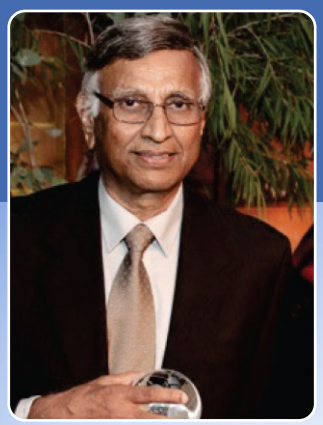

CURRICULUM VITAE

Professor Chem Nayar

BScEng, MTech, PhD, CEng, NPER, FIEAust, SMIEEE, MIEE

Emeritus Professor
Department of Electrical and Computer Engineering
Curtin University of Technology
GPO Box U1987, Perth 6845
WESTERN AUSTRALIA

Email: c.v.nayar@curtin.edu.au
Website: www.ece.curtin.edu.au

Managing Director,
Regen Group Pty Ltd
Unit 4, 90 Catalano Circuit,
Canning Vale 6155 WESTERN AUSTRALIA

Phone: (+618) 9456 3491
Fax: (+618) 9456 3492
Email: c.v.nayar@regenpower.com
Website: www.regenpower.com

Director,
Radiant Solar Pvt. Ltd.
Plot No.15, Fabcity SEZ, Maheswaram(M),
RR District, Hyderabad 501510. India

Ph: +91 89770 62000
Mobile: +91 984 998 1596
Website: www.radiantsolar.us

RESEARCH INTERESTS

- Renewable energy systems
- Power electronics and power quality
- Distributed Generation
- Power Electronics

CAREER HISTORY

2003 - Present	**Managing Director**, Regen Power Pty Ltd, Australia
1986 - Present	**Series of promotions from Lecturer, Senior Lecturer, Associate Professor to Professor**, Curtin University of Technology
1984 - 1986	**Lecturer**, Singapore Polytechnic
1982 - 1984	**PhD Student, Sessional Academic**, University of Western Australia
1977 - 1982	**Electrical Engineer**, Digitron , Calicut, Kerala, India
1969 - 1982	**Electrical Engineering Lecturer**, National Institute of Technology, Kerala , India

CAREER ACHIEVEMENTS

My research expertise centres on power electronics applied to renewable energy systems and electric power distribution systems. I have developed a strong infrastructure and team at Curtin University to support research into the development of uninterrupted power supply systems, power quality issues and active filter development for harmonic current cancellation. I have held a number of senior positions in key renewable energy institutions that include:

- Founder of Power Electronics Research Unit (subsequently upgraded to a University Research Centre);
- Director of Centre for Renewable Energy and Sustainable Technologies Australia from 1995 to 2003;
- Founding Manager (Research and Development) at the Research Institute for Sustainable Energy at Murdoch University;
- Program Manager for Australian Cooperative Research Centre for Renewable Energy, major Australian initiative involving universities, industries and utilities; • Founder Director, Regen Power Pty Ltd, renewable energy company (www.regenpower.com);
- Founder Director of Sun Terra Pty Ltd, renewable energy company (www.sunterra.com)
- One of Ten Overseas Expert Professors selected for the prestigious '111' Project (2007-2012) in Hefei University on Grid Connected Renewable Energy Systems – the only such centre in China approved by the Foreign Bureau of China and the Ministry of Education.

REGEN power Sustainable Power Solutions

CAREER HISTORY

2012 **Life Time Career Achievement Award**,
Australian Committee for Power Engineering
Awarded at the Australian Power Engineering Conference held at Bali , Sept 2012.

2011 **Ambassador Award**,
Sustainable Energy Industry Excellence and Innovation Awards
Awarded to an outstanding individual that has, through philosophy, attitude, behaviour and action shown commitment and leadership in the areas of sustainable energy, energy efficiency or greenhouse gas abatement / mitigation.

2011 **Product and Technology Award for 'Hybridgen'**,
Sustainable Energy Industry Excellence and Innovation Awards
For any innovative new renewable energy product, introduced onto the market since the start of 2010.

1995 **Australia-India Educational Fellowship Award**

PUBLICATIONS

Books/ Book Chapters

C.V. Nayar, The Renewable Energy Power Systems Handbook, Pan Stanford Publishing, Singapore (Accepted), 2010

C.V.Nayar, High Renewable Energy Penetration Diesel Generation Systems, Paths to Sustainable Energy, Ch 25, InTech, Dec 2010 (over 7000 downloads by May 2013)

C.V.Nayar, S.M.Islam, H.Sharma, H.Dehbonei and K.Tan, (Ed. M.H. Rashid), 2006, 'Power Electronics for Renewable Energy Systems', Handbook on Power Electronics, 2nd Ed, CRC Press, 2007

G. Hegde and C.V.Nayar, 'Marketing Photovoltaic Technologies in Developing Countries, Renewable Sources and Renewable Energy', Chapter 16, Taylor and Francis, Dec 2006.

M. C. Trigg, H. Dehbonei, and C. V. Nayar, "A Low-cost and Reliable Sinusoidal Wave-shaping Controller for a Voltage Controlled Voltage Source Inverter supplying Non-linear Loads," Palermo, Italy: Associazione Internationalsar, 2006. ISBN 88-901928-0-1.

Refereed Journal Papers

★ Since 1980, I have authored over 80 Journal Papers with various authors on a variety of issues related to electrical engineering and renewable energy – refer to list at end of CV.

Refereed Conference Proceedings

★ During my tenure at Curtin University, I have prepared and presented over 140 conference papers on various issues related to renewable energy and power electronics –refer to list at end of CV.

PATENTS / TRADEMARK

Since 2002, I have registered the following patents:

★ Chem Nayar, Michel Malengret, Lawrence Borle, Hooman Dehbonei, 'Power Conversion System and Method of Converting Power.' US Patent US7,072,194B2, 4 July 2006-09-21, International Patent Application (pending) , April 2003, in IPAust. Australia (pending PS 1439): Curtin University of Technology, 2002,

REGEN power Sustainable Power Solutions

- *C.V. Nayar, H. Dehbonei, 'A Hybrid Power Generation System.' in IPAust. Australia (pending 2002951037): Curtin University of Technology, 2002.
- *C.V. Nayar, H. Dehbonei, G.R. Sukumara, 'A High Frequency High Current Transformer.' in IPAust. Australia (pending SPBI -00101477): Curtin University of Technology, 2002. *lapsed
- C.V.Nayar , " A Power Management System and Method for Optimising Fuel Consumption " PCT/AU 2011/001068 (Pending) , Regen Technologies Pty Ltd. 2011
- C.V.Nayar, A Power Generation System, PCT (pending)

POST GRADUATE SUPERVISION

To date, I have supervised over 20 students who have successfully completed their studies in the PhD and Masters of Engineering programs offered at Curtin University.

Completed PhD	
1	Mr. VG Agelidis
2	Mr. S K Chakravarthy
3	Mr. J Chen
4	Mr. William Lawrence, Co-supervisor
5	Mr. L Borle
6	Mr. B Wichert - Co-supervisor
7	Mr. M Ashari
8	Mr. H Debonei -awarded Vice Chancellor's Commendation
9	Mr. Hanny Tumbelaka- awarded Vice Chancellor's Commendation
10	Mr. K Tan - Co-supervisor
11	Mr. Gajanana Hegde
12	Mr. Ali Al-Alawi, Co-Supervisor
13	Mr. Mathew Trigg- awarded Vice Chancellor's Commendation
14	Mr. Ahmad Setiawan
15	Mr. James Darbyshire
16	Mr. Dedet Reiwan- awarded Vice Chancellor's Commendation
17	Mr. Stjepan Metcevic
18	Ms. Pei Yi Lim
19	Mr. Donghua Wang
20	Mr. Narayana Swamy Iyer
21	Mr. K. Oranpiroj (Chiang Mai University- Co-supervisor)

Completed Masters of Philosophy Engineering	
1	Mr. J Perahia
2	Mr. S K Chakravarthy
3	Mr. S J Phillips
4	Mr. F Thomas

5	Mr. R Katan
6	Mr. M Ashari
7	Mr. P Panicker -Co-supervisor
8	Mr. Hendra Kusum
9	Mr. Majid Nikraz
10	Mr. Dedet Reiwan
11	Mr. Jordan Zhao

CONSULTANCIES AND TECHNOLOGY TRANSFERS

Since 1987, I have been strategically involved in a number of projects involving renewable energy and power electronics throughout various locations around the world as listed at the end of this CV.

FUNDING AND RESEARCH GRANTS

During my tenure at Curtin University, I have participated in Research and Development projects that have attracted approximately $8 million to the University. I have received funding from institutions such as the Energy Research and Development Corporation, Australian Research Council, Department of Education, Employment and Training, Minerals and Energy Research Institute of Western Australia, Electrical Research Board, AusAID, the Alternative Energy Development Board, the Australia India Business Council and various industry bodies.

YEAR	GRANT	INSTITUTION	PURPOSE
2011	$27,500	Department of Industry, Australia	Researcher in Business Programme Awarded for a Joint Research Project between Murdoch University and Regen Power Pty Ltd
2009	$55,000	Department of Industry, Australia	Researcher in Business Programme Awarded for a Joint Research Project between Curtin University and Regen Power Pty Ltd
2007	$270,000	ARC Discovery Project	Innovative Grid-Connected, Small-Scale Wind Turbine Generators Offering Low Cost and Wide Operating Speed Range
2005	$280,000	ARC Linkage Project	Variable speed diesel power conversion system using a doubly fed induction generator
2004	$250,000	ARC Linkage Project	Multifunction Power Electronic Interface for Mini Grid Systems
2003	$230,000	ARC Linkage Project	Control and Interfacing of IGBT Inverters for small scale grid connected wind turbine generators
2003	$50,000	Sustainable Energy Development Office	Grid Connected Inverter for small scale wind turbines - Project C329
2003	$50,000	Sustainable Energy Development Office	Grid Connected Inverter for small scale wind turbines - Project C329

YEAR	GRANT	INSTITUTION	PURPOSE
2000	$125,000	ARC Linkage Project	(LP0348003) Hybrid integrated system for municipal solid waste treatment and power generation
1999	$60,000	ARC SPIRT GRANT	(C79938018) A Marketing Model for Australian Solar Assisted Uninterrupted Power Supply Technology to the Hospitality Industry in India
1999	$52,000	Alternative Energy Development Board (jointly with Magellan Energy)	Low cost integrated Power Electronic Converter
1999	$306,000	Australian Cooperative Research Centre for Renewable Energy	Project 4.1 Development of high efficiency and low cost power conditioning systems for stand-alone solar home systems and utility grade PV/diesel/battery hybrid power systems
1999	$243,500	Australian Cooperative Research Centre for Renewable Energy	Project 4.3 Development of power conditioning and control systems for high penetration medium scale wind diesel systems
1999	$63,750	Australian Cooperative Research Centre for Renewable Energy	Project 7.3 Short Courses
1998	$50,000	Western Australian innovation support scheme (jointly with Magellan Energy)	WAISS-14: DSP-Based Power Electronics Interface for Renewable Energy Systems
1998	$360,000	Australian Cooperative Research Centre for Renewable Energy	Project 4.1 Development of high efficiency and low cost power conditioning systems for stand-alone solar home systems and utility grade PV/diesel/battery hybrid power systems
1998	$243,500	Australian Cooperative Research Centre for Renewable Energy	Project 4.3 Development of power conditioning and control systems for high penetration medium scale wind diesel systems
1998	$63,750	Australian Cooperative Research Centre for Renewable Energy	Project 7.3 Short Courses
1998	$12,150	Australia-India Council	Feasibility study for the application of Australian Renewable Energy Technology for Health Care facilities in India
1997	$289,000	Australian Cooperative Research Centre for Renewable Energy	Project 4.1 Development of high efficiency and low cost power conditioning systems or stand-alone solar home systems and utility grade PV/diesel/battery hybrid power systems
1997	$265,000	Australian Cooperative Research Centre for Renewable Energy	Project 4.3 Development of power conditioning and control systems for high penetration medium scale wind diesel systems
1997	$60,000	Australian Cooperative Research Centre for Renewable Energy	Project 7.3 Short Courses
1997	$60,000	Australian Cooperative Research Centre for Renewable Energy	Distributed Generation using Renewables - Stage 1

YEAR	GRANT	INSTITUTION	PURPOSE
1996	$20,000	Alternative Energy Development Board	Energy Savings in swimming pools using three phase motor driven pumps running from single phase supply
1996	$110,000	Australian Research Council	ARC Collaborative Research Project, Soft Switched, High Power Density Current-Controlled Converters, Industry Partner : Advanced Energy Systems Ltd
1995	$729,000	Industry Research and Development Board (Ausindustry) (Jointly with AES)	Development of high power density inverters
1995	$10,000	Australian International Aid Agency	Feasibility Study for Use of Solar Energy Technology to Provide Drinking Water in Remote Villages
1995	$52,200	Minerals & Energy Research Institute of WA	Development of a 20Kw Low Speed High Torque Permanent Magnet Wind Generator, Industry Partner: Westwind Turbines Pty Ltd
1994	$23,000	Alternative Energy Development Board	Solar Uninterruptible Power Supply
1994	$61,978	Minerals & Energy Research Institute of WA	Advancement of Current Control Technology for AC-DC Converters, Industry Partner: Advanced Energy Systems Ltd
1992	$9,578	Australian Research Council	Grid Connection of Small Scale Wind Turbines
1992	$975,000	Energy R & D and Demonstration Council and Advanced Energy Systems Limited	Systematic Cost Performance Improvements in Electricity Supply Systems (with MUERI and Industry Partner: Advanced Energy Systems Limited)
1992	$120,250	Minerals & Energy Research Institute of WA	Investigation into Advanced Power Electronic Techniques, (Industry Partner: Advanced Energy Systems Limited)
1991	$123,265	Energy R & D and Demonstration Council	Application of Power Electronic Techniques I Energy Conservation (Industry Partner: Advanced Energy Systems Limited)
1991	$10,000	Australian Research Council	Solar Water Pumping, (Industry Partner: Advanced Energy Systems Limited)
1991	$9,000	Advanced Energy Systems Limited	Solar Water Pumping
1991	$142,328	Energy R & D and Demonstration Council	Power Electronic Converter for Motor Drives, (Industry Partner: Advanced Energy Systems Limited)
1990	$224,441	National Energy R & D and Demonstration Council	Variable Speed Asynchronous Generator with Dynamic Power Conditioning (with MUERI) (Industry Partner: Advanced Energy Systems Limited)
1990	$207,117	National Energy R & D and Demonstration Council	RAPS Hybrid System Optimisation (with MUERI) (Industry Partner: Advanced Energy Systems Limited)

YEAR	GRANT	INSTITUTION	PURPOSE
1990	$97,000	Minerals & Energy Research Institute of WA	Wind/Diesel Hybrid Energy System (second stage) (Industry Partner: Advanced Energy Systems Limited)
1990	$50,000	DEET	Load Levelling (National Teaching Company Scheme) (Industry Partner: Advanced Energy Systems Limited)
1990	$147,000	National Energy R & D and Demonstration Council	Development of High Efficiency Inverters (Industry Partner: Advanced Energy Systems Limited)
1989	$33,000	Minerals & Energy Research Institute of WA	Wind Diesel Hybrid System
1989	$14,500	Australian Electrical Research Board	Development of Tandem Induction Generators
1987	$163,000	National Energy R & D and Demonstration Council	Control and Interfacing of PV/Wind/Diesel Systems (with Murdoch University Energy Research Institute, MUERI)

PUBLICATIONS - REFEREED JOURNAL PAPERS (Continuing)

1. C Nayar “Innovative Remote Micro-Grid Systems” International Journal of Environment and Sustainability , Vol. 1 No. 3, pp. 53-65 .
2. P Y Lim and C Nayar “Modelling and Simulation of Photovoltaic-Variable Speed Diesel Generator Hybrid Power System for Off-Grid Rural Electrification” International Journal of Energy Science, IJES Vol.2 No.1 2012 PP.5-14.
3. H Wang, C Nayar, J.Su, M.Ding, Control and Interfacing of a Small Scale Wind Turbine Generator, IEEE Trans on Energy Conversion, 26 Issue:2, 428 434, June 2011
4. Hanny H. Tumbelaka, Lawrence J. Borle, Chemmangot V. Nayar, and Seong Ryong Lee , A Grid Current-Controlling Shunt Active Power Filter Journal of Power Electronics, vol. 9, no. 3, pp.365-376, 2009
5. Ahmad Agus Setiawan*, Yu Zhao, Chem. V. Nayar, “Design, economic analysis and environmental considerations of mini-grid hybrid power system with reverse osmosis desalination plant for remote areas”, International Journal of Renewable Energy, Elsevier Science, Jan 2008
6. M. C. Trigg, H. Dehbonei, C. V. Nayar, Digital sinusoidal PWMs for a micro-controller based single-phase inverter Part 1: Principles of digital sinusoidal PWM generation, International Journal of Electronics, Vol 95, Issue 8, January 2008, pages 819 - 840
7. M. C. Trigg, H. Dehbonei, C. V. Nayar, Digital sinusoidal PWMs for a micro-controller based single-phase inverter, Part 2: Performance assessment experimental. International Journal of Electronics, Vol 95, Issue 9, January 2008, pages 951-972
8. M. C. Trigg , C.V.Nayar 'DC Bus Compensation for a Sinusoidal Voltage Source Inverter with Wave-Shaping Control' IEEE Trans Industrial Electronics , Vol.55, No.10, October 2008 pages 3661-3669.
9. S.H. Ko, S.R. Lee, H. Dehbonei, C.V Nayar, “Application of Voltage and Current Controlled Voltage Source Inverters for Distributed and Generation Systems”, IEEE Transactions on Energy Conversion, Vol.21,No.3, September 2006, pp 782-792.
10. M. C. Trigg, H. Dehbonei, C. V. Nayar, "Digital Sinusoidal PWM Generation using a Low-cost Micro-controller Based Single-Phase Inverter," International Journal WISAS Transactions on Systems 2006.

11. H. H. Tumbelaka, L.J. Borle, C.V. Nayar, "Analysis of a Series Inductance Implementation on Three phase Shunt Active Power Filter for Various Types of Non-linear Loads," Journal of Electrical & Electronic Engineering, Australia, 2005.
12. H. Dehbonei, C.V. Nayar, L. Borle, "A Novel Modulation Technique for a Single Phase H-bridge Inverter," International Journal of Electronics, vol. 91, pp. 41-55, 2004.
13. H. Dehbonei, L. Borle, C. V. Nayar, "Optimal Voltage Harmonic Mitigation in Single Phase Pulse Width Modulation," Journal of Electronic & Electronic Engineering, Australia, Vol. 22, No.1, 2002.
14. H. Dehbonei, L. Borle, C. V. Nayar, "Optimal Voltage Harmonic Mitigation in Single Phase Pulse Width Modulation," Journal of Electronic & Electronic Engineering, Australia, Vol. 22, No.1, 2002.
15. M Ashari, CV Nayar and WWL Keerthipala, "Optimum operation strategy and economic analysis of a photovoltaic diesel battery mains hybrid uninterruptible power supply", International Journal of Renewable Energy, Elsevier Science, Jan 2001, pp 247-254
16. C V Nayar, M Ashari, and S Islam, "A Photovoltaic Uninterruptible Power Supply System" International Journal of Renewable Energy Engineering, Vol 3, No. 1, April 2001, pp 273-279
17. J Perahia, and C V Nayar, "Simulation of Wind Powered Wound Rotor Induction Generator with a Slip Power Recovery for Battery Charging" Wind Engineering, Vol 25, No, 2, 2001, pp81-104
18. H Sharma, S Islam, T Pryor, and C V Nayar, "Power Quality Issues in a Wind Turbine Driven Induction Generator and Diesel Hybrid Autonomous Grid" Australian Journal of Electrical & Electronics Engineering, Vol 21, No. 1, 2001, pp19-26
19. C V Nayar and H. Dehbonei, "Power Conditioning for Photovoltaic Power Systems",Journal of Electrical & Electronics Engineering, Australia, Vo 21, No 2, 2001,pp 119-134
20. R Peter , B Ramaseshan and C V Nayar , "Conceptual model for marketing solar based technology to developing countries", Renewable Energy, Elsevier Science, Jan 2001, pp 247-254
21. DM Baker, VG Agelidis and CV Nayar , "A New digital zero average current error control algorithm for inverters",, International Journal of Electronics Vol. 87, No.4, 2000, pp 481- 496
22. J Chen, CV Nayar and L Xu, "Design and Finite Element Analysis of an outer rotor PM Generator for directly coupled wind turbine applications", IEEE Trans on Magnetics, Vol 36, No 5, September 2000
23. M Ashari, WWL Keerthipala and C V Nayar,"A Single Phase Parallel Connected Uninterruptible Power Supply/Demand Side Management System, IEEE Transactions on Energy Conversion, March 2000, pp 97-102
24. CV Nayar, M Ashari and WWL Keerthipala,A grid-interactive Photovoltaic Uninterruptible Power Supply System using battery storage and a backup diesel generator"IEEE PES Transactions on Energy Conversion, Vol.15, No.3, September 2000
25. Gu, WWL Keerthipala, SM Islam, CV Nayar, A novel supervisory control approach to switching operations for hybrid wind/diesel/battery/mains energy systems, Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, Volume 214, Number 6 / 2000, 691-696
26. CV Nayar and M Ashari,Phase Power Balancing of a diesel generator using a bi-directional PWM Inverter, IEEE Power Engineering Review,Vol.19, N0.11, November 1999, pp 46-47
27. B Wichert, CV Nayar and WB Lawrance, Photovoltaic Diesel Hybrid Energy Systems for Off-Grid Rural Electrification", International Journal of Renewable Energy Engineering, Vol.1, No.1, April 1999, pp7-17

28. B Wichert and CV Nayar, Photovoltaic Diesel Hybrid Energy Systems for Remote Area Power Generation", Asia Pacific Tech Monitor, Vol 16, No.1, Jan-Feb 1999, pp31-38
29. D.M.Baker, C.W. Meng, VG.Agelidis and CV Nayar , " Integrating the Digital Time Control Algorithm with a DC-bus notching circuit for soft switched inverters"" IIEE Proceedings, Electrical Power Applications, 1999
30. M Ashari and C V Nayar, "An Optimum Dispatch Strategy Using Set Points for a PV/Diesel/Battery Hybrid Power System", International Journal of Solar Energy, Vol.66, No.1, July1999 pp1-9
31. S K Chakravarthy and C V Nayar, "Frequency-locked and Quasiperiodic (QP) Oscillations in Power Systems"IEEE Transactions on Power Delivery, Vol 13, No. 2, April 1998, pp560-569
32. J Perahia and C V Nayar, "Model and Simulation of a Stand Alone Power system Comprising a Diesel Engine Driven Synchronous Generator and a Power Conditioner" International Journal of Electrical Engineering Education, Vol. 35, 1998, pp245-270
33. Nrayanan M. R. and Jayakumar P. and Nayar C. V. SPV-Diesel Hybrid Power Systems - A Techno Economic Analysis Based on a Project Implementation in India. In Technical Digest of the 9th International Photovoltaic Science and Engineering Conference. pp 815-816. Miyazaki, Japan
34. P S Panickar, S M Islam and C V Nayar ,"A New Quasi-Optimal Control Algorithm for a Wind-Diesel Hybrid System" Wind Engineering, Vol. 22, No. 3, 1998, pp159-170
35. S K Chakravarthy, and C.V. Nayar, "Determining the Frequency Characteristics of Power Networks Using ATP" Electrical Machines & Power Systems, Vol. 25 No. 4, pp341-353, 1997
36. L Borle, M S Dymond and C V Nayar, "Development and Testing of 20 kW Grid Interactive Photovoltaic Power Conditioning System in Western Australia" IEEE Transactions on Industry Applications, Vol. 33, No. 2, March/April 1997, pp502-508
37. C V Nayar, "Stand Alone Wind/Diesel/Battery Hybrid Energy Systems"Wind Engineering, Vol. 21, No. 1, 1997, pp13-19
38. S K Chakravarthy, and C V Nayar,"Quasiperiodic Oscillations in Electrical Power Systems"International Journal of Electrical Power & Energy Systems, pp483-492, Vol. 18, No. 8, 1996
39. S K Chakravarthy and C V Nayar, "Ferroresonant Oscillations in Capacitor Voltage Transformers" IEE Proceedings Part G: Circuits, Devices and Systems, Vol. 142, pp30-36, Feb. 1995
40. J. Perahia and C V Nayar,"Analysis of a Series-Delta Connected Tandem Induction Motor, International Journal of Electric Machines and Power Systems, Volume 23, Number 2, March-April, 1995
41. C V Nayar, "Stand Alone Wind/Diesel/Battery Hybrid Energy Systems", Wind Energy special issue of the Energy Environment Monitor, 1995
42. S K Chakravarthy and C V Nayar,"Parallel (quasiperiodic) Ferroresonant Oscillations in Electric Power Systems", IEEE Transactions on Circuits and Systems, Sept. 1995
43. S K Chakravarthy and C V Nayar, "Series Ferroresonance in Power Systems", International Journal of Electric Power and Energy Systems, Vol 17, No. 4. pp 267-274, 1995
44. L Borle, and C V Nayar,"Zero Average Current Error Controlled Power Flow for AC-DC Power Converters"IEEE Transactions on Power Electronics, pp1-8, Vol. 10, No. 6, Nov. 1995
45. R E Katan, V G Agelidis, and C V Nayar,"PSPICE Modelling of Photovoltaic Arrays"International Journal of Electrical Engineering Education, pp319-332, Vol.32, No.4, 1995
46. C V Nayar,"Recent Developments in Decentralised Mini-grid Diesel Power Systems in Australia", Applied Energy Vol. 52 , pp229-242, 1995

47. J Perahia and C V Nayar, “Model and Simulation of a Wind Turbine Powered Permanent Magnet Alternator Battery Charging System”, Wind Engineering, pp303-324, Vol. 19 No. 6, 1995
48. J Perahia and C V Nayar,"Simulation of a Fixed Pitch Wind Turbine Powered Induction Generator in EMTP",International Journal of Electrical Engineering Education , Vol.31, pp362-374, 1994
49. J Perahia and C V Nayar, "Generalised Machine Theory Applied to a Twin Stator Squirrel-Cage Induction Generator",International Journal of Electrical Engineering Education, Vol.31, pp 185-201, 1994
50. C V Nayar, R. Fehr, F. Thomas, J. Perahia and E. Vasu,"Constant Torque Closed Loop Rotor Resistance Controller for DC Dynamic Braking of a Wound Motor Induction Motor"International Journal of Electrical Machines and Power Systems, Vol.22, No.1, pp 61-76, 1994
51. C V Nayar, "Small Scale Wind Electricity Generation", Tide (Tata Energy Research Institute Information Digest on Energy)Publication No.3, Vol.3. 1993
52. C V Nayar, S J Phillips, W L James, TL Pryor and D Remmer, "A Novel Wind/Diesel/Battery Hybrid Energy System" International Journal of Solar Energy, Vol.51, No.1, June 1993
53. S K Chakravarthy, E Vasu and C V Nayar, "Analytic Tool for Studying Transformer Inrush Current"International Journal of Electrical Engineering Education, Vol.30, No.4, pp 366-373, 1993
54. J Perahia and C V Nayar, "Reactive Power Compensation of a Three Phase Tandem Induction Generator"International Journal of Electrical Machines and Power Systems, Vol.21, pp 627-644, 1993
55. C V Nayar, J Perahia, S J Phillips, B Sadler and U Duetschler, Optimized Power Electronic Drive for a Solar Powered Centrifugal Pump, Journal of the Solar Energy Society of India, Vol.3, No.2, November 1993
56. F. Thomas, C.V. Nayar and J. Perahia, "PSPICE Simulation and Implementation of a Thyristor dc Chopper" International Journal of Electrical Engineering Education, Vol.29, No. 3, pp 265-273, July 1992
57. S.K. Chakravarthy, C.V. Nayar and N. Achuthan, "Applying Pattern Recognition in Distance Relaying -Part 2 - Feasibility", IEE Proceedings Part C, Vol.139, No.4, pp 306-314, July 1992
58. S.K. Chakravarthy, C.V. Nayar and N. Achuthan, "Applying Pattern Recognition in Distance Relaying Part 1 - Concept" , IEE Proceedings - Part C, Vol.139, No. 4, pp 300-305, July 1992
59. C.V. Nayar, F. Thomas, S.J. Phillips and W.L. James, "Design Considerations for Appropriate Wind Energy Systems in Developing Countries", International Journal of Renewable Energy, Vol.1 No. 5/6 pp 713-722, 1991
60. C.V. Nayar, J. Perahia, F. Thomas, S.J. Phillips, T. Pryor and W.L. James, "Investigation of Capacitor-Excited Induction Generators and Permanent Magnet Alternators for Small Scale Wind Power Generation", International Journal of Renewable Energy, Vol.1, No. 3/4, pp 381-388, 1991
61. J. Perahia and C.V. Nayar, "Power Controller for a Wind-Turbine Driven Tandem Induction Generator"International Journal of Electric Machines and Power Systems, Vol.19, pp 599-624, 1991
62. C.V. Nayar and J.H. Bundell, "Output Power Controller for a Wind-Driven Induction Generator"IEEE Transactions on Aerospace and Electronic Systems, Vol.23, No.3, May, 1987
63. C.V. Nayar and T.K.M. Babu, "A Microprocessor Controlled dc Drive"International Journal of Electric Engineering Education Vol.23, January, 1986
64. C.Velayudhan Nayar and J.H. Bundell, "An Improved Differentiator for Slowly Varying Signals"International Journal of Electronics, Vol.56, No.2, February, 1985
65. C.V. Nayar, T.K.M. Babu and C.W, Lee, "A Microcomputer Controlled Firing Circuit

for a Triac AC Voltage Controller" International Journal of Electronics, Vol.58, 1985.

66. C.Velayudhan Nayar and J.H. Bundell, "A New Automatic Generation Controller for a wind-Driven Slip-Ring Induction Generator", IEEE Proceedings (Letters), Vol.72, No.9, September 1984.
67. C.Velayudhan Nayar, J.H. Bundell and B.G. Leary, "A Solid State Controller for a Wind-Driven Slip-Ring Induction Generator"IEEE Proceedings, Vol.72, No.8, August 1984.
68. C.Velayudhan Nayar and J.H. Bundell, "A Simple Inductive Displacement Transducer" Review of Scientific Instruments, Vol.55, No.10, October 1984.
69. C.Velayudhan Nayar, V.K. Govindan and V.V. Mathew, "A Novel Method for Monitoring of Frequency Deviation in Power Systems"International Journal of Electronics, Vol.56. No.1, 1984
70. C.Velayudhan Nayar and J.H. Bundell, "Electronic Three Phase Active and Reactive Power Transducer"International Journal of Electronics, Vol.57. No.2, 1984
71. C.Velayudhan Nayar and J.H. Bundell, "Characteristics and an Application of A Time Division Multiplier", International Journal of Electronics, Vol.57, No.1, 1984
72. C.Velayudhan Nayar, J.H. Bundell, J.H. Leary and B. Clarke, "Electronic Rotor Resistance Controller for System Connected Induction Generator", International Journal of Electronics, Vol.54, No.6, 1983
73. C.Velayudhan Nayar and V.K. Govindan, "A Logarithmic Converter", International Journal of Electronics, Vol.53, No.4, 1982
74. C.Velayudhan Nayar and S. Thiruvengadam, "An Electronic Frequency Deviation Transducer",International Journal of Electronics, Vol.52, No.3, 1982
75. P.S. Strinivasan and C.Velayudhan Nayar, ,A Solid State Tachometer for Three Phase Slip-Ring Induction Motor"International Journal of Electronics, Vol.51, No.3, September 1981
76. P.S. Strinivasan and C.Velayudhan Nayar, "A Solid State Resistance Controller for Three-Phase Slip-Ring Induction Motor", Electric Machines and Electromechanics (USA), No.2, Vol.6, April 1981
77. C. Velayudhan Nayar and D. Ommen,"Wheatstone Bridge Fed from a Bilateral Constant Current Source"Review of Scientific Instruments, Vol.31, No.3, March 1980
78. C.Velayudhan Nayar, "A Digital Decibel Meter Using Logarithmic A-D Converter"IEEE Transactions on Industrial Electronics and Control Instrumentation, Vol.27, No.4, November 1980

REFEREED CONFERENCE PROCEEDINGS (Continuing)

1. Lim, P. Y.; Nayar, C. V.; Rajakaruna, S., Simulation and components sizing of a stand-alone hybrid power system with variable speed generator, 9th International Conference on Environment and Electrical Engineering (EEEIC) 2010, Prague, Czech Republic.
2. P. Y. Lim and C. V. Nayar, Solar Irradiance and Load Demand Forecasts in the Supervisory Control for Off-grid Hybrid Energy System,International Renewable Energy Congress (IREC) 2010, Sousse, Tunisia, 5 7 November 2010
3. P. Y. Lim and C. V. Nayar, Photovoltaic-Variable Speed Diesel Generator Hybrid Energy System for Remote Area Applications Australasian Universities Power Engineering Conference (AUPEC) 2010, 5 8 December 2010

4. P. Y. Lim and C. V. Nayar, ,Control of Photovoltaic-Variable Speed Diesel Generator Battery-less Hybrid Energy System, IEEE International Energy Conference & Exhibition (ENERGYCON) 2010, Manama, Bahrain
5. Mao Meiqin, Lai Jidong, Ming Ding , Chem.V Nayar, Liuchen Chang, A RealTime Predictive Dynamic Control Strategy for the Small Wind Turbine System Based on CSI, ICSET 2010, Sri Lanka
6. D.C. Riawan, S. Rajakaruna, C.V. Nayar, Power Control Strategy for SEIGbased Variable Speed WECS, ICSET 2010, Sri Lanka
7. T Tajuddin and C Nayar, Variable Speed Constant Frequency Diesel Power Conversion System Using Doubly Fed Induction Generator Power Electronics Specialists Conference, PESC 07, Rhodes, June 2008
8. H Wang, C Nayar et al. Paper number pp153 "Control and Interfacing of a Grid-connected SmallScale Wind Turbine Generator", Proc AUPEC Conf , 2008
9. H Wang, C Nayar et al. Paper number: pp154 "A Control Strategy for a Grid-connected Photovoltaic Power Conditioning System", Proc AUPEC Conf, 2008
10. Riawan and C. Nayar, Improved Power Transfer Capability of SEIG in Variable Speed Wind Turbine Generation System, Proc Aupec Conf
11. Hanny H. Tumbelaka, Lawrence J. Borle, Chem V. Nayar, and Seong Ryong Lee Grid Current-Controlling Shunt Active Power Filter_(paper no: p1078). 7th International Conference on Power Electronics (ICPE'07), Daegu, Korea.,22-26 Oct 2007.
12. C.V.Nayar, M Tang, W Suponthana , "A case study of a PV/Wind/Diesel hybrid energy system for remote islands in the Republic of Maldives" AUPEC 2007 , December 2007
13. C.V.Nayar and D Reiwan , "Power Electronic Converters and their controls for Single Phase Distributed Generation", AUPEC 2007, December 2007
14. D Reiwan and C. V.Nayar, "Dynamic analysis of a Cuk converter in parallel power transfer configuration for solar charge controller application" AUPEC 2007, December 2007.
15. James Darbyshire, Chem V. Nayar, Modelling ,simulation and testing of a grid connected small scale wind energy system" , AUPEC 2007, December 2007.
16. Ahmad A Setiawan, Susanne Sugiarto), Yu Zhao, Chem. V. Nayar, M. Ery Wijaya, Elsa Melfiana, Thomas A Negara, Bayu Utomo, Ahmad F Assidi, Development of Sustainable Power and Water Supply for Remote Areas and Disaster Response and Reconstruction in Indonesia , AUPEC 2007, December 2007.
17. D Riawan ,C V.Nayar and R Kalpathi, "Analysis and Design of a Solar Charge Controller using Cuk converter " National Power Electronics Conference, Bangalore , India, December 2007.
18. Tajuddin Waris and C.V.Nayar , Modelling and simulation of the variable speed diesel generator with a doubly fed induction generator (FFIG), AUPEC 2007, December 2007.
19. C.V.Nayar , "Microgrid - island electrification technology for the 21st century ", IEEE International Symposium on Power Electronics for Distributed Generation Systems, Hefei, August 2007
20. Ahmad Agus Setiawan, Yu Zhao and Chem. V. Nayar, SCADA controlled-minigrid hybrid system for sustainable power and water supply in remote areas and emergency relief conditions, IEEE International Symposium on Power Electronics for Distributed Generation Systems, Hefei, August 2007
21. James Darbyshire, Chem V. Nayar, Modelling ,simulation and testing of a grid connected small scale wind energy conversion system" , IEEE International

Symposium on Power Electronics for Distributed Generation Systems, Hefei, August 2007

22. Ahmad Agus Setiawan, Yu Zhao, Chem V Nayar, Design, Economic Analysis and Environmental Considerations of Mini-grid Hybrid Power System with Reverse Osmosis Desalination Plant for Remote Areas, International Conference Renewable Energy for Sustainable Development in the Asia Pacific Region, Fremantle , 2007
23. Dos Reis, F.S.; Lima, J.C.M.; Tonkoski, R.; Souza, R.R.N.; Ale, J.V.; Pellissari, F.P.; Ferreira, F.A.L.; Kruse, A.B.; Boattini, O.D.; Islam, S.; Nayar, C.; A Low Voltage Electronic Ballast Designed For Hybrid Wind-Solar Power Industrial Electronics, 2007. ISIE 2007. IEEE International Symposium 4-7 June 2007 Page(s):3066 - 3071
24. M. C. Trigg and C. V. Nayar, "Matlab Simulink Modelling of a Single-Phase Voltage Controlled Voltage Source Inverter," presented at The Australasian Universities Power Engineering Conference, Melbourne, Victoria Australia, 2006
25. M. C. Trigg and C. V. Nayar ,A Matlab Graphical User Interface for Analysis and Optimisation of a VCVSI Wave-shaping Controller," The Australasian Universities Power Engineering Conference, Melbourne, Victoria Australia, 2006
26. Ahmad Agus Setiawan, Yu Zhao, Rob Susanto-Lee, Chem. V. Nayar, Design of Hybrid Power System with Reverse Osmosis Desalination Plant for Maldives, AUPEC, 2006 , Melbourne
27. M.Trigg, H. Dehbonei and C V Nayar, “DC Bus Compensation for a Sinusoidal Voltage Source Inverter with Wave-Shaping Control” 32nd Annual Conference of the IEEE Industrial Electronics Society (IECON-2006), Paris, Nov 2006
28. M.Trigg, H. Dehbonei and C V Nayar, “A Sinusoidal VSI Wave-shaping Controller for Non-linear Loads”” 32nd Annual Conference of the IEEE Industrial Electronics Society (IECON-2006), Paris, Nov 2006
29. David M. Whaley, Gurhan Ertasgin, Wen L. Soong, Nesimi Ertugrul, James Darbyshire,Hooman Dehbonei, Chem V. Nayar, “Investigation of a Low-Cost Grid-Connected Inverter for Small-Scale Wind Turbines Based on a Constant-Current Source PM Generator” 32nd Annual Conference of the IEEE Industrial Electronics Society (IECON-2006), Paris, Nov 2006
30. Hooman Dehbonei, Sung H. Ko, Seong R. Lee, Lawrence Borle, Chem Nayar, Current or Time Sharing Switches for High Efficiency Photovoltaic Power Systems, 32nd Annual Conference of the IEEE Industrial Electronics Society (IECON-2006), Paris, Nov 2006
31. Sung-Hun Ko, Seong-Ryong Lee, Hooman Dehbonei, Chem Nayar, A Grid-Connected Photovoltaic System with Direct Coupled Power Quality Control, 32nd Annual Conference of the IEEE Industrial Electronics Society (IECON-2006), Paris, Nov 2006
32. Rob SUSANTO-LEE, Yu ZHAO, Chem NAYAR, Supervisory Reverse Osmosis Desalination in an existing renewable energy system, International Federation of Automatic Control (IFAC WS ESC-06, Bansko, Bulgaria .
33. H. Dehbonei , S.R. Lee, S.H. Ko and C. V. Nayar, A Control Approach and Design Consideration of PV/Diesel Hybrid Distributed Generation SICE-ICASE International Joint Conference , Oct. 18-2 1, 2006 in Bexco, Busan, Korea.
34. S. Ahmad, S.R. Lee, H. Dehbonei, C.V Nayar," Energy Saving for Fluorescent Lighting in Commercial Buildings," IEEE Industry Applications Society 40th Annual Meeting, accepted, 2005.
35. H. Ko Sung, S.R. Lee, H. Dehbonei, C. Nayar, "A Comparative Study of the Voltage Controlled and Current Controlled Voltage Source Inverter for the Distributed Generation System," Australian Universities Power Engineering Conference

(AUPEC), Hobart, Australia , 2005.

36. H. Dehbonei, M. Trigg and Chem Nayar, "A Novel Sinewave Inverter for Harsh Environments," Australian Universities Power Engineering Conference (AUPEC), Hobart, Australia , 2005.
37. C. Nayar, H. Dehbonei and L. Chang, "A Low Cost Power Electronic Interface for Small Scale Wind Generators in Single Phase Distributed Power Generation System," Australian Universities Power Engineering Conference (AUPEC), Hobart, Australia , 2005.
38. M. C. Trigg, H. Dehbonei, C. V. Nayar, "Digital Sinusoidal PWM Generation using a Low-cost Micro-controller Based Single-Phase Inverter," presented at 10th IEEE International Conference on Emerging Technologies and Factory Automation; ETFA2005, Facolta' di Ingegneria, Catania, Italy, 2005.
39. K. Oranpiroj, S. Premrudeepreechacharn, Y. Kumsuwan , T. Boonsa , C. V. Nayar, 3-Phase 4-Wire Voltage Sag Compensator Based on Three Dimensions Space Vector, PEDS, 2005.
40. C. Nayar; H. Dehbonei and L. Chang, "An IGBT Inverter for Interfacing Small Scale Wind Generators to Single Phase Distributed Power Generation System," presented at 42nd Annual Conference of the Australian and New Zealand Solar Energy Society, Murdoch University, Perth, Western Australia, 2004.
41. H. H. Tumbelaka, L.J. Borle, C.V. Nayar, "A New Approach to Stability Limit analysis of shunt Active Power Filter With Mixed Non-Linear Loads," presented at AUPEC, Brisbane, 2004.
42. H. H. Tumbelaka, L.J. Borle, C.V. Nayar, "Analysis of a Series Inductance Implementation on Three phase Shunt Active Power Filter for Various Types of Non-linear Loads," presented at AUPEC, Brisbane, 2004.
43. M. Nikraz, H. Dehbonei, C.V Nayar, "Digital Control of Voltage Source Inverter in Photovoltaic Applications," presented at IEEE - Power Electronics Specialists Conference, Aachen, Germany, 2004.
44. H. Dehbonei, C.V Nayar, L. Borle, "A Multi-Functional Power Processing Unit for an Off-Grid PV Diesel Hybrid Power System," presented at IEEE - Power Electronics Specialists Conference, Aachen, Germany, 2004.
45. G. Hegde and Nayar C.V. , “Modular AC Coupled Hybrid Power Systems for the emerging GHG Mitigation Products Market”, Proceedings of IEEE Region 10 Technical Conference on Computers, Communications, Control and Power Engineering, (TenCon 2003), Bangalore India , October 2003.
46. H. Dehbonei, L.J. Borle, C.V. Nayar, "Design and Implementation of a Low Cost Sine Wave Inverter," presented at IEEE International Symposium on Industrial Electronics, Rio de Janeiro, Brazil, 2003.
47. H. Dehbonei, C.V. Nayar, L. Chang, "A New Modular Hybrid Power System," presented at IEEE International Symposium on Industrial Electronics, Rio de Janeiro, Brazil, 2003 .
48. M Nikraz, H.Dehbonei and C.V.Nayar “A DSP-Controlled PV System with MPPT” Australian Power Engineering Conference, Christchurch , 2003.
49. H. Dehbonei, C.V. Nayar, L. Borle,"A Combined Voltage Controlled and Current Controlled 'Dual Converter' for a Weak Grid Connected Photovoltaic System with Battery Energy Storage," IEEE, PESC02, Power Electronics Specialists Conference, Cairns, 2002.
50. Hanny H. Tumbelaka, Lawrence Borle and Chem V. Nayar, “Application Of A Shunt Active Power Filter To Compensate Multiple Non-Linear Loads”AUPEC 2002, Melbourne, Australia, October 2002, pp269-274.

51. Wilaipon P., Fung C.C. and Nayar C.V. , "A Study on a Corn Cob Gasifier Engine-Generator for Electricity Generation in Northern Thailand Using the Equilibrium Model", Proceedings of the IEEE/PES/CSEE International Conference on Power Conference on Power System Technology (PowerCon 2002), Kunming, China, October 13-17, 2002, pp. 153-157.
52. Fung C.C., Wiengmoon B., and Nayar C.V., "An Investigation on the Characteristics and Performance of a PV-diesel Hybrid Energy System for Teaching and Research", Proceedings of IEEE Region 10 Technical Conference on Computers, Communications, Control and Power Engineering, (TenCon 2002), Beijing, China, October 28-31, 2002, pp. 1962-1965.
53. Fung C.C., Rattanongphisat W. and Nayar C.V. , "A Simulation Study on the Economic Aspects of Hybrid Energy Systems for Remote Islands in Thailand", Proceedings of IEEE Region 10 Technical Conference on Computers, Communications, Control and Power Engineering, (TenCon 2002), Beijing, China, October 28-31, 2002, pp. 1966-1969.
54. M Ashari, and C V Nayar, "Steady-State Performance of a Grid Interactive Voltage Source Inverter", IEEE Power Engineering Society 2001 Summer Meeting, Vancouver, BC, Canada, July 2001, Paper #O1SM083.
55. H Dehbonei, L Borle, Chem V Nayar "Optimal Voltage Harmonic Mitigation in Single-Phase Pulse Width Modulation",AUPEC 2001, Perth, Western Australia, September 2001, pp269-274 .
56. H Dehbonei, C V Nayar, M Mallengret, L Borle "An In-line lPS System Using Space Vector Modulation Technique", IEEE 36th Annual Meeting, Chicago, USA, October 2001 .
57. H. Dehbonei, L. Borle, C.V. Nayar,"A Review and a Proposal for Optimal Harmonic Mitigation in Single-Phase Pulse Width Modulation,"IEEE PEDS, Bali, 22-25 October 2001.
58. M Ashari, C V Nayar, and S Islam, "Mitigation of Line and Neutral Current Harmonics in Three Phase Distribution Systems", IEEE Industry Applications Society Annual Mtg, Rome, Italy, October, 2000, Vol 5, pp3166-3171 .
59. S Islam, M Hamilton, W B Lawrance, and C V Nayar"Investigation into Harmonics from Variable Speed Drives under Imperfect Supply Conditions", IEEE Industry Applications Society Annual Mtg, Rome Italy, October 2000, Rome, Vol 3, pp1625-1631 .
60. M Ashari, C V Nayar, and S Islam, "An Improved In-Line Uninterruptible Power Supply System", 9th International Conf. On Harmonics and Quality of Power, Florida, USA, October 2000, Vol 2, pp548-553
61. H Sharma, S Islam, and C V Nayar, "Power Quality Simulation of a Variable Speed Wind Generator Connected to a Weak Grid", 9th International Conf. On Harmonics and Quality of Power, Florida, USA, October 2000, Vol 3, pp988-993.
62. H Sharma, S Islam, C V Nayar, T Pryor"Dynamic Response of a Remote Area Power System to Fluctuating Wind Speed", Proceedings of the IEE/PES Winter Meeting. Singapore, January 2000, IEEE Catalogue No. 00CH37077C.
63. C V Nayar, M Ashari, and S Islam, "A Photovoltaic Uninterruptible Power Supply System", International Energy Conference 2000, Al Ain, United Arabs Emirates, May 7-9, 2000 .
64. S Islam, S Lawrance, and C V Nayar"Power Quality, Efficacy and Payback Issues in Compact Fluorescent Lamps", International Energy Conference 2000, Al-Ain, United Arab Emirates, May 2000.
65. C V Nayar, "Power Conditioning for Photovoltaic Power Systems", International Energy Conference 2000, Al Ain, United Arab Emirates, May 2000. (Invited Key

Note Paper) .

66. M.Ashari, C.V. Nayar and S. Islam,"A Novel Scheme for Mitigation of Line Current Harmonics and Compensation of Reactive Power in Three-Phase Low Voltage Distribution Systems", IEEE Power Electronics Specialists Conference (PESC'00), Galway, Ireland, 18-23 June, 2000, pp 1324-1329 .
67. C V Nayar, “Control and Interfacing of Bi-directional for Off-Grid and Weak Grid Photovoltaic Power Systems”, (Special Session on Power Electronics and Renewable Energy Systems organised and chaired by me), IEEE Summer Meeting, Seattle, USA, 18 July, 2000.
68. C V Nayar“Photovoltaic-Diesel Hybrid Energy Systems for Off-Grid and Weak Grid Applications”, Energex 2000 Conference, Las Vegas, Nevada, USA, July, 2000, pp793-800.
69. H Sharma, S Islam, T Pryor, and C V Nayar, “Power Quality Issues in a Wind Turbine Driven Induction Generator and Diesel Hydrid Autonomous Grid”, AUPEC 2000, Brisbane, Australia, September 2000, pp202-207.
70. M Ashari, WWL Keerthipala and C V Nayar, "A Single Phase Parallel Connected Uninterruptible Power Supply/Demand Side Management System"IEEE Transmission and Distribution Conference, New Orleans, Louisiana, USA, April 1999,
71. M Ashari, WWL Keerthipala and C V Nayar, “Active Filter and Demand-Side Management System; Application of a Single Phase Voltage Controlled Inverter”, International Power Engineering Conference (IPEC'99) Singapore, May 1999, Vol II, pp421-426 .
72. Kannan Rajendiran, WWL Keerthipala, and C V Nayar, PSCAD/EMTDC Based Simulation of a Wind-Diesel Conversion Scheme, IEEE PES Winter Meeting, Singapore Jan 2000.
73. M Ashari, C V Nayar WWL Keerthipala, "Optimum Operation Strategy of a Photovoltaic-Diesel-Battery-Mains Hybrid Uninterruptible Power Supply"World Renewable Energy Congress V, Perth, Western Australia, February, 1999, pp345-348.
74. M Ashari, C V Nayar and WWL Keerthipala, "Economic Analysis of a PV-Battery-mains Hybrid Uninterruptible Power Supply in Perth, Western Australia"World Renewable Energy Congress V, Perth, Western Australia, February 1999, pp349-352 .
75. J Chen and C V Nayar, "A Direct-coupled, Wind-driven Permanent Magnet Generator", 1998 International Conference on Energy Management and Power Delivery, 3-5 March 1998, Singapore, pp542-547.
76. P S Panickar, S M Islam and C V Nayar, "Optimum Fuel Dispatch in a Wind-Diesel Hybrid System - A Case Study", International Conference on Optimization Techniques and Applications (ICOTA'98), Perth, Western Australia, April 1998, Vol 2, pp 948-955.
77. D M Baker, V G Agelidis and C V Nayar, "Implementation of a Zero Average Current Error Control Algorithm for Inverters using a Digital Signal Processor", IEEE International Symposium on Industrial Electronics (ISIE'98), Pretoria, South Africa, July 1998, Vol.1, pp450-455 .
78. D M Baker, C W Meng, V G Agelidis, C V Nayar, "Quasi-Resonant Circuit DC-Link Inverter using a Zero Average Current Error Control Algorithm", IEEE International Symposium on Industrial Electronics (ISIE'98), Pretoria, South Africa, July 1998, Vol 1., pp456-461.
79. J Y Chen and C V Nayar, "A Multi-Pole Permanent Magnet Generator Direct Coupled to Wind Turbine", International Conference on Electrical Machines

(ICEM'98), Istanbul, Turkey, September 1998, Vol 3, pp1717-1722 .

80. P S Panickar, S M Islam and C V Nayar, "A New Control Strategy for the Optimisation of a Wind-Diesel Hybrid System". AUPEC'98 Conference, Hobart, Tasmania, September 1998, Vol. 2, pp 355-359

81. J Chen, C V Nayar and L Xu, "Design and FE Analysis of an Outer-Rotor PM Generator for Directly-Coupled Wind Turbine Applications"IEEE-IAS Industry Applications Conference, Thirty-Third IAS Annual Meeting, St. Louis, Missouri, USA, October 1998, pp387-394 .

82. C V Nayar, M Ashari and WWL Keerthipala, "A Single Phase Uninterruptible Power Supply System Using a Bi-Directional Sinusoidal PWM Inverter"IEEE Conference Power Electronics Drives and Energy Systems for Industrial Growth (PEDES'98), Perth, Western Australia, Nov-Dec 1998, pp671-676

83. J Chen, C V Nayar and D Bake, "Determination of Parameters and Evaluation of Performance of an Outer-Rotor Permanent Magent Generator for Wind Energy Applications"IEEE Conference Power Electronics Drives and Energy Systems for Industrial Growth (PEDES'98), Perth, Western Australia, Nov-Dec 1998, pp353-358.

84. C V Nayar, “Hybrid Power Systems for Off-Grid and Grid Support Applications Part 1: Off-Grid Applications”, 2nd International Conference on Power Generation, System Planning and Operation, Hauz Khas, New Delhi, India, 12-13 December 1997, pp39-48 .

85. C V Nayar, Hybrid Power Systems for Off-Grid and Grid Support Applications Part 2: Grid Support Applications”, 2nd International Conference on Power Generation, System Planning and Operation, Hauz Khas, New Delhi, India, 12-13 December 1997, pp49-57 .

86. C V Nayar “SPV/Diesel Hybrid Systems for Remote Area and Rural Electrification”, International Conference and Exhibition on Village Electrification Through Renewable Energy, 3-5 March 1997, New Delhi, India, Conf. Proceedings, pp579-588.

87. V G Agelidis, D M Baker, W B Lawrance, C V Nayar, “A Multilevel PWM Inverter Topology for Photovoltaic Applications”, ISIE'97 Conference - Guimarães, Portugal, pp589-594, July 1997.

88. D M Baker, V G Agelidis, C V Nayar“A Comparison of Tri-Level and Bi-Level Current Controlled Grid-Connected Single-Phase Full-Bridge Inverters”, ISIE'97 Conference - Guimarães, Portugal, pp463-468, July 1997.

89. D Baker, V G Agelidis, C V Nayar, “A New Zero Average current Error Control Algorithm for Inverters” AUPEC'97 Conference, Sydney, Australia, Sept/Oct 1997, pp67-72.

90. L Steber, V G Agelidis, C V Nayar, “Inverter Technology: Current Available Product Analysis”, AUPEC'97 Conference, Sydney, Australia, Sept/Oct 1997, pp97-102 .

91. J Y Chen and C V Nayar, “A Low Speed, Direct Coupled Permanent Magnet Generator for Wind Energy Application”ANZSES Solar'97 Conference Canberra, Australia, 1-5 December, 1997, Paper 146 pp1-6 .

92. C V Nayar, “A Solar/Mains/Diesel Hybrid Uninterrupted Power System A Project Implemented in India”, ANZSES Solar'97 Conference Canberra, Australia, 1-5 December, 1997, Paper 136 pp1-6 .

93. L Borle, M Dymond, and C V Nayar, “Development and Testing of a 20 KW Grid Interactive Photovoltaic Power Conditioning System in Western Australia”, IEEE International Conference on Power Electronics, Drives & Energy Systems for Industrial Growth, PEDES'96, pp114-121, New Delhi, India, Jan. 1996 .

94. R E Katan, V G Agelidis, and C V Nayar, “Performance Analysis of a Solar Water Pumping System”, IEEE International Conference on Power Electronics, Drives &

Energy Systems for Industrial Growth, PEDES'96, pp81-87, New Delhi, India, Jan. 1996 .

95. L Borle and C V Nayar, “Rampture Current Control”, IEEE Applied Power Electronics Conference, APEC 96, pp828-834, March 1996 .
96. M Ashari, C V Nayar, W Tayati, “Sizing and Optimisation of a Diesel Solar-Battery-Hybrid Energy System for Remote Area Electrification Applications”, World Renewable Energy Congress, Vol. III, pp1525-1535, Denver, USA, June 1996 .
97. C V Nayar, “Recent Developments in Decentralised Mini-grid Diesel Power Systems in Australia” The 5th Arabic International Solar Energy Conference (AISEC-5), pp229-242, Nov. 1995.
98. L.J. Borle and C.V. Nayar, "ZACE Current Controlled Power Flow for AC-DC Power Converters" IEEE Power Electronics Specialists Conference, PESC'94, Taipei, Taiwan 1994.
99. R E Katan, C V Nayar and V G Agelidis, “Performance Analysis of a Solar Water Pumping System Using Pspice” Australasian Universities Power Engineering Conference, Adelaide, Australia, pp 296 -301, Sept. 1994 .
100. V G Agelidis and CV Nayar, A novel soft switching Boost type PWM converter topology”, Australasian Universities Power Engineering Conference, Adelaide, Australia, Volume 3, pp 651-657, Sept. 1994 .
101. E. Vasu, S.J. Phillips and C.V. Nayar, "Optimised Solar Water Pumping System Based on an Induction Motor Driven Centrifugal Pump", Proceedings of ANZSES Conference, Solar'93, Fremantle, 1993 .
102. J. Perahia, D.R. Pack and C.V. Nayar, "Dynamics of a Wind Turbine Driven Induction Generator Connected to a Small Diesel Powered Alternator", Proceedings of ANZSES Conference, Solar'93, Fremantle, 1993 .
103. L.J. Borle, M.S. Dymond, S.J. Phillips and C.V. Nayar, "Current Controlled Grid Connected Inverter", Proceedings of ANZSES Conference, Solar'93, Fremantle, 1993 .
104. W.L. James, F. Thomas, M. Hansen, I Stann and C.V. Nayar, "Advanced Power Systems Utilising Fuel Cells for Remote Areas"Proceedings of ANZSES Conference, Solar'93, Fremantle, 1993.
105. A.R. Ravikumar, K.S. Pushpakala, V.N. Nandakumar, R.K. Hegde and C.V. Nayar, "Indian Experience on Photovoltaic Systems",Proceedings of ANZSES Conference, Solar'93, Fremantle, 1993.
106. W.L. James, M. Dymond, F. Thomas and C.V.Nayar, "Control of Variable Speed Double Output Induction Generator", Solar World Congress, Budapest.
107. C.C. Fung, S.C.Y. Ho and C.V. Nayar, "Optimisation of an Hybrid Energy System Using Simulated Annealing Technique", IEEE International Conference TENCON'93, Beijing, 1993 .
108. C.V. Nayar, S.J. Phillips and E. Vasu, , Optimised Solar Pumping Systems Based on Induction Motor Driven Submersible Pump"IEEE International Conference TENCON'93, Beijing, 1993 .
109. S.J. Phillips, K. Kottathra, K.P. Manikantan, C.V. Nayar and T.L. Pryor, "Application of Neural Networks for Remote Area Power System Optimisation" , Proceedings of ANZSES Conference, Darwin, 1992 .
110. S.K. Chakravarthy and C.V. Nayar, "The Application of Pattern Recognition in Distance Relaying" , Proceedings of AIS'92 Conference, Perth, 1992.
111. M. S. Dymond, W.L. James, F. Thomas, U. Duetschler, B. Sadler and C.V. Nayar, "Achieving High Penetration of Wind Turbines into Mini Grids by the Use of Variable Speed Double Output Induction Generator", Proceedings of ANZSES

Conference, Darwin, 1992 .

112. J. Perahia and C.V. Nayar, "Variable-Speed/Constant Frequency PWM Inverter-Excited Wind Powered Tandem Induction Generator", (Won the Best Student Paper Award), Proceedings ANZSES Solar Energy Conference, Adelaide 1991.
113. S.J. Phillips, B. Sadler, U. Deutschler, C.V. Nayar and J. Perahia, "Development of a Power Electronic Drive for a Photovoltaic Powered Centrifugal Pump",Proceedings of ANZSES Conference, Adelaide, 1991.
114. T.L. Pryor, S.J. Phillips, W.L. James, C.V. Nayar and D.P. Remmer, "Recent Advances Towards Optimisation of Remote Area Power Systems" IE Aust Electric Energy Conference, Darwin, 1991.
115. W.B.Larance, W. Mielczarski and C.V.Nayar , Harmonic current reduction in a three phase bridge rectifier, Australian University Power Engineering Conference, Melbourne,1991.
116. S.J. Phillips, W.L. James and C.V. Nayar, "Appropriate Solutions for Various Levels of Energy Demand - Part 2: Large Communities", National Solar Energy Conference Calcutta, December, 1990.
117. S.J. Phillips, W.L. James and C.V. Nayar, "Appropriate Solutions for Various Levels of Energy Demand - Part 1: Very Small Communities",National Solar Energy Conference, Calcutta, December, 1990.
118. C.V. Nayar, F. Thomas, S.J. Phillips and W.L. James, "Design Considerations for Appropriate Wind Power Systems for Developing Countries",United Nations Expert Group Meeting on Wind Energy Technology, Shantou City, Giuangdon Province, China, November 1990.
119. C.V. Nayar, J. Perahia and F. Thomas, "Capacitor Excited Induction Generators and Permanent Magnet Alternators for Small Scale Wind Power Generation", ANZES Solar Energy Conference, Auckland, November 1990.
120. S.J. Phillips, W.L. James, T. Pryor and C.V. Nayar, "Advances in Renewable Energy Research in Western Australia", ANZSES Solar Energy Conference, Auckland, November, 1990.
121. S.J. Phillips, W.L. James and C.V. Nayar, "Appropriate Solutions for Various Levels of Energy Demand", UNESCO Regional Seminar of Technology for Community Development in Australia, S.E. Asia and the Pacific, Alice Springs, July 1990.
122. S.J. Phillips, W.L. James and C.V. Nayar, "Power Electronic System Optimisation for Remote Area Mini Grid Diesel Systems" IEEE Industrial Electronics Conference, November 1990.
123. C.V. Nayar and J. Perahia, "Power Controller for a Wind-Turbine Driven Tandem Induction Generator" 24th Intersociety Energy Conversion Engineering Conference, Washington, August 1989.
124. W.B. Lawrance, C.V. Nayar, S.J. Phillips and T. Pryor, "Microprocessor Control of a Hybrid Energy System",24th Intersociety Energy Conversion Engineering Conference,Washington, August, 1989.
125. C.V. Nayar, W.B. Lawrance and S.J. Phillips, "Solar/Wind/Diesel Hybrid Energy Systems for Remote Areas" 24th Intersociety Energy Conversion Engineering Conference, Washington, 1989.
126. J. Perahia and C.V. Nayar, "Output Power Control of a Wind-Driven Tandem Induction Generator" IEEE International Conference on Industrial Electronics and Control Instrumentation, Singapore, October, 1988 .
127. W.B. Lawrance and C.V. Nayar, "Hybrid Energy Systems", Conference on Science and Technology for Remote Areas, Perth, July, 1988.
128. C.V. Nayar and W.B. Lawrance, "Electrical Generators for Wind Power Plants",

Conference on Science and Technology for Remote Communities, Perth, July, 1988.

129. C.V. Nayar and J.H. Bundell, "Modelling and Simulation of a Wind-Driven Wound-Rotor Induction Generator with Tip-Speed Ratio Control", International Electric Energy Conference, Adelaide, October 1987.
130. C.V. Nayar and J.H. Bundell, "A Variable Speed Constant Frequency Wind Power Generation Scheme Using a Slip-Ring Induction Generator", 19th Intersociety Energy Conversion Engineering Conference, (IEEE ISME) San Francisco, 1984.
131. C.V. Nayar, J.H. Bundell and B.G. Leary"A Wind Energy Conversion System using a Slip-Ring Induction Generator" Electric Energy Conference, IE Australia, Perth, May 1984.
132. C.V. Nayar and J.H. Bundell, A Precision Torque Measurement Transducer System", IEEE International Conference on Industrial Electronics and Control Instrumentation, (IECON) Tokyo, October 1984.
133. C.V. Nayar, J.H. Bundell and B.G. Leary, An Adaptive Rotor Resistance Controller for Wind-Driven Slip-Ring Induction Generator",IEEE International Electrical and Electronics Conference, Toronto, Paper No. 83047, 1983.
134. C.V. Nayar and V.K. Govindan, "A Digital Frequency Deviation Monitor", International Conference on System Theory and Applications, Ludhiana, India, 1981.
135. C.V. Nayar, K.P. Sam and V.K. Govindan, "A Strain Gauge Flow Meter"All India Symposium on Instrumentation, Gwalior, October 1981

CONSULTANCIES & TECHNOLOGY TRANSFERS

YEAR	COUNTRY	INSTITUTION	PROJECT
2006-2008	Maldives	STO Maldives/ DLRE Singapore	Island Electrification
2008	Thailand	DLRE Singapore	Telecom Base Telecom and Repeater stations power supply using renewable energy
2004-2008	Australia	Watermark Patent Attorney)	Expert Consultancy for opposition to Australian patents in wind power (Client : Vestas).
2004-2008	New Zealand	A J Parker	Expert Consultancy for opposition to New Zealand patent in wind power (Client : Vestas)
2006-2007	Malaysia	Leonics, Thailand	Expert advise on the design hybrid systems in islands
2003-2004	Thailand	Joint Graduate School of Energy & Environment	Visiting Professor
2001	UAE	UAE University, Al Ain	Visiting Professor
2000-2001	Philippines	Rural Electrification Institutional Strengthening Project, Asian Development Bank	New and Renewable Energy Expert. (ADB TA No.3422-Phi)
1999-2001	India (Mumbai)	Asian Electronics Ltd	Retainer Consultant in Sustainable Energy. Distributed PV power plants.

YEAR	COUNTRY	INSTITUTION	PROJECT
1997	India (Bangalore & Hyderabad)	Indian Renewable Energy Development Agency & World Bank Photovoltaic Market Development Program	Design , preparation of project application, installation and commissioning of photovoltaic/ mains/diesel hybrid uninterruptible power supply system in Bangalore and Hyderabad
1996	India	United Nations Asian and Pacific Centre for Transfer of Technology	Expert Consultant for the Solar PV-Diesel Hybrid System Development Program
1995	India (Bangalore)	AusAID Private Sector Linkages Project with Bharat Heavy Electricals Ltd	Design, supply and installation of a 45 kW grid feeding power conditioning system.
1994-2001	India, Thailand, Philippines, Vietnam, Malaysia	Centre for Application of Solar Energy	Technical and Marketing Consultancy.
1994	Australia (Melbourne)	Mono Pumps	Testing and Evaluation of a Surface Solar Water Pumping System using Helical Rotor Pumps.
1994	Thailand	Electricity Authority of Thailand	Expert Consultancy on System Design, Sizing and preparation of Specifications.
1994	Thailand (Chiang Mai)	Hybrid System Workshop	Provincial Consultant.
1995	Thailand, Vietnam, Laos, Cambodia and China	AusAID (Small Activity Scheme)	Consultant for a Renewable Energy Systems Workshop.
1993-1994	India	Project Definitions Missions to India	Case Consultant.
1996	India (Mt. Abu, Rajasthan)	AusAID (New Delhi)	Consultant to a Hybrid System Project.
1993	India	South India Viscose Pvt Ltd.	Renewable Energy Systems - feasibility study for manufacturing and operation in India.
1993	India (Kerala)	Energy Research Ctr, (Advanced Energy Systems Pty Ltd)	AIDAB funded SAS project at Central Power Research Institute.
1991	Bangkok	United Nations (ESCAP)	Consultancy services on small scale wind energy conversion systems.
1990	Malaysia	University of Technology, Malaysia and Ausean Marketing Pvt Ltd	Solar Water Pumping and Purification Systems.
1989-1992	Australia (WA)	Murdoch University Energy Institute	Evaluation of variable speed constant frequency generators.

YEAR	COUNTRY	INSTITUTION	PROJECT
1989-1990	India (Calcutta)	Balmer Laurie Ltd	Feasibility study for manufacturing containerised solar power plants in India.
1987-1992	Australia (WA)	Murdoch University Energy Research Institute & Advanced Energy Systems Pty Ltd	PV Diesel Hybrid Energy Systems.
1987	Australia (WA)	Advanced Energy Systems Pty Ltd	Variable Voltage Variable Frequency Inverter for Solar water pumping Applications.