Medical Diagnosis Based on Iris and Retina Images
- Design of Image Processing for Biometric Authentication Using Palmprint
- Patient Lifting Robots
- Medical Diagnosis Using ECG Signals.

Undergraduate Projects

- Optimum Quantizers: use of Various Algorithms: Application to Gaussian, Laplacian and Rayleigh Sources.
- Quantization of the Gamma Source.
- Symmetrical and Non-Symmetrical Quantizers for the Gamma Source.
- Vector Quantization, use of Different Approaches: Case of Gaussian Source.
- Antenna Arrays Synthesis: a Comparative Study of Arrangements and Choice of the Optimum Method.
- Design of Uda-Yagi Antenna

- Design of Horn Antenna
- Analysis and Design of Patch Antenna
- Tele-measurement of Range Using Infrared Diode.
- Postal Code Recognition Using Neural Network.
- Fingerprint Recognition using Neural Network
- Character Recognition Using Neural Network and Artificial Intelligence
- Iris Identification and Recognition Using Neural Networks Approach.
- Noise Filtering Using Neural Network
- JPEG 2000 Image compression Standard
- Mobil Communications, Review of Historical Evolution and Future trends.
- Vector Quantization
- Data Compression of Biomedical Signals Using Wavelet
- Intelligent House
- ECG Signal Compression Using Wavelet

Teaching Capabilities

I had taught a variety of undergraduate and post - graduate courses :

- Basic Electrical Engineering (for non-electrical engineering students)
- Electrical Circuit Analysis (for electrical engineering students)
- Analog Electronics,
- Engineering Mathematics
- Mathematical Analysis,
- Linear Algebra and Vector Calculus,
- Numerical Methods,
- Probabilities and Statistics,
- Electromagnetic Field Theory.
- Network Theory

- Antenna and Propagation
- Information Theory and Coding.
- Signal and Systems
- Digital Signal Processing,
- Image Processing
- Pattern Recognition,
- Principles of Communications,
- Modern Communications Systems,
- Digital Communications

Publications:

Books:

- 1 "Problems with Solutions in Signal Processing: Analog and Digital", September 2000, under UMS Publication
- 2 ICAIET02 Proceedings, Editor of the Proceedings of the International Conference on Artificial Intelligence in Engineering and Technology, ICAIET2002, Kota Kinabalu, 17-18 June 2002
- 3 Current Trends in Artificial Intelligence and Applications, 2004, under UMS Publication, ISBN: 983-2369-14-2
- 4 ICAIET02 Proceedings, Chief Editor of the Proceedings of the International Conference on Artificial Intelligence in Engineering and Technology, ICAIET2004, Kota Kinabalu, 3-5 August 2004

Publications, Conferences and Workshops

1. "Digitalization of Analog Memoryless Sources", I.E.E.E., International Conference on Communications, Philadelphia, USA, June 1982.
2. "Coding Discrete Memoryless Sources with Constrained Reproduction Alphabet", I.E.E.E., International Symposium on Information theory, Les Arcs, France, November, 1982.
3. "Coding Bounds for Memoryless Analog Sources with Constrained Reproduction Alphabets", Ph.D. Thesis, Department of Electrical, Computer and System Engineering, Rensselaer Polytechnic Institute, Troy, New York, 12180, U.S.A., February 1984.
4. "Source Coding Bounds Using Quantizer Reproduction Levels". I.E.E.E., Transactions on Information Theory, May 1984.

5. "Optimum Vector Quantization, the Spiral Quantizer", G.R.E.T.S.I., France, 1993.
6. "Full Swing Shottky BICMOS/BINMOS and the Effect of Operating Frequency and Supply Voltage Scaling", I.E.E.E. Journal of Solid-State Circuits, June 1994.
7. "Publishing Arabic on the Word Wide Web", Seminar Kebangsaan on Teknologi Maklumat Dalam Pendidikan Islam 97, Kuala Lumpur, Malaysia, 9-11 Sept, 1997.
8. "Neural Networks Application to Pattern Recognition", Workshop on Artificial Intelligence and Applications, Organized by the School of Engineering and Information Technology, University Malaysia Sabah, Malaysia, Dec 9, 1998.
9. "Discrete Cosine Transform for Image Compression", SPIE International Symposium on Intelligent Systems and Advanced Manufacturing: Applied Research and Equipment /System design, Boston Massachusetts, USA, 1-5 Nov. ,1998.
10. "Image Compression by Discrete Cosine Transformation", Borneo Science, Journal of Science and Technology, Vol. 5, June, 1999.
11. " Coding for Pattern Recognition ", Bulletin SKTM, School of Engineering and Information Technology, Sabah, University Malaysia Sabah, Malaysia, Vol. 1, Issue 1., June 1999.
12. " Technical Computing Using MATLAB", Bulletin SKTM, School of Engineering and Information Technology, University Malaysia Sabah, Sabah, Malaysia , Vol. 1, Issue 1., June 1999.
13. "Electronics Travel Aids for Visually Impaired people", Persidangan Kebangsaan Pascasiswazah IPTA '99, 1-2 December 1999 University Malaysia Sabah.
14. " Electronics Travel Aids for Visually Impaired - A Guided Tour", Proceedings of the Conference on Engineering in Sarawak: in the Last Century and for the Next Decade, 16-17 May 2000, Hilton Kuching, pp111-129.
15. "Typewritten and Handwritten Postal Code Recognition System", Proceeding of the International Electrical Engineering Conference 2000: Electrical

Engineering in the New Millennium, 8-9 August 2000, Kuala Lumpur, Malaysia.

16. "Image Compression in Spatial Domain", Proceeding of the International Electrical Engineering Conference 2000: Electrical Engineering in the New Millennium, 8-9 August 2000, Kuala Lumpur, Malaysia.
17. "A Stereo Auditory Display for Visually Impaired", intelligent Systems and Technologies for the New Millennium", IEEE TENCON 2000, Vol II, Kuala Lumpur, 24-27 Sept. 200, pp. 377-382 Vol. II.
18. "Detection of Singularities in Signals Using Wavelet technology", Proceeding of the National Seminar on Physics, FIZI 2000, 7-8 November, 2000, Kota Kinabalu, Sabah, Malaysia, pp. 203-212.
19. "Wavelet Compression of Signals and Images", Proceedings of the first International Conference on Mechatronics, ICOM'01, 12-13 February 2001, Kuala Lumpur, pp. 401-408, Vol. 1.
20. "Micro-Controlled Based Voice Messaging System", Proceedings of the first International Conference on Mechatronics, ICOM'01, 12-13 February 2001, Kuala Lumpur, pp. 659-664, Vol 2.
21. "An Image Segmentation Method Using Fuzzy-Based Threshold", Proceeding of the sixth International symposium on Signal Processing and its Applications, ISSPA 2001, 13-16 August 2001, Kuala Lumpur, Malaysia.
22. "Computer Based Messaging System", Globalizing Research and Development in Electrical and Electronics Engineering, SCORed 2002, 16-17 July 2002, Shah Alam, Malaysia.
23. "Fingerprint Identification And Recognition Using Backpropagation Neural Network", Globalizing Research and Development in Electrical and Electronics Engineering, SCORed 2002, 16-17 July 2002, Shah Alam, Malaysia.
24. "Iris Recognition using Self-Organizing Neural Networks" Globalizing Research and Development in Electrical and Electronics Engineering, SCORed 2002, 16-17 July 2002, Shah Alam, Malaysia.
25. "Neural Networks for Objects recognition: A Survey", International Conference on Artificial Intelligence in Engineering and Technology, ICAIET 2002, 17-18 June 2002, Kota Kinabalu, Sabah, Malaysia.

26. "Application of Fuzzy Image Processing Methodology in Blind Navigation", International Conference on Artificial Intelligence in Engineering and Technology, ICAIET 2002, 17-18 June 2002, Kota Kinabalu, Sabah, Malaysia.
27. "Iris Recognition Using SOM, Neural Networks", International Conference on Artificial Intelligence in Engineering and Technology, ICAIET 2002, 17-18 June 2002, Kota Kinabalu, Sabah, Malaysia.
28. "Smart House", Proceeding Seminar Kebangsaan Pascasiswazah, Kota Kinabalu, Malaysia 2003.
29. "Computerised Iridology System", Proceeding Seminar Kebangsaan Pascasiswazah, Kota Kinabalu, Malaysia 2003.
30. "A pixel-based Skin Detection Technique", Proceeding Seminar Kebangsaan Pascasiswazah, Kota Kinabalu, Malaysia 2003.
31. "A Non-Parametric Approach To Skin Detection", Proceeding of the 11th International Conference on Advanced Computing and Communications, ADCOM'03, Coimbatore, India, 2003.
32. "Medical Diagnosis Using ECG", Proceeding of The Seminar on Science and Technology, Universiti Malaysia Sabah, pp1-9, August 10-12, 2004.
33. Ali Chekima, Jamal Ahmad Dargham, Liao Chung Fan, Wan Mahani, Lye Wil Liam, "Tumor Detection using Iris Pattern", International Conference on Artificial Intelligence in Engineering and Technology, ICAIET 2004, Kota Kinabalu, August 2004.
34. "Skin Detection Using Neural Networks", International Conference on Artificial Intelligence in Engineering and Technology, ICAIET 2004, Kota Kinabalu, August 2004.
35. "Classification of Diabetes Using Error Backpropagation Algorithm with Systole Activation Function", International Conference on Artificial Intelligence in Engineering and Technology, ICAIET 2004, Kota Kinabalu, August 2004.
36. "The Effect of Scale, Facial Expressions, and Partial Occlusion on Skin Detection", Proceeding of the 4th WSEAS Multi-conference, Izmir, Turkey, Sept 2004.
37. "The Effect of Scale, Facial Expressions, and Partial Occlusion on Skin Detection", WSEAS Transactions on Information Science and Applications, Issue 3 Vol. 1 pp 931-936, Sep 2004.

38. "Iris Localization in Iridology Using Hough Transform", Second International Conference on Mechatronics, ICOM'05, Pan Pacific Hotel Kuala Lumpur, 10-12 May 2005.
39. "New Chrominance Components for Skin Detection in the Normalized rgb Colour Space", Second International Conference on Mechatronics, ICOM'05, Pan Pacific Hotel Kuala Lumpur, 10-12 May 2005.
40. "Signal Conditioner for Sensor Application", International Conference on Robotics, Vision, Information and Signal Processing, ROVIS2005, Penang, Malaysia, July 20-22.
41. "Skin Detection Using MLP Neural Network", 9th International Conference on Mechatronics Technology, ICM' 05, Kuala Lumpur, Malaysia December 5-8, 2005.
42. "Data Mining Using Artificial Neural Network Tree" 9th International Conference on Mechatronics Technology, ICM' 05, Kuala Lumpur, Malaysia, December 5-8, 2005.
43. "Linear Active Element Signal Conditioner", International Conference on Modeling and Simulation, MS2006, April 3-5, 2006, Kuala Lumpur, accepted.
44. "Lips Detection in the Normalized RGB Colour Scheme", International Conference on Information and Communications Technologies from Theory to Applications ICTTA'06, April 24-28, 2006, Syria.
45. "Data Mining Using Neural networks", International Conference on Information and Communications Technologies from Theory to Applications ICTTA'06, April 24-28, 2006, Syria.
46. "A Comparative Study of Sensor Signal Conditioner", International Symposium on Science and Technology, UMS-GIST, February 6-7, UMS Kota Kinabalu, Sabah, Malaysia.
47. "Lips detection Using Histogram Thresholding", International Symposium on Science and Technology, UMS-GIST, February 6-7, UMS Kota Kinabalu, Sabah, Malaysia.
48. "Pattern Extraction From Background In Iridology", International Conference on Man_Machine Systems, ICoMMS 2006, 15-16, September, Langkawi, Malaysia.
49. "Intensity Normalisation For Skin and Lips detection", International Conference on Man_Machine Systems, ICoMMS 2006, 15-16, September, Langkawi, Malaysia.

- 50 " InfoPruned Artificial Neural Network Tree(ANNT)", International Symposium on Information and Communications Tecchnologies, MZUSIc 2006, 16-17 Nov 2006, PJ, Malaysia, Accepted.
- 51 Multiuser Detector For Space Time Block Coded Muti-carrier CDMA Using Binary Genetic Algorithm, ", 3rd International Conference on Artificial Intelligence in Engineering and Technology, ICAIET 2006, Kota Kinabalu, Novemeber 22-24
- 52 Pruned Artificial Neural NetworkTree for Premium Classification, 3rd International Conference on Artificial Intelligence in Engineering and Technology, ICAIET 2006, Kota Kinabalu, Novemeber 22-24

Paper Reviewer for International Conferences:

Reviewer of a number of papers for the following International Conferences:

- 1 ROVISP: International Conference on Robotics, Vision, Information and Signal processing, ROVISP2005, Penang, Malaysia, July 20-22.
- 2 ICAIET2002 : International Conference on Artificial Intelligence in Engineering and Technology , June 17-18, 2002, Kota Kinabalu , Sabah.
- 3 APCC2003: Asia Pacific Conference: on Communication , Kuala Lumpur, Malaysia, 2003.
- 4 ICAIET2004 : International Conference on Artificial Intelligence in Engineering and Technology 2004, August 3-5 , 2004.Kota kinabalu , Sabah.
- 5 9th International Conference on Mechatronics Technology ICM2005, Dec 5-8, Kuala Lumpur, Malaysia.
- 6 ICAIET 2006 : International Conference on Artificial Intelligence in Engineering and Technology 2006, Novemebr 22, 24 ,Kota Kinabalu , Sabah

Languages

	Read	Write	Speak
English	Very well	Very well	Very well
French	Very well	Very well	Very well
Arabic	Very well	Very well	Very well

Personal Information

Citizen: Algeria
 Marital Status: Married
 Date of Birth: March 10 1952

References

1. Professor Dr. Essayed Abdel Mocty El-Badawy, Coordinator of the Postgraduate Programme, Faculty of Engineering, International Islamic University Malaysia, Lembah Pantai, Jalan Pantai Baru, 59200 Kuala Lumpur, Malaysia., Tel: 603-282-7161 Ext 348, Fax No: 603-282-6957
2. Professor, Dr. Pukhraj Vaya Microelectronics Group, School of Engineering and Information Technology, University Malaysia Sabah, Beg Berkunci No 2073, 88999, Kota Kinabalu, Sabah, Malaysia Tel: 60 88 320000 Ext 3066, Fax: 60 88 20348, Cell +60 16 8193427, E-mail: vaya@ums.edu.my
3. Associate Professor Dr. Ideris Zakaria School of Engineering and Information Technology, University Malaysia Sabah, Beg Berkunci No 2073, 88999, Kota Kinabalu, Sabah, Malaysia, Tel: 6088-320000 Ext 3990 Fax: 6088-320349