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- Qualifications:** D.Sc. (Eng.) London, Ph.D. Carnegie Mellon, M.Sc. with a Mark of Distinction London, B.Sc. Eng. Hons. Ceylon (Katubedde Campus)
IEEE Fellow, Fellow Institution of Engineers Sri Lanka, Chartered Engineer
Certificate in a) Human Rights Research and b) HR Teaching, The René Cassin Intl. Institute of Human Rights, and The Intl. Centre for University Human Rights Teaching, Strasbourg, France.
- Present Position:** Professor, Electrical and Computer Engineering, Michigan State University
Member: Michigan State University Anti-Discrimination Judiciary Board (Elected for 2013/14)
Member, MSU Nondestructive Evaluation Lab; Collaborating with Compos. Vehicle Res. Center
Chair, ECE Dept. Undergraduate Curriculum Committee, MSU (Appointed)
Member, BEACON NSF Center for the Study of Evolution in Action, MSU
IIE Scholar Rescue Fund Fellow, Institute of International Education, UN Plaza, NY 10017
Member, Lecture Series Panel, Scholars at Risk Network, NY
- Editorial Work:** a) Editor-in-Chief, Intl. J. of Electronic Networks, Devices and Fields (Since 2009. By International Research Publication House) b) Editorial Board: J. of Computational Methods and Experimental Measurements (Ed: Carlos Brebbia, WIT Press) c) Editor, *American Journal of Electrical and Electronic Engineering*; d) Editor for Intl. Conf. on CS and IT, 2013- e) Reviewer for many journals and book publishers like IEEE Trans. Magnetics, Taylor and Francis. f) Intl. Steering Committee of Advances in Magnetics Conference
- Research Indices:** Web of Science Core Collectn Journ. Articles (Search for hoole, sr*): 108 + 9 in press
Google: ISI Citations 1011; h-index 14; i10-index 27
Research Gate: RG Score 37.58; Impact Pts. 200.50 – top 5% of RG Members
- Experience:**
- Academe:** 39 years. Rank of full Professor from 1992; 12 years at Harvey Mudd College, CA (1987-99); 10 years at University of Peradeniya (1999-2008), 5 at Drexel University (1984-87, 2006-2008), Philadelphia, PA; 3 in Nigeria; 2 at Rensselaer Polytechnic Institute; three years at MSU on Aug. 15, 2014
- Administration:** University Grants Commission Member, Vice Chancellor, Department Head, Accreditation Body Member, National Science Foundation Board Member, Sri Lanka Association for the Advancement of Science Councilor, and Institution of Engineers Sri Lanka as Editor, all in Sri Lanka. Manager MAGSOFT, California
- Research Funding:** 1980s/90s \$1 mn in the US; millions in SL Rupees; \$440,000 at MSU in the last 3 yrs.
- Teaching:** Computation, Computer Science, Computer Eng., Elect. Eng., Electromagnetics, Power, Telecomm., Systems, Ethics for Engineers, Political Economy of South Asia, Anglican Heritage, Communications
- Institution Building:** New Computer Science/Engineering Program (Peradeniya), New M.S. in Magnetics (Singapore), First Sri Lankan web-course, university EMIS and campus-wide LAN (Open University of Sri Lanka). While at the Univ. Grants Commission: Two new Universities (Uva Wellassa and Visual and Performing Arts), New IT Faculty (Vavuniya), New Medical Faculty (Eastern), New Fine Arts Faculty (Eastern). Instituted Metrics for Professorial Promotions followed by all 15 Sri Lankan Universities
- International Work:** Twenty three years in the US, Ten years in Sri Lanka, 3 years in Nigeria, 2 years in Singapore, a year each in Canada and the UK, a Summer in France
- Industrial:** Two years in the full-time strategic consulting industry, mostly in the US, continuing as consultant from academe. Managed the West Coast operations of MAGSOFT Corp. Developed and maintained a commercial Finite Element Analysis Package for PRUTEC (Prudential Insurance)
- Professional:** IEEE CEFC Conf. General Chairman, Advisory Committee Chairman, Magnetics Society Chapter Chairman, Guest Editor for 4 ISI-indexed journals; Past Editor, *J. Inst. of Eng. Sri Lanka*
- Publications:** Over 150 journal papers (Web of Science: 108 + 8 in press). 270 articles tracked by Research Gate. Five engineering books and several book chapters. Five books in the humanities and social sciences.
- Nationality:** Sri Lankan.
- DoB:** 15 Sept. 1952

CV – Additional Details

Contents

Present Position	2
University Attendance	2
Teaching Experience	2
Courses Taught	2
Civic Activities	2
Professional Activities	3
External Funding	3
Research Grants (MSU).....	4
Students after joining MSU in Aug. 2011	4
Previous (Full-Time) Experience	4
Publications	7
Publications: Theses/Dissertations.....	8
Publications: Books and Book Chapters.....	8
Publications: Editorship of Special Journal Issues.....	9
Publications: Peer Reviewed, Archival (Excluding Conference Papers).....	10
Publications: Papers Accepted and in Press.....	Error! Bookmark not defined.
Publications: Papers under Review.....	19
Publications: Reviewed and Edited IEEE Institute Articles	19
Publications: Nontechnical Archival Papers.....	19
Publications: Conferences.....	20
A Selection of Invited Public Lectures (Nontechnical)	28
Plenary Engineering Lectures after accepting MSU appointment.....	29
Patents (MSU – since August 2011).....	29

Present Position

Since August 2011: Professor of Electrical and Computer Engineering, Michigan State University, East Lansing.

University Attendance

1. B.Sc. Eng. Hons.: University of Ceylon (Katubedde Campus), now University of Moratuwa. Dec. 1970 to June 1975.
2. M.Sc. with a Mark of Distinction: University of London, Joint Imperial College and Queen Mary College program. Oct. 1976 to Oct. 1977.
3. Ph.D. Carnegie Mellon University. Begun at McGill University, April to Dec. 1981. Moved to Carnegie Mellon University with one of my supervisors, May to Dec. 1982.
4. D.Sc. (Eng) London: No residency. Based on an examination of all papers published and relating to the topic of the higher doctorate, Computational Electromagnetics.

Teaching Experience

Courses Taught

Undergraduate (Technical): Electromagnetics, Computational Algorithms, Large Software Development, Intro. to Engineering Modeling (includes Artificial Neural Networks, Fuzzy Logic), Pascal, Intro. to Computer Engineering, Electronics and Digital Devices, Parallel Computing, Computer Graphics, Numerical Methods, Linear Algebra, Electric Machinery, Power Systems, Control Systems.

Graduate: Advanced Computational Algorithms, Computer Aided Design, Design and Optimization, Finite Element Analysis, Advanced Numerical Methods, High Voltage Engineering (RPI), Software Engineering (RPI and Univ. of Ruhuna), Parallel Computing (Postgraduate Institute of Science, Sri Lanka), Electric and Magnetic Fields in Electric Power Engineering (RPI), Power, Generation and Control (RPI), Finite Elements, Power and NDE in Engineering Electromagnetics (MSU)

Humanities (Undergraduate): Ethics for Engineering (Drexel, Peradeniya, Michigan State), Anglican Heritage (Colombo Theological Seminary), Political Economy of South Asia (Harvey Mudd College), Professional Communications (Institution of Engineers Sri Lanka)

Civic Activities

1. UGC Coordinator, Engineering Faculty, University of Jaffna (2010/11). Raising funds and recommending a Site for the Proposed New Engineering Faculty for University of Jaffna, Sri Lanka
2. Member, University Grants Commission, Sri Lanka (October. 2003 to March 2006). This 7-person Presidential Commission manages, and funds all 15 of Sri Lanka's Universities and regulates their administration, admissions and academic standards. Also Chairman of the UGC Standing Committees on a) Information Technology Development and b) Teaching of the English Language. Member, Audit Committee of the UGC, Admissions Committee of the UGC. Was in charge of the revision of the Universities Act No. 16 of 1978 and the Ordinance on Appointments and Promotions to the Professorship
3. Member, Board of Governors of the National Science Foundation (August 2004 to March 2006)
4. Chairman – Taskforce on Life Skills for Undergraduates, Ministry of Education (April 2004 –Aug. 2004)
5. Member – National Advisory Committee on Information Technology (June 2001), Ministry of Higher Education and Information Technology. Presently inactive
6. Member – Science and Technology Development Act Revision Committee, National Science and Technology Commission (June 1999-). Presently inactive
7. Member – Study Group on the Present Status of Science and Technology in Sri Lanka, National Science and Technology Commission (June 1999-) Presently inactive
8. Member – Committee on Engineering and the Built Environment (decides on the funding of proposals), National Science Foundation of Sri Lanka (2000-02).
9. Member - Presidential IT Task Force on Making Sri Lanka a Communications Hub, National Development Council (Chairman: H.E. The President, Deputy Chairman: Dr. Lal Jayawardene), 1996-7
10. Member - Ad-hoc Presidential Committee to Evaluate the Computer-Aided Machine for Gem-processing Proposed by Dr. S. Krishnapillai, Office of the Presidential Advisor on Science and Technology, 1997.
11. Delegate for Sri Lanka.
 - A) Rapporteur, and Session Chairman, SAARC Forum of Open University Vice-chancellors, Colombo 25-27, Jan. 1999.
 - B) The Commonwealth of Learning at the Pan-Commonwealth Forum, March 1-5 1999, Brunei
 - C) UNESCO Asia Pacific Regional Conference on Dialogue among Cultures and Civilizations for Peaceful and Sustainable Development, Hanoi, Vietnam, Dec, 2004.

12. Member – Several UGC Committees on Computing (Chaired the Committees on IT Development and English Language Teaching)
13. Consultant and External Examiner – Jaffna, Southeastern and Eastern Universities in the area of computer science.
14. Elected Representative - Church of Ceylon Diocesan Council Representative for Holy Trinity Church, Colombo.
15. Elected Member – Constituent Assembly of the Church of Ceylon under the 1998 Church of Ceylon Bill of the Sri Lankan Parliament (1998 to 2010 when the new constitution was adopted)
16. Elected Member – Standing Committee of the Church of Ceylon (Sept. 1998-Sept. 2000). This is the Church's highest administrative body. The Church of Ceylon is the legal successor to the Church of England in Ceylon.
17. Elected Representative - Episcopal Church Diocesan Representative and Vestryman, Church of the Ascension, Sierra Madre, CA (1990-95).
18. Lay Eucharistic Minister – Diocese of Los Angeles, Episcopal Church of America and Diocese of Colombo, Church of Ceylon. Licensed by the respective bishops.
19. In-Charge of the Ministry of Science and Technology's Web Pages including setting up (2001).
20. Parliamentary Speech Writer: Occasional speech writer, especially on Sri Lankan higher education matters, since 1999 for members of Parliament.

Professional Activities

1. Editor – Institution of Engineers, Sri Lanka. 2002-2004
2. Elected Council Member – Sri Lanka Association for the Advancement of Science. 2002/3
3. Member – Institution of Engineers Sri Lanka IT Committee, 2003
4. Member – Institution of Engineers Sri Lanka Committee on IT Development Work, 2003
5. Editorial Board Member – Electric Machines and Power Systems (Taylor and Francis, Ltd.). Relinquished.
6. Editorial Board Member – Int. Journal of Applied Electromagnetism in Materials, Elsevier. Relinquished.
7. Editorial Board Member – Journal of Electromagnetic Waves and Applications, Pergamon. Relinquished.
8. Editorial Board Member – Electrosoft Journal (Software in Electrical Engineering). Relinquished.
9. Member – Expert Panel on Large Scale and Parallel Computing in Design, IEEE PES Winter Meeting, 1991.
10. Chairman – Advisory Board, IEEE Magnetics Society's Conf. on Electromag. Field Computation (1994-6)
11. Organizer - IEEE International Electric Machines and Drives Conference, 1997.
12. Member – IEEE Power Engineering Society's Electric Machine Committee
– IEEE Power Engineering Society's Permanent Magnet and Direct Current Machines Subcommittee.
– IEEE Power Engineering Society's Electric Machine Theory Subcommittee
13. Chairman – Philadelphia Chapter, IEEE Magnetics Society, 1986-1987.
14. Session Chairman – Several IEEE and UGC conferences
15. Member – Intl. Scientific Advisory Board, Electrosoft 90 Conference, Boston, August, 1990.
16. Member – Intl. Steering Cmtee, Int. Symp. on App. Electromagnetism in Materials, 1989-1995
17. General Chairman – IEEE Conf. on Electromagnetic Field Computation, Harvey Mudd College, 1992.
18. Editorial Board Member - Compumag Conference: 1989, 1991, 1993, 1995.
19. Member – The Electromagnetics Academy, Massachusetts Institute of Technology, Cambridge, MA.
20. Listing – Who's Who in Science and Engineering 2011-2012 (11th Edition), by Marquis
21. Listing – Listed in Who's Who in Engineering Higher Education (WWEHE) by AcademicKeys, 2012.

External Funding

As an individual faculty member I have been funded for my research by the National Science Foundation (US and Sri Lanka), Southern California Edison, MAGSOFT Corp., NASA, IBM, Northrop B-2 Bomber Division and several projects through Harvey Mudd College's Engineering Clinic. My present research is for the US Army's Tank Automotive Research and Development Center, TARDEC.

As a Department Head I have won competitive awards based on proposals for institutional development for starting a new computer science program and for starting undergraduate research from the University Grants Commission and Ministry of Education, Government of Sri Lanka.

As Director of Information Technology and UNESCO Chair in Information Technology and Teacher Education (at the Open University of Sri Lanka) I have, working with the VC, won major institutional grants from the Department for International Development (HM Government, UK) and Norwegian Agency for Development Cooperation (NORAD) for a university-wide LAN, for a university EMIS covering the main campus and 22 regional centers of the Open University and for web-based teaching.

In addition, I have had collective funding as a member of the 7-person, presidentially appointed University Grants Commission i) for building up Faculties from the Ministry of Education, ii) for building up research at universities from The Asian Development Bank and iii) for Quality Assurance at Universities from The World Bank.

Current Research Grants (MSU)

\$100,000 (Ongoing, US Army): Electromagnetics and Finite Element Research to Reconstruct and Classify Battle Vehicle Damage Using Non-destructive Evaluation Methods: Development of a GPU-based Portable 3D Technology

\$90,000 (Ongoing): Extension of the above

\$897,354 (Under Review): Electromagnetics and Finite Element Optimizer to Reconstruct and Classify Corrosion and Battle Vehicle Damage Using Eddy Current Testing: Development of GPU-based Portable 3D Technology

\$2,000,000 mn (Stage 1 submission, Feb. 2015): Powering Agriculture, USAID, Dec. 2014.

Students after joining MSU in August 2011

Graduated:

- 1) Dr. Junjun Xin – Jointly supervised at MSU with Dr. Lalita Udpa for his doctorate
- 2) Thiruchelvam Arudchelvam – Graduated from University of Peradeniya with an M.Phil. degree
- 3) S. Sivasuthan – PhD (Completed Aug. 2015)
- 4) Victor U. Karthik – PhD (Completed Aug. 2015)

Students I co-advised at University of Malaya, Malaysia

- 1) S. Thirukumaran, MS, Malaya
- 2) S.T. Ong (ISI journal-published undergrad project), Malaya
- 3) Nur Farah Aziz (ISI journal-published undergrad project), Malaya
- 4) Lwin Maw (ISI journal-published undergrad project), Malaya

Other current student Advisees:

- 1) Mohammad Rawashdeh (PhD)
- 2) Thavappiragasam Mathialakan (My Sri Lankan PhD student joined me in August 2014 for PhD after MS at South Dakota)
- 3) Changqing Yang, MSU undergraduate working since January and now admitted to MS
- 4) I am working to help the University of Technology in Papua New Guinea by co-supervising graduate students there. Some would like to come to MSU to spend time with me. These students and their topics are
 - a. M. Kavi, Improvement of Power Quality performance of PNG Ramu Distribution Systems under Thunderstorm conditions.
 - b. S. Aiau, Performance Analysis of Hybrid Solar-Wind Systems for New Township at Markham Valley in Morobe Province, Papuan New Guinea
 - c. J. Fisher, Lightning Interaction with Papua New Guinea Airport Systems and Near Ground Aircraft and Threat Mitigation
 - d. H. Kunsei, Underground Wireless Communications for Critical Conditions: Miner Localization and Rescue
- 5) Besides my own students, active membership on the Ph.D. Committees of
 - a. Abhinav Gaur (student of Kalyanmoy Deb)
 - b. Anton Efremov (student of Lalita Udpa)
 - c. Saptarshi Mukherji (student of Lalita Udpa)

Previous (Full-Time) Experience

Sept. 2010-Aug. 2011: University Grants Commission's Coordinator for Setting up a New Engineering Faculty for University of Jaffna, Sri Lanka and Identifying Funding Opportunities thereto (Obtained commitment of SL Rs. 500 mn from Govt. of Sri Lanka and Indian Rs. 400 mn from Govt. of India). Left upon completion of report.

May 2008-Aug. 2010: Professor of Engineering and Science, Rensselaer Polytechnic Institute, USA. Taught Computer Science and Engineering at graduate level.

Sept. 1 2006- May 2008: Visiting Professor, ECE Department, Drexel University. Also Adjunct work at Goodwin College of Drexel University.

June 2006-Aug. 2006: Visiting Professor, ECE Department, Michigan State University, East Lansing, MI.

December 1999 to Dec. 2008 (on special overseas leave for the latter part): Senior Professor of Electrical Engineering with tenure, University of Peradeniya, Sri Lanka (Professor from Dec. 1999 to Dec. 2002). Served on the National Science Foundation Standing Committee on Engineering and the Built Environment consisting of 4 persons which was solely responsible for recommending proposals to the Board of Governors of NSF. On secondment from October 2003 to University Grants Commission and University of Jaffna). Obtained several competitive grants from the National Science Foundation of Sri Lanka (for research grants, travel grants, institutional grants equipping the new Computer Sciences Department which I founded and headed). Drafted the syllabus for the B.Sc. Eng. (Computer Sciences) degree at the department and steered it through the Faculty Board and University Senate.

Introduced Teacher Evaluation by Students for the first time in Sri Lanka

Elected to the Governing Council of the Sri Lanka Association for the Advancement of Science. As a member of the Ethics Committee, organized a national seminar on whistle blowing. Got three judges – the next chief justice, the senior-most supreme court justice and the Parliamentary Ombudsman – as speakers. They argued on the basis of the law against the Establishment Code’s prohibition of Government Servants (which includes university academics) from writing or speaking outside approved channels. Their talks were edited by me and published: S. Ratnajeevan H. Hoole (ed.), *Enforcing Human Rights: Towards an Egalitarian Sri Lanka*, Colombo: International Centre for Ethnic Studies, 2003.

Explored Public Interest Litigation (when legal challenges were open only to those directly affected) by joining the Citizens’ Movement for Good Governance to challenge illegal and favoritism-based appointments in the university system. See Arundathie Abeysinghe, “Profile: A man of many accomplishments,” *Sunday Observer*, 31 Oct. 2004, <http://www.sundayobserver.lk/2004/10/31/fea28.html>

These activities expanding IT services in the university advancing public interest litigation and whistle blowing led to my appointment by the President of Sri Lanka to the 7-person University Grants Commission to which my services were seconded.

Oct. 2003 to March 2006: Member, University Grants Commission (the UGC, a Presidential Commission with 6 other members regulating the funding, admissions, administration and academic standards of all Sri Lankan Universities). Collectively or individually by moving the Commission

- Used Asian Development Bank and World Bank Loans for university development to make teacher evaluation and accreditation compulsory in progress reports. Coalitions had to be built to overcome the objections of the Federation of University Teachers’ Associations which argued that teacher evaluations and accreditation exercises are an infringement of academic freedoms.
- Funded the new Uva Wellassa University and the University of Visual and Performing Arts and ran the universities overseeing the new building and recruitment including that of the first Vice Chancellor till he and his Faculty Boards could take over. Funded a new Medical Faculty for Eastern University and a new IT Faculty for Jaffna.
- Rebuilt South Eastern University Sri Lanka which was devastated by the Tsunami of Boxing Day 2004. Obtained US \$200 mn funding from the Middle East (using the fact that the university mainly had Muslim students) and persuaded the British architectural firm Ove Arup and Partners voluntarily to redesign the university buildings to avoid a repetition.
- Fine Arts are culturally important but, being led by non-degreed artistes, the artistes are not valued by society, partly because of caste issues. But to make the fine arts university disciplines, Lecturers need degrees under the statutes. The Commission asked 2 members, Prof. Senake Bandranayake and me, to devise a special recruitment scheme. We drafted an ordinance with interim measures and a probationary period for those absorbed into the university system to go to India where the fine arts are a university discipline. We also provided for their scholarships. We steered the ordinance through the Legal Draftsman’s and Parliament for Gazetting and were able to absorb the Vipulandanda School of fine Arts as a Faculty of Fine Arts of Eastern University and make the school in Colombo into the University of Visual and Performing Arts. This also took care of matching what we did for the majority community in Colombo with what we did for the Tamil minority in the East. It also overcame the objections of traditional academics who feared that this could lead to non-degreed people becoming university lecturers. In the end all parties were satisfied. And the fine arts became a university discipline in Sri Lanka for the first time.
- Served on the first Accreditation Board in Sri Lanka and gave degree granting authority with accreditation to carefully selected private institutions (such as Aquinas College of the powerful Roman

Catholic Church) as a first step towards private universities which under the Universities Act No. 17 of 1978 cannot use the word university in its nomenclature.

- Served on the Board of Governors of the National Science Foundation of Sri Lanka established by Parliament under The Science and Technology Act No.11 of 1994 which provides for one nominee of the UGC on the 6 person Board). Took policy decisions on areas for funding and proposals for funding. Awarded travel grants for researchers to present papers abroad. Instituted a program for prosecuting patent. Instituted research awards. Instituted an Ethics Workshop for Sri Lankan researchers and taught in that workshop.
- Drafted as the point-man for the Commission and issued a new Ordinance for Promotions and Appointments to professorial posts (as distinct of Lecturer posts held by the majority). This shifted focus from seniority to accomplishments and gave greater weight to ISI-indexed journals and books by major publishers. The Federation of University Teachers' Associations argued that emphasis on ISI journals and foreign publishers would stunt national development by not recognizing the local publishing endeavors. The academics who had real publications and were resentful of fraudulent self-publications came forward to support the Commission. A compromise was satisfactorily reached with lower weight for local publications and conditions on how old and frequent a journal should be for recognition (but none for self-published books with copies only for the selection committee which was being increasingly seen).
- Instituted a Prize of \$1000 per ISI-indexed paper, joining the Presidential Award for Research. This led to much greater publishing activity by university academics.
- As Chairman, UGC Standing Committee on English Language Teaching, I widened the pool of teachers by building coalitions to pass a new recruitment ordinance that would permit Instructors to be upgraded to Lecturers after obtaining an MA degree. This was necessary to improve English language skills in university students which had fallen on account of the Official Languages Act No. 33 of 1956 making instruction in any language other than the mother-tongue a violation. (The powerful Federation of University Teachers' Associations, FUTA, opposed the new ordinance, but the coalition I formed of Instructors and sympathetic Lecturers overcame this opposition).
- As Chairman of the UGC Standing Committee on Information Technology Development I pushed UGC funding for internet connectivity at all 15 universities, coordinated efforts by the more developed universities in and around Colombo to help the newer ones overcome severe staff shortages and make UGC input to a program for Sweden to train PhD level Lecturers in IT.

March 12, 2006- 16 July 2007: Vice Chancellor University of Jaffna (overseas from May 2006 with permission because of death threats)

July 1, 1987 To 31 Dec. 1999: (On Leave from 1997 until 31 Dec. 1999) Professor of Engineering and Adjunct Professor of the Humanities and Social Sciences, Harvey Mudd College¹, Claremont, CA with continuous tenure since July 1, 1990 (Associate Professor from July 1987 to Dec. 1991). Responsibilities in both graduate and undergraduate teaching in addition to setting up research in the area of numerical methods and computer aided design for electrical devices. Also, Professor, Claremont Graduate School, Claremont, CA. Committees: Several Faculty Search Committees, College Computing Services Committee (in charge of campus networking and all computer facilities, as well as the web pages of the college), College Admissions Committee, and College Budget Committee. Chairman, Committee on Procedures.

Major External Grants: 1. Southern California Edison: \$620,000 2. National Science Foundation (ECS): \$ 149,000 (+ \$30,000 matching funds from Harvey Mudd College). 3. Grant from Hewlett Packard for an electromagnetics lab for \$100,000.

While on leave:

1 July 1999 to 31 Dec. 1999: Professor of Electrical and Information Engineering, University of Ruhuna, Galle, Sri Lanka. Contract position to help set up a new Engineering Faculty. As the most senior academic in the setting up phase of the Faculty of Engineering, I chaired the "informal" Faculty Board that approved the complete syllabus for the faculty (informal because under the universities Act the Faculty Board comes into being only when the Faculty is announced and gazetted under the statutes)

Jan 1, 1998 to 30 June, 1999: UNESCO Professor of Information Technology and Director of the Information Technology Unit. Responsibilities in setting up the Division. of Information Technology, integrating IT into Distance Teaching at the Open University and supervising the 38 personnel in the Data Processing Division of the IT Unit. Left upon completing a formal proposal to the UGC upgrading the IT Unit to the IT Division which was accepted and has since been implemented. Also A) Obtained

¹ Harvey Mudd College has been rated the No. 1 Speciality Engineering School in the US by US News and World Today based on the median SAT score of 1390 of the students and for producing the highest proportion of graduates from any engineering program in the US who go on to earn a Ph.D.: 41%. According to the US College Board, Harvey Mudd has the second highest admissions standards in the US, coming after CalTech and tying for second place with MIT and Yale.

major grants from 1) Britain's Department for International Development (DfID) for a Campus-wide Network, Sri Lanka's first, and linked to the university's 22 Study Centers 2) Norway's Agency for Development Cooperation (NORAD) for the university's EMIS, another first for Sri Lanka, which allowed faculty to enter grades directly and students to view their transcripts. And B) Launched Sri Lanka's first online course with an accompanying online examination system with facilities for students to use it for self-testing.

June 1 1997 to Dec. 31 1997: Visiting Professor of Computer Science and Head, Mathematics and Computer Science Division, Institute of Fundamental Studies, Kandy.

June 1993 - Sept. 1994: Senior Fellow, National University of Singapore, Singapore (sabbatical leave). Helped set up a new M.Sc. program in Applied Magnetics to meet the needs of the Recording Industry that accounts for 9% of Singapore's GNP. Work involved defining the program and getting it approved, setting up new courses and teaching some of them, and defining projects and project areas for new research in magnetics for doctoral candidates.

Sep.1984-Aug. 1987: Assistant Professor, Electrical and Computer Engineering, Drexel University, Philadelphia, PA. Affiliated to the Computer Engineering Group. Responsibilities in Teaching and Research.

Jan. 1983-Sept. 1984: Senior Consulting Engineer on Design Automation with PA Consulting Services, globally the 5th largest consulting group (Engineer from Jan. to Dec. 1983). Solely responsible for developing from scratch, a Pascal based CAD system for electromagnetic devices on a microcomputer, using interactive graphics and finite elements; this was unveiled at the IEEE Intl. Conference on Magnetism [Intermag], 1984. Other Projects in Nonimpact Printing, Recording Heads, Actuators and Motors, Eddy Current Quench Hardening, Thermal Design of Frying Pans Etc.. Technology Search and Market Potential Assessment of New and Emerging Electromagnetic Technology/Products for Fortune 500 Companies and Making Recommendations for Diversification. Filing Patents in Electromagnetics.

March 1982 - Dec. 1982: Graduate Assistant, Carnegie-Mellon University, Pittsburgh, PA. Conducted Lectures in Electromagnetics to Graduate Students.

April 1981 - Dec. 1981: Westinghouse Intern and Teaching Assistant for Courses in Electromagnetics and Electromechanics, McGill University, Montreal, PQ. Promoted from PhD 1 to PhD 2 in September 1981 in view of Exceptional Performance in Research during the Summer months.

Nov. 1977 - Dec. 1980: Lecturer II, in Electrical Engineering, Ibadan Polytechnic, Nigeria. In charge of courses in Electrical Machines, Power Systems, Electromagnetics and Electrical Engineering Science. Supervision of Student Projects. Represented the Polytechnic on the National Engineering Syllabus Committee. Consultant to the Nigerian Electric Power Authority [NEPA], other industries and the Central Schools Board.

Oct. 1976 - Oct. 1977: Postgraduate Student, University of London [Joint Imperial College - Queen Mary College Course]

Jan 1976 - Aug. 1976: Engineer, Engineering Services and Management Consultants Pte. Ltd., Singapore, Consulting on Electromechanical Devices. Specifically dealing with D.C. Motors, Synchronous Machines, Actuators, Supercooling for Welding and Industrial Safety.

July 1975 - Nov. 1975: Instructor in Electrical Engineering, University of Sri Lanka, Katubedde Campus. Attached to the High Voltage, Power Systems and Electrical Machines Laboratories. Responsible for Designing and Supervising Demonstrative Experiments, Tutorials for undergraduates.

1973-1974: A total of 9 months as Undergraduate Trainee at the Department of Posts and Telecommunications and the Ceylon Electricity Board, Sri Lanka. Experience in Power Station Maintenance, Load Flow, Erection of Substations and Transmission Lines, Design and Cannibalization of Transformers, Telemetry, Telegraph Office, Switching Exchange, Satellite Station Etc..

Publications

Note: Although the publications listed here are from diverse areas, **they all arose as a result of fulfilling work demands as an engineering professor and engineering education administrator:**

- Engineering papers, the vast majority, from mainstream duties,
- Humanities papers (politics and religion) growing out of teaching South Asia Studies because the accreditation board docked the employer for too Eurocentric a curriculum and the Dean asked me to step in,

- Human rights papers teaching human rights and peace studies in a classroom situation where students did not speak to each other and the accreditation board felt that there was no liberal arts component in the curriculum as then delivered,
- Ethics papers arising while teaching ethics for engineers.
- Church-related papers as a result of teaching the course “Anglican Heritage” at Colombo Theological Seminary.
- Teaching English where language fluency among students had collapsed,
- Education management papers as a member of the commission governing universities examining student attrition where students missed classes because of war, etc.

I believe I have professionally lived according to the highest standards of the IEEE which calls its members to be engaged in the society in which they live and work.

Publications: Theses/Dissertations

1. S. R. H. Hoole, "Characteristic Parameters of the Sri Lanka Power System Allowing for Earth Resistance", Undergraduate Project, University of Ceylon, Katubedde Campus, Moratuwa, 1975. (Supervisor: Prof. J.R. Lucas, PhD. UMIST, UK).
2. S. R. H. Hoole, "Surface Impedance Behaviour of Iron at Corners and in Slots", M.Sc. Dissertation, University of London, London, Sept. 1977. (Supervisor: C.J. Carpenter, D.Sc. (Eng.) Lond, of Imperial College).
3. S. R. H. Hoole, "Direct Finite Element Solution of the Magnetic Field Vector", Ph.D. Thesis, Carnegie-Mellon University, Pittsburgh, Dec. 1982. (Begun under Peter Silvester of McGill and completed under Zoltan Cendes at Carnegie Mellon).
4. S.R.H. Hoole, Higher doctoral dissertation, University of London – this consisted of all papers and books contributing towards the computation of optimized device designs with a summary statement. 1993. No supervisor.

Publications: Books and Book Chapters

1. S. Ratnajeevan H. Hoole, *Computer Aided Analysis and Design of Electromagnetic Devices*, Elsevier, New York, 1989. Now acquired by Prentice Hall.
2. S. Ratnajeevan H. Hoole, "Computational Electromagnetism", Chapter 8, pp. 179-216, in R.L. Coren, *Applied Electromagnetism*, Prentice Hall, Englewood Cliffs, NJ, January 1989.
3. S. Ratnajeevan H. Hoole and Scott Ellsworth, “Translators: Towards Open Ended Finite Element Software”, in P. P. Silvester (Ed.), *Advances in Electrical Engineering Software*, pp. 285-296, Copublished by Berlin: Springer-Verlag and Southampton:Computational Mechanics Publications, 1990.
4. S.R.H. Hoole (Ed.), Digests of the fifth Biennial IEEE Conference on Field Computation, IEEE Magnetics Society, 1992.
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Note: All 4 journal issues are in the Web of Science Core Collection (WSCC)
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Publications: Papers under Review

Note:

- a) I am the Corresponding Author in all the following 6 papers presently under review.
- b) All these papers except the fourth are with ISI-indexed journals in the Web of Science Core Collection (WSSC).
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1. (WSSC) P.R.P. Hoole, Lwin Maw and S.R.H. Hoole (Corresponding Author), "Strengthening the Desired Signal and Nulling the Main Interference for a Light Weight Wireless Mobile Station," *ACES Journal*.

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3. (WSSC) Moses Kavi, P.R.P. Hoole, and S.R.H. Hoole (Corresponding Author), "From lightning to Arc Models: Arcs in Electric Power Systems," *IETE Journal of Research*.

Publications: Reviewed and Edited IEEE Institute Articles

1. S.R.H. Hoole, "Gaming the System: Manipulating the Impact Factor in Research," *IEEE Roundup*, Sept. 25, 2014, <http://theinstitute.ieee.org/ieee-roundup/opinions/ieee-roundup/gaming-the-system-manipulating-the-impact-factor-in-research>
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7. S.R.H. Hoole and E.E. Hoole, "Caste as a Hate Crime: Reassessing Arumuka Navalar and *Vellala* Dominance in Sri Lanka," *Indian Church History Review*, Vol. XLIII, No. 2, pp. 113-147, Dec. 2009.

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10. S. Ratnajeevan H. Hoole, The Role of Education in Conflict – Sri Lanka, Chapter 7 in Pamela Aall, Paul Arthur and Deepa Ollapally (Eds.), *The Role of Education and the Media in Managing Conflict in Southern Asia*, Washington, DC: US Institute of Peace (in press).

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12. D. Hoole and S.R.H. Hoole, *The Truth about the Tamil Bible*, HRI Institute for South Asian Research and Exchange, Nepal, 2013. Also see <http://www.hrisouthasian.org/resource-center/gandharva/5-archives/387-the-truth-about-the-jaffna-bible.html?start=20>

13. D. Hoole and S.R.H. Hoole, "The Rev. Dr. Peter P. Percival: Methodist Missionary and High Churchman, Lexicographer, Bible Translator, and Teacher and Professor," Written on invitation for the Second Centenary Volume of the Methodist Church of Sri Lanka, 2014.

14. D. Hoole and S.R.H. Hoole, "The Rev. Dr. Father Xavier Nicholas Stanislaus a.k.a. Father Xavier Stanislaus Thani Nayagam: His Work on Henrique Henriques and his Christian Faith," pp. 86-104, in Rev. Fr. A.S. Philip (ed.), *the Rev. Dr. Thani Nayagam Celebratory Volume (1913-2013)*, Canagath Thoothan, Toronto, 2013.

Newspapers: Several hundred feature pieces, including paid op-ed pieces, in several newspapers (The Los Angeles Times, Claremont Courier, Hartford Courant, New Indian Express, The Washington Times, and Christianity Today) and weekly columns in the Daily News, The Island and The Sunday Leader in Sri Lanka. Many of these articles may be perused at <http://www.egr.msu.edu/~hoole/Newspapers.htm>

Publications: Conferences

Recent and Upcoming Conferences

A Note: I have regarded a) conferences as a place to catch up with what others are doing and b) conference papers, besides for that sharing, to be a matter of having the money for travel and registration – for if there is something of value in a conference paper it would appear in a journal. I dare say that given the money and time to attend conferences I can produce as many conference papers as required. I had therefore stopped keeping track of my conference papers till I realized they are used at MSU for evaluation. So the record here is complete for recent meetings but not for older conferences about which my records are patchy.

4. S. Krishankumar and S.R.H. Hoole, Optimizing Shape Design of Magnetic Pole Contour using a Special Mesh Generator ,” IEEE Intl. Conf. on Industrial and Information Systems, Kolkotta, Dec. 2008. Published as an abstract in proceedings with full paper in IEEE Explore.

5. D. Hoole and S.R.H. Hoole, "The Teaching of Engineering Ethics: New Paradigms," Proc. ASEE North East Conference, Bridgeport, April, 2009.

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13. S.R.H. Hoole, “Device Design Optimization: The Merging of Physics, Computer Science and Mathematics,” Book of Abstracts, Annual Conference of the Jaffna Science Association, April 5-8, 2011.

14. P.R.P. Hoole, K. Pirapaharan and S.R.H. Hoole, “Mobile Communication Direction of Arrival and Velocity Estimation: Electromagnetic Field Based Signal Processor,” Digests of the Seventh Japanese-Mediterranean and Central European Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting and Nano-materials (JapMed’7), pp. 63-64, Budapest, Hungary, July 6-9, 2011.

15. P.R.P. Hoole, K. Pirapaharan and S.R.H. Hoole, “Waveguide and Circuit Models of Lightning Return Stroke Currents,” Digests of the Seventh Japanese-Mediterranean and Central European Workshop on Applied Electromagnetic Engineering for Magnetic, Superconducting and Nano-materials (JapMed’7), pp. 71-72, Budapest, Hungary, July 6-9, 2011.

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A Selection of Invited Public Lectures (Nontechnical)

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2. S.R.H. Hoole, Human Rights and Academic Repression,” Panel Speaker, Scholars at Risk Network Annual Meeting, San Francisco, April 14, 2007.
3. S.R.H. Hoole, Human Rights for Engineers and Professionals, Key-note Psech, IEEE Engineering for a Better World Conference, July 11, 2007.
4. S.R.H. Hoole, “Public Lecture: Education and Ethnic Conflict in Sri Lanka. April 21, 2007. Sponsored by Amnesty International and University of Toronto’s Munk Centre for International Studies, Department of Political Science, Asia Institute and Centre for South Asian Studies. The talk was serialized in *The Island*, 2nd and 3rd May, 2007, Colombo’s largest private daily.
5. S.R.H. Hoole, Three Lectures at University of Richmond, in Richmond, VA when I spent time there in and about Nov. 10, 2007 as a Member of the Scholars at Risk Network Speakers’ Panel:
 - Ethics for Professionals – A Human Rights Perspective – A lecture before a management class
 - Sri Lanka: Religion and Human Rights – A lecture before a South Asian Studies Religions Class
 - Academic Freedom in Times of War: Perspectives from Sri Lanka – A lecture before the entire university
6. S.R.H. Hoole, “Public Meeting by Canadians for Peace and Amnesty International Featuring Prof. S. Ratnajeewan H. Hoole on Tamil Insecurities,” Aug. 17, 2008. Several news papers carried the talk. E.g., *The Sunday Leader* www.thesundayleader.lk/2010/05/16/hoole-speaks-of-tamil-insecurities/
7. S.R.H. Hoole, “Fourth Annual Naro Udeshi Lecture Featuring S. Ratnajeewan H. Hoole: Academicians in Making and Unmaking of a Nation: Relevance to Sri Lanka,” Fourth Annual Naro Udeshi Commemoration Lecture by the Mahatma Gandhi Centre, Colombo, 30 June, 2011. The speech was carried in several newspapers. *The Hindu* carried a news report with summary. Eg. Transcurrents.com/news-views/archives/1842
8. S.R.H. Hoole, “MSU AI Chapter and Asian Studies Center Present ‘No Fire Zone’ with Speeches by S.R.H. Hoole and AI’s John Macdonald,” March 31, 2014. This 40 minute talk by S.R.H. Hoole was carried in several newspapers; e.g., colombotelegraph.com/wp-content/uploads/2014/04/AI-MSU-Talk-Latest-1610-HRS.pdf

Plenary Engineering Lectures after accepting MSU appointment

1. S.R.H. Hoole, "Device Design Optimization: The Merging of Physics, Computer Science and Mathematics," Annual Conference of the Jaffna Science Association, April 5-8, 2011
2. S. Sivasuthan, V.U. Karthik, P.R.P. Hoole and S.R.H. Hoole, "The Finite Element Method in Electrical Engineering Optimization: Parallelization on Graphics Processing Units Realizing High Speed-up without Memory Limits," Proc. International Conference on Pure and Applied Mathematics, Papua New Guinea University of Technology, November, 26-28, 2013
3. S.R.H. Hoole, "Realization of Efficiency through GPU Computations in Finite Element Optimization – A Review," International Symposium on Fundamentals of Electrical Engineering, Bucharest, Nov. 28-29, 2014. Paper to be carried in IEEE Xplore and *Revue roumaine des sciences techniques – Série Électrotechnique et Énergétique* or similar journal.
4. S.R.H. Hoole, "GPU Computation in Finite Element Optimization," Yarmouk University, Irbid, Jordan, Dec. 2, 2014.
5. S.R.H. Hoole, "High-energy Electrical Machines for Alternative Energy Production," Keynote Speaker and Workshop Leader, The Indo-US Bilateral Symposium on Sustainable Technologies for Waste to Energy, Coimbatore, India, July 8th – 10th, 2015.

Patents (MSU – since August 2011)

- Provisional US Patent No. 3119472: Electromagnetics and finite element optimizer to reconstruct and classify corrosion and battle vehicle damage using eddy current testing U.S. Prov. Patent Application No. 62/130,993 (MSU Ref. TEC2014-0114-Prov; MGB Ref. 32213/40035/US) - New Provisional Application Filed/Assignment. Filed in the name of MSU and US Army.
- Provisional US Patent Docket No. 3059982 Provisional, Three element antenna array for wireless handsets, Filed in the name of MSU