

Professor Marcian CIRSTEA MEng, PhD, PGCTL, CEng, FIET, SMIEEE – CV & Publications

Address: Anglia Ruskin University, School of Computing and Information Science, Science & Engineering Faculty, East Road, Cambridge, CB1 1PT, UK. Email: marcian.cirstea@aru.ac.uk; marcian@ieee.org, Tel. +44-1223-698184.

Professional profile: university professor, with 15 years of management experience and 27 years research and teaching experience in: digital systems, Artificial Intelligence, Hardware Description Languages (VHDL), system-on-chip design (FPGA), Computer Aided Design, electronic system modelling/simulation.

Google Scholar profile: **h-index: 19; i10-index: 35; Citations: 3,056** – 13 November 2020.

Present Employment: **Professor and Head of School of Computing and Information Science, Anglia Ruskin University, Cambridge, UK**
(employed as Principal Lecturer in September 2004, full Professor since April 2007).

Teaching: Digital Systems, Hardware Description Languages, FPGAs, Microelectronics, Power converters

Research: Digital control, Artificial Intelligence (Neural Networks / Fuzzy Logic), computer aided design tools & methods applied to digital systems modelling and rapid prototyping, Field Programmable Gate Arrays (FPGAs), Hardware Description Languages (VHDL) for control algorithm design/implementation.

Supervised to completion:

9 PhDs: Intelligent Fuzzy Logic Control of Generators (1999, Jeen Khor), Neural PWM Adaptive FPGA Controller for Sensorless Induction Motor Drives (2000, Andrei Dinu), Advanced FPGA Control System for Diesel Driven PM Generators (2001, Yanting Hu), Reusable VHDL Architectures for Induction Motor Vector Control Implemented in FPGA (2002, Abdulmagid Aounis), Aligning Music Genre Taxonomies (2007, Christopher Mitchell), Web Services for the disabled (2008, Mukhtar Rana), Mathematical Modelling of Semiconductor Devices (2014, Junior Barrett), Innovative concept of strong type-checking computer system for enhanced software reliability (2015, Jonathan Kimmitt), Conceptual Development of a Novel Digital Controller for Optimised Operation of a Hybrid Renewable Energy System (2018, John Darvill).

4 MPhils: Design of a FPGA Controlled 6-pulse Rectifier (1998, Marie Giamusi), Holistic Modelling & Analysis of a Stand Alone Power System (2003, Abdebaset Zregh), Integrated Renewable Energy Systems Modelling (2009, Alberto Parera), Digital Temperature Controller Design for explosive atmospheres (2016, Erik Pertot). Supervised many MSc and final year projects.

Currently supervisor for: 1 PhD.

Research internal examiner: 5 PhDs: 05.1998, 03.2003, 05.2003, 10.2003, 01.2004, **1 MPhil:** 11.1997.

Research external examiner:

- **10 PhDs:** i) 12.03.2007: Brunel University, UK, ii) 06.12.2007 University of Cergy-Pontoise, Paris (viva held in French, Tunis, Tunisia), iii), iv) 27.04.2009 and 07.05.2012 at National Institute of Applied Sciences (INSA), Lyon, France, v) 24.11.2010 University of Cergy-Pontoise, Paris, France, vi)+vii) 12.10.2012, Cluj-Napoca, Romania, viii) 19.12.2014 University of Leicester, UK, ix) 02.11.2018, Cluj-Napoca, Romania, x) 23.09.2019, Technical University of Iasi, Romania.
- **2 MPhils:** 24.11.2004, 15.06.2005 both at Nottingham Trent University, UK.
- **7 participations** (2000 – 2012) to PhD examination panels (Romania) as referee through reports.

CAD / programming skills: Xilinx ISE, VHDL, Modelsim, Mentor Graphics, Viewlogic, FoxPro, MS Office.

Positions of responsibility, professional bodies membership and prestige

- * **Fellow** of The Institution of Engineering and Technology (**FIET, Feb. 2011**). **Member IET** since **1999**.
- * **Senior Member** of the Institute of Electrical and Electronics Engineers (**SMIEEE**), since 2004.
- * **Member** of UK Engineering Council - **Chartered Engineer (CEng, since 1999)**,
- * **Member** of European Federation of National Engineering Associations, **European Engineer (Eur Ing)** since 2002.
- * **Member of Admin. Committee (AdCom)** of **IEEE Industrial Electronics Society**, 2005-16.2019-22.
- * **Member of Awards and Honours Committee** of **IEEE Industrial Electronics Society**, 2019-20.
- * **Vice-President for Membership Activities** – **IEEE Industrial Electronics Society**, 2013-14, 2015-16.
- * **Associated Editor of IEEE** since **May 2004; currently serving for Trans. on Industrial Informatics**. Past: AE for Industrial Electronics Magazine, Trans. on Ind. Electronics. All have high IF and citation index.

- * **Guest Editor of IEEE Transactions on Industrial Electronics/Informatics**, for five special sections: *FPGAs in Industrial Control Systems* (2007, 2008, 2012), one special issue on International Symposium on Industrial Electronics 2008 (October 2009) and Computational Intelligence for Drives (2013).
- * **Invited to participate as referee in Assessment Panel** in the Aalto University Research Art and Impact Assessment, **RAI 2018, Finland, 26-31 August 2018**.
- * **Referee in Group of Expert eValuators (GEV)** - Italian National Agency for the Evaluation of Universities and Research Institutes (ANVUR) - eValuation of Quality of Research 2004-10 (Sept. 2012).
- * **Invited/Appointed Research Proposals Evaluator** for: EPSRC UK (Sept.'11), EU Cyprus (Nov. 2011).
- * **General co-Chairman** of *IEEE Joint conference ACEMP-OPTIM, Brasov, Romania, 2-4 Sept. 2021*.
- * **Vice-Chairman** of the *IEEE Joint conference ACEMP-OPTIM, Istanbul, Turkey, 27-29 August 2019*.
- * **Letter** from IEEE Industrial Electronics Society (IES) President, Prof. Xinghuo Yu (Professor, RMIT, Australia) for **contribution as Associate Editor to the IEEE Transactions on Industrial Electronics journal**. February 2018.
- * **Letter** from IEEE Division VI Director and Industrial Electronics Society (IES) former President, Prof. John Hung (Professor, Auburn University, USA) for **contributions to IEEE activities for more than a decade and specifically for the successful organisation of IEEE International Symposium on Industrial Electronics (ISIE), Edinburgh, in June 2017**. December 2017.
- * **General Chairman** of the *IEEE International Symposium on Industrial Electronics (ISIE), Edinburgh, June 2017*. Papers submitted: 463, registered: 338, from 66 countries. Number of registered participants: 357. Papers are included in the IEEE Xplorer Digital Library and most other international digital libraries.
- * **General Chairman** of the *IEEE Optimisation of Electrical and Electronic Equipment (OPTIM), Brasov, Romania, May 2012, May 2014, May 2017*. Around 200 refereed papers (IEEE Xplorer) at each edition.
- * **General Chairman** of the *IEEE Joint conference ACEMP-OPTIM-Electromotion, Side, Turkey, 2-4 September 2015*.
- * **General Chairman** of the *IEEE International Conference on Industrial Informatics (INDIN), Cambridge, July 2015*. Papers submitted: 370, accepted: 252. Number of registered participants: 250. All papers will be included in the IEEE Xplorer Digital Library and most other international digital libraries.
- * **General Chairman** of the *IEEE International Symposium on Industrial Electronics (ISIE), Cambridge, July 2008*. Papers submitted: 816, accepted: 442. Participants: 450. Papers in IEEE Xplorer Digital Library.
- * **Founder and Past Chairman** (2008, 2009) of the *IEEE Industrial Electronics Chapter of UK and Republic of Ireland*. Strategic leadership of over 200 professionals, organisation of technical events, etc.
- * **Founder & Chairman (Jan.'05–Nov'07)** of the *Electronic Systems on Chip Technical Committee of IEEE Industrial Electronics Society*. Still active member since then. <http://ieee-ies.org/tc/esoc/>
- * **Academic Expert** evaluator for **European Commission's TEMPUS programme**, 2007, Turin, Italy.
- * **EC Leonardo programme External assessor**, appointed by Leonardo National Agency, UK (2004).
- * **Member of International Advisory Board** - Accellera Designers Forum (1999-2004) - <http://www.eda.org/pub/adf/ADFboardm.html#peb>
- * **Chairman of the IET East Midlands Branch Committee and Member of IET Council** (2003-2004)
- * **IET Student Advisor** (2000 – to date).
- * **Member** of the international organising committee, programme committees or track chairs of several conferences: ISIE, IECON, ICIT, OPTIM, POWERENG, SIES, etc. since 2006; currently 3 per year.
- * **Chairman** of many sessions of IEEE International Symposia/Conferences: ISIE, IECON, ICIT, OPTIM.
- * **Professional reviewer** for papers and books for several IEEE journals and conferences, IET Power Electronics, International Journal of Engineering Education, Elsevier Science.

Invited presentations, short courses and tutorials:

- * **Invited keynote presentation:** “*Modelling and Design of Digital Electronic Systems*”, *IEEE International conference on Development and Application Systems*, University of Suceava, Romania, 19-21 May 2016.
- * **Invited presentations:** “*Modern Methodologies for Digital Systems Modelling and Design*”, invited by the Hunan province, China, presented at Hubei University of Technology, Wuhan, China, 7-10 April 2015.
- * **Invited presentation:** “*Embracing change towards success in synergy with the community*”, presented at the international forum for training talented engineers, Beijing, China, 17 May 2013.

- * **Tutorial** (3 hours): *“Electronic Design Methodologies targeting FPGAs. Software engineering for hardware design ?”*, Annual International Conference of IEEE Industrial Electronics Society, IECON 2011, Melbourne, Australia, 7 November 2011.
- * **Invited presentation** (2 hours): *“Electronic Design Methodologies – FPGA Applications. Software engineering approach to hardware design ?”*, University of Manchester, UK, 17 January 2011.
- * **Invited presentation** (2 hours): *“Modern Electronic System Modelling and Design Methods”* presented at ESIAME. Paris, France, 22 November 2010.
- * **Invited presentation**: *“Electronics – Modern Design or Art ?”* presented at IEEE UK&RI Chapter meeting, 18 October 2010, Cambridge.
- * **Invited presentation**: *Renewable Control Technologies*, presented at Cleanpower International Conference, 19th June 2009, Cambridge, UK.
- * **Invited presentation**: *Sustainable Development. Integrated Renewable Energy Systems – Holistic Modelling & Control*, presented at “e – Technologies in Renewable Energy Systems: Teaching and Learning” European Socrates Intensive Project summer school, Patras, Greece, 8 July 2008.
- * **Tutorial** (4 hours): *FPGAs used in Industrial Control Systems*, presented at IEEE International Industrial Electronics Conference (IECON’06), Paris, 6 November 2006.
- * **Tutorial** (3 hours): *HDL Modelling Environment for Power Electronic Systems Integrated Development and Controller Rapid Prototyping*, presented at IEEE International Symposium on Industrial Electronics, Dubrovnik, Croatia, June 2005.
- * **Tutorial** (3 hours): *Power Electronic Systems Modelling & Controller Rapid Prototyping - An Efficient Novel Method using VHDL*, presented at IEEE Int. Workshop on COMputers in Power ELEctronics (COMPEL), Univ. of Urbana, Illinois, USA, August 2004.
- * **Invited short course** (1 day) on: *Introduction to VHDL Design of Digital Electronic Circuits with Applications to Power Systems Modelling and FPGA based Controller Design*, presented at the Centre of Excellence in Power Electronics and Intelligent Control for Energy Conservation, Warsaw University of Technology, Poland, May 2004.
- * **Tutorial** (2 hours): *Modern Electronic Design Automation Techniques (based on Hardware Description Languages) Applied to Power Electronic Systems Holistic Modelling*, presented at IEEE Int. Symposium on Industrial Electronics, Rio de Janeiro, June 2003.
- * **Invited presentation**: *Collaboration Mechanisms Between Universities and Industry in UK*, International TEMPUS Symposium on “Retraining Support for Small and Medium Enterprises”, Brasov, Romania, May 2000.

Awards and Prizes:

- * **Doctor Honoris Causa award** – honorary doctorate awarded by Transilvania University of Brasov, Romania. **Date: 15 January 2016.**
- * **Certificates** from Editor-in-chiefs of IEEE Trans. on Industrial Electronics and IEEE Trans. on Industrial Informatics **for contributions as Associate Editor to high citation index.** November 2012, Nov. 2015.
- * **Certificate** from Editor-in-chief of IEEE Transactions on Industrial Electronics **for the “outstanding contribution as Associate Editor to the journal’s highest citation index in IEEE”.** November 2009.
- * **Certificate** from the President of the IEEE Industrial Electronics Society (IES) in **appreciation for the “outstanding contributions”** to IEEE Industrial Electronics Society technical and organisational activities. November 2005.
- * **Anglia Ruskin University VC’s award**: *Our University in the International Arena.* June’08.
- * **Prestigious Journal paper published**: **11,256 usage since 2011 (IEEE Xplore, 13 November 2020) and has reached 1006 citations (Google Scholar, 13 November 2020).**
- Monmasson, E., Cirstea, M.N.: **“FPGA Design Methodology for Industrial Control Systems – a Review”**, IEEE Transactions on Industrial Electronics, Special Issue on *FPGAs used in Industrial control Systems*, vol. 54, no. 4, August 2007, pp. 1824-1842, ISSN 0278-0046. DOI: 10.1109/TIE.2007.898281.
- * **Certificate** from the President of the IEEE Industrial Electronics Society (IES) in **appreciation for the “outstanding contributions”** to IEEE Industrial Electronics Society technical and organisational activities. November 2005.
- * **IET Student Counsellor of the Year Award, 2003.** An annual UK award for best student counsellor.

- * **Best Presentation Award** (in its section) for presenting the paper (on collaborative work with NEC Electronics Europe GMBH): Cirstea, M.N., Dinu, A., Redpath, S.: "Modelling a New Sensorless Control Strategy for Brushless DC Motors", Proc. of IEEE Int. Conference on Industrial Technology ICIT'04, Hammamet, Tunisia, December 2004, CDROM.
- * **Best Student Paper Prize**: Coggins, T. J., Cirstea, M.N.: "A Novel HDL Based In-house Design Approach to *fastflex* Data Controllers", IEEE. Symposium on Industrial Electronics (ISIE'2004), Ajaccio, France, May 2004, pp. 1531-1536.
- * **Award: 3rd Asea Brown Boveri (ABB) Prize** for the paper: Dinu, A., Cirstea, M.N., McCormick, M., Haydock, L. and Al-Khayat, N.: "Neural Current Controller for Induction Motor Applications" Proc. IEEE Int. Conf. on Optimization of Electronic Equipment (OPTIM), Romania, 2000, pp.665-670.

Leadership, managerial experience and achievements:

- * Since October 2018, Prof. Cirstea is **Head of School of Computing and Information Science**. The school employs 21 academics, is concentrating its provision towards the Cambridge campus, hosts 2 research groups and 15 research students and in addition to more traditional computer science courses, it focuses its provision towards cyber security, artificial intelligence, machine learning and data science. With a budget of approx. £5 million, the school exceeds its external income target by generating £450K.
- * **Significant role in implementing the 2018/19 restructuring** at Anglia Ruskin University, including major reshape of the vision and strategy for the subject area of computing, aligning it with major challenges identified by the UK government and focusing the provision towards cybersecurity, artificial intelligence, machine learning and data science, while retaining a more traditional computer science, computer networks and software development subject base. Concentration of subject area in Cambridge, aligning interests with local and national industry, reviving employer engagement and enhancing student employability through project based content and real-life scenarios based learning. Extended distance learning provision of the school by validating data science courses to be delivered through an innovative partnership with industry. External engagement and income generation has increased, mainly through Artificial Intelligence-based research projects and knowledge transfer partnerships. Embarked the school in novel degree apprenticeship schemes and achieved significant apprenticeship engagements growth.
- * **Senate member** (2011–18) and member of the **Collaborative Activities Committee** (2014-18) at Anglia Ruskin University.
- * **Significant role in professional accreditation** from **IET, BCS** and **JAMES** - gained/renewed/enhanced. In particular, in May 2015, the BEng (Hons) Computer Science course gained BCS accreditation at CITP (highest level) and IET accreditation at partial CEng (highest level), while BEng (Hons) Electronic Engineering was (re)accredited at partial CEng (highest possible level, increased from IEng). The MSc Electronic and Electrical Engineering was also accredited for the first time by the IET at CEng further learning level (highest possible). Joint Audio Media Education Support (JAMES) accredited our BSc (Hons) Audio and Music Technology course in 2011, 2014, and 2017.
- * **Significant role in implementing the 15/30 credits curriculum structure** at Anglia Ruskin University and a major continuous streamlining of the curriculum afterwards. The number of courses was reduced from 70 in 2008 to 13 in 2018, and the number of modules was reduced from 300 to 130, while the student number has increased.
- * **Several participations in validation panels in UK and abroad**: i) MAHSA Univ., Kuala Lumpur, Malaysia (March 2011, set of MBAs in Health), ii) Anglia Ruskin University Chelmsford (Chair, April 2013, MSc Health Management, Distance Learning), iii) London South Bank Univ. (February 2014, set of MSc in Engineering), iv) Amity Univ., Singapore (Chair, March 2014, Master in International Law), v) Amity Univ., Singapore (March 2014, institutional review), vi) HELP Univ. Kuala Lumpur, Malaysia (March 2014, institutional approval), vii) London South Bank Univ. (March 2015, set of MSc in Engineering validated for Bahrain); viii) Anglia Ruskin Univ. (April 2016, set of BAs in English languages); ix) University of Bedfordshire (20 April 2018, Periodic Review panel for School of Computing).
- * **Several participations to UK and international academic promotion panels**: Prof. Elena Gaura (Coventry University, UK, 2009), Dr. James Brusey (Coventry University, UK, 2011), Dr. Dana Perniu (Transilvania University of Brasov, Romania, 2013), Dr. Daniel Cotfas (Transilvania University of Brasov, Romania, 2014), Dr. Ray Cheung (City University of Hong Kong, 2015), Dr Mihai Ciobotariu, (University of New South Wales, Australia, 2015).

* **Participations in high level interview panels in UK and abroad:** i) Anglia Ruskin University: Professor and HoD, Engineering department (2014); Professor and Director of IT research institute (2015); ii) Transilvania University of Brasov, Romania - Professor and University Director of Research (2016); iii) Univ. of Bedfordshire – Professor of Engineering (2017);

* **Vice-President for Membership Activities** – IEEE Industrial Electronics Society, Jan.2013 – Dec.2016. Leading the professional activities of approx.6,000 members / 56 Chapters around the globe, attracting new members to the IEEE, reporting 3 times per year in front of Administrative Committee and handling a budget of USD 70K. The Industrial Electronics Society is very well regarded in IEEE and healthy financially (USD 10 million worth), organising and co-sponsoring more than 20 international conferences/workshops every year and publishing 3 prestigious journals. Promotional articles authored.

* **General Engineering UOA 15 convenor** for the periodic research review in UK – Research Excellence Framework (REF) 2014. Very good results obtained; in particular **Impact** was rated 70% @3*; 30% @ 2*.

* **Framework 6 European Commission Programme: Control of Renewable Integrated Systems Targeting Advanced Landmarks (CRISTAL)** – Coordination Action, **Euro 130K**. Prof. M. Cirstea was **author of project proposal** and **Consortium Coordinator** including 11 institutions from 7 European countries. Duration: 2 years, ending 2010.

* Between January 2008 – September 2018, Prof. Cirstea was **Head of Computing and Technology Department**, including 32 FT and 10 PT academics and supported by 10 technicians and administrators. The Department was split between ARU's Cambridge and Chelmsford Campuses, housed 17 research students and about 700 taught students, and had an annual budget of approx. £8 million. Achievements:

- successful integration of the former two departments of Design & Technology and Computing, with new roles and strategic new DAP structure. Departmental financial balance was always positive since 2008 (2018 estimate= +£400K).
- leading and participating to the validation of many new courses (8 MScs, 1 MBA, revalidating all Chelmsford courses, a new Apprenticeship Degree: BSc (Hons) Digital and Technology solutions).
- being involved in the Internationalisation of the department as part of the university's strategy, with past franchises of courses to Malaysia (HELP CAT, MAHSA, Limkokwing Univ.), Trinidad and Tobago (SAM), India (Amity Univ.), Greece (Omiros College) and partnerships in Electronics with Shaoyang University and Hubei University of Technology, China.
- the number of PhD students in the dept. has increased, especially in Cambridge (from 4 to 17).
- appointing /leading probation of new academics (20 Cambridge, 5 Chelmsford).
- the number of scholarly and research activities have increased in the department with many Knowledge transfer partnerships KTP/KEEP being handled by the department (14 in 2014-15, almost half of all active KTPs/KEEPS at Anglia). External income of about £400K per annum.

* **Founder and Past Chairman** (2008-9) of the *IEEE Industrial Electronics Chapter of UK and Republic of Ireland*. Strategic leadership of over 200 professionals, organisation of technical events, budget, etc.

* **Founder and Past Chairman** (3 years, 2005-2007) of the *Electronic Systems on a Chip* Technical Committee of the IEEE Industrial Electronics Society (since Jan.'05) <http://ieee-ies.org/tc/esoc/>. Activities include: budgetary responsibilities; organisation of special sessions or acting as main track chair at IEEE conferences: IECON'05, ISIE'06, IECON'06, IECON'08, ISIE'10; IECON'10, ISIE'11, IECON'11, IECON'12, ICIT'13, ISIE'13, IECON'13, ICIT'17. Refereeing of IEEE Transactions and Conference papers; publishing materials to advertise the committee and its technical activities.

* Between June 2005 – Dec. 2007, Prof. Cirstea was **Head of the Design and Technology Department**, including approx. 42 staff (27 academics, 7 technicians, 8 administrators), 30+ research students and approx. 500 undergraduates, had an annual budget of approx. £3 million and was split between Anglia Ruskin's Cambridge and Chelmsford Campuses. The Design & Technology department:

- **met and exceeded its target** in terms of external income generation in 2005-2006
- the department achieved **an overall increased intake** of students & **PhD students** in Sept. 2006
- the **number of research active staff and 3-rd leg activities have increased**, especially in Cambridge. In Sept. 2004 there was no external income, then to Dec.07: 4 KTPs, 2 KEEPs, 1 EC project, 1 consultancy, 1 industry training course, 1 EEDA proof of concept, 1 patent application.
- **leading the successful departmental migration to a new modular structure** of the provision, through design and implementation of the 15/30 credits new curriculum. At the same time, **IET (formerly IEE) accreditation** at Incorporated Engineer level was obtained, continuing for the Engineering courses in Chelmsford and **newly awarded to the BEng Electronics and the BSc Audio and Music Technology courses of the Cambridge campus**.

- **appointing /leading probation** of new academics (5 Cambridge, 2 Chelmsford).
- **leading the successful completion** (July 2007) of the degrees of students in **Mathematics and Statistics**, after university's decision to phase out Maths, including their **Royal Statistical Society** professional certificates, under difficult circumstances (5 specialist academics leaving the dept.).
- **leading and participating** to the production of advertising materials for teaching and research.

* Between Sept. 2004 – April 2005, as **Head of Department of Mathematics and Technology** at Anglia Ruskin, M. Cirstea was in charge of managing the resources allocated to the department, both human and material. Responsibility for 14 academics, 6 support staff and 10 research students. So far, he had important contributions to Anglia Ruskin's changes and restructuring, in:

- **setting up an Employers Advisory Group** associated with the department, which consists of senior industrialists having meetings with academics twice a year and advising on courses.
- **leading and stimulating the increase of research activities** and setting up of the Electronic Systems Modelling and Design research group in the Cambridge campus.
- **establishing relevant links with local industry**, leading to a contract with John Henry Ltd., KTP with Transmittion Ltd., short course in VHDL training to Audio Processing Technology Ltd, KEEP with Cambridge Recycling Services Ltd..

* 1999-2004: **one of the 9 members (sole Europe representative) of the International Advisory Board** of Accellera Designers Forum – organisation driving forward standards for electronic systems modelling & design, under IEEE co-ordination <http://www.eda.org/pub/adf/ADFboardm.html#peb>

* **Chairman of the East Midlands Branch Committee of the Institution of Electrical Engineers** (Jan.'03–Sept.'04). Coordinated the IEE activities of the 22 Committee members. In 2003 a business plan and a budget were submitted, approved by the IEE (now IET) HQ without modifications.

Other academic achievements:

* developing a **new approach to teaching Microelectronics** – papers published in international peer reviewed educational journal, International Journal of Engineering Education: i) Cirstea, M.N.: "*Problem Based Learning in Microelectronics*", Vol. 19, No.5, 2003, pp.738-741, ISSN:0949-149X; ii) Nicula, D., Cirstea, M.N.: "*Successful CAD Tools Application to FPGA/ASIC Design*", Vol.15, No.1, 1999, pp.72-76.

* **establishment of effective international links which promote the university**, through European programmes, IEEE activities and professional links with institutions like: Auburn University - USA, Warsaw University of Technology - Poland, Transilvania University of Brasov - Romania, Politecnico di Torino – Italy, Aalborg University – Denmark, Technical University of Cluj-Napoca – Romania.

* **contribution** to the facilitation / creation of an effective learning environment for a diverse student population, including the **setup of several research and scholarly Electronics and CAD laboratories**, at Anglia Ruskin University and De Montfort University.

* **contribution** to developing an **international focus** in teaching and education, by promoting staff/student exchanges through **European Academic Programmes**: TEMPUS-AC-JEP- 2816-90, TEMPUS-AC-JEP-13559-98, SOCRATES/ERASMUS/ERASMUS+: 1999-2019.

Income generation / Research collaboration / Industrial links / Training courses delivered:

- ♦ **Between 2014-2019 - leading key partnerships with Chinese universities**, with special agreements approved by the Chinese Ministry of Education: Shaoyang University (Shaoyang) and Hubei University of Technology (Wuhan). These two partnership brought **£240K of external income** per year for our team's support of electronics teaching delivery in China and during the academic year 2017-18 have brought **10 students as direct entrants into the final year of our BEng (Hons) Electronics**.
- ♦ **International Conference organisation – bid written / won, general chairman. IEEE International Symposium on Industrial Electronics (ISIE 2017)**, 19-22 June 2017, Edinburgh, UK. approx. **£230K**.
- ♦ **International Conference organisation – bid writing, general chairman. IEEE International Conference on Industrial Informatics (INDIN 2015)**, 22-24 July 2015, Cambridge, UK. **£140K**.
- ♦ **Low Carbon Knowledge Transfer programme with LMK Thermosafe Ltd** – contribution as support academic, Intelligent Temperature sensors, 2014 -2015, **£64K**.
- ♦ **2 Low Carbon Knowledge Transfer programmes with Calex Electronics Ltd.:** – contribution as support academic, High Temperature sensors (2011-2012 and 2014-15), **£36K+£63K**. The newly developed infrared temperature sensor, capable of accurately measuring small infrared signals remotely at an ambient temperature over 180°C without additional cooling, is a good example of

success in collaboration with industry. According to the company's MD, "PyroMini has already been a resounding success... we were able to design a product which has many unique features, making it the most advanced of its kind in the world. This has put us ahead of our competitors in Germany, Japan and the USA.... Its performance is so much better than earlier designs that sales of this type of sensor have increased by 300% and we are currently negotiating a contract in the USA for the supply of 10,000 pieces."

- ♦ **Knowledge Transfer Partnership (KTP) with STV International** – contribution as support academic, 2010 -2012. Value: **£ 120 K**.
- ♦ **Delivering Training Courses to Industry: *Introduction to VHDL Design*** – to Datalink Ltd. (2003), Transmittion Ltd. (2003), Audio Processing Technology Ltd. (2005), range of companies in Cambridge (course delivered at Anglia Ruskin University, 2010): Cambridge Silicon Radio (CSR) Ltd, Plastic Logic Ltd, Bertrandt Ltd, Displaylink Ltd, Exquisite IT Ltd, ADI Ltd.
- ♦ **Framework 6 European Commission Programme: *Control of Renewable Integrated Systems Targeting Advanced Landmarks (CRISTAL)* – Coordination Action**, including 11 institutions from 7 EU countries, **Euro 130 K**. **Proposal author and Consortium Coordinator**. Dec.'07 – Dec.'09.
- ♦ **International Conference organisation – bid written / won, general Chairman. IEEE International Symposium on Industrial Electronics (ISIE 2008)**, 30 June – 2 July 2015, Cambridge, UK. **£17K**.
- ♦ **KEEP programme with Cambridge Recycling Services**, ending March 2008, **£26K**. Modelling and Design of a Labview based electronic control system for the company's modern recycling plant.
- ♦ **Knowledge Transfer Partnership (KTP) with Transmittion Ltd.**, Ashby-de-la Zouch: ***Redesign fastflex range of products using hardware description languages (HDLs) and FPGA implementation***. Value: **£ 105 K**, Oct.'03-Oct.'05. **Grade 2**.
- ♦ **Consultancy for NEC Electronics Europe GmbH** - DC Brushless/PM Synchronous motor drives C modelling. **£11K**, March'04.
- ♦ **EPSRC Grant, sole investigator: £ 52 K *Predictive Controllers Using State Space Observers & Neural ASICs for PWM Converters & Generators***, 1998-2001, with **Newage AVK SEG (+£9.5K)**. EPSRC evaluation: **Tending to outstanding**.
- ♦ **European Programmes: TEMPUS-AC-JEP- 2816-90, TEMPUS-AC-JEP-13559-98, Erasmus: 1999-2013.**
- ♦ **Long term (7 years) research collaboration with Newage AVK SEG (currently Cummins Generator Technologies)**, UK, approx. income **£ 100 K** (personal contribution). (1997 -2004).

Research statement – current and future plans:

In the future, I intend to pursue mainly topics related to Artificial Intelligence applied to the Internet of Things, making use of Hardware Description Languages and FPGAs, mainly as research applied to modern intelligent systems. Interest exists for the modelling of systems of systems and also for software engineering approach to hardware systems design – modern computer aided design methodologies.

Training undertaken / certificates awarded - too many to list but including:

- ♦ **Anglia Ruskin University: *Equality and Diversity in Recruitment and Selection Panels***: Nov.'04, Nov'08, March'14; ***Appraisers***: Nov.'04. May'08, April'11, March'12, ***Managing the Disciplinary Process***: Jan.'06; ***Time management***: Jan.'06. ***WebCT***: April'06, ***Sharepoint VLE***: June'12. ***External Income Generation***: May'06, ***Having difficult conversations***: April'08, April'11, ***Excellence - Serving You Right***: Jan.'09, ***Leadership & Management***: June'09, July'09, Sept.'09, Nov.'09, Jan.'10. Prevent, on-line, 2016, Equality and Diversity, on-line, 2016, '18. Fire Marshall, May'17. Global Data Protection Regulations, Feb.'18, Employment Policy update (June'18), Managing Change (June '18), HoS Training (set of courses: Jan'19, Feb'19, Mar'19), Managing Conflicts: April'19.
- ♦ **Institution of Occupational Safety and Health / West Anglia Training Association: *Safety for Senior Executives***: June 2011.
- ♦ **Spearhead training: *Developing Marketing Strategies***: Sept'03.
- ♦ **De Montfort University: *Research Supervision***: March'99, ***Classroom Observation***: July'01, ***C++***: May'02, ***Supporting Student Learning***: June'02, ***Appraisers***: Sept'02, Hemsley Fraser - ***Introduction to Effective Project Management***: Oct'03.
- ♦ **Princeton University US (Prof.S.Y.Kung, Prof.W.Wolf): *Embedded Systems***, July'00, Lincoln, UK.
- ♦ **EPSRC: *Making the most of your Intellectual Property***, Jan.'99, Strathclyde Univ., Glasgow, UK.
- ♦ **Europractice: *FPGA design using XILINX***, Jan.'98, Leuven, Belgium.
- ♦ **Nottingham Trent University – *Certificate in Research Supervision* - 1996.**

Education:

Postgraduate PT: 1998-1999: De Montfort Univ.: Planning to Teach, Learners & Learning, Assessing & Evaluating, Lecturing in Practice.

1999: Post Graduate Certificate in Teaching and Learning (PGCTL).

Postgraduate FT: 11.1993-10.1996 Nottingham Trent University, UK. **PhD: *An investigation into ASIC control of a 6-pulse cycloconverter for quad-winding induction motor.*** Mentor Graphics EDA used for conception, design, simulation & implementation of an ASIC controlled divided winding induction motor cycloconverter drive. *Advantages:* improved harmonics, high reliability, reduction in power consumption, torque pulsation, motor vibration, size, cost. *Applications:* warships, icebreakers, rolling mills, railway engines. Built & tested. **PT lecturer:** EDA / Analogue Electronics.

1996: Doctor of Philosophy (PhD) in Electronic/Electrical Engineering.

University: 10.1985-06.1990 Transilvania University Brasov, Romania, 5 years full time. Significant subjects: Advanced Mathematics, Programming, Electronics, Control, Electrical Drives, Engineering.

1990: MEng Electrical Engineering Honours - (Diploma Engineer 99.8%) 1st in a group of 70.

National Military Service: 1984-1985 - Full Time, School of Telecommunications, Sibiu, Romania.

1985: Reservist Lieutenant (Telecomms), qualified: *mobile radio units, Morse code, tel. switchboard*

Secondary: 1980-1984 "Andrei Saguna" Mathematics & Physics National College, Brasov, Romania. **1st in a series of approx. 150.**

1984: Diploma of Baccalaureate 98.7% ("A" levels): Maths, Physics, Romanian, Engineering project.

Prior employment:

01.1998-08.2004 Senior Lecturer - De Montfort University, Leicester, UK. *Teaching:* Power Electronics, Advanced Digital Design (including VHDL, FPGAs), Embedded Control, Vehicle Electronics, Electronics for Mechatronics (MSc). Supervising final year ug and MSc projects in Electronics and Mechatronics. *Research:* Systems' modelling & power electronics control.

01.1997-12.1997 Lecturer: De Montfort University, Leicester, UK. *Topics:* Electronics, Microelectronics.

02.1992-10.1993 Lecturer: (Control, Power Electronics): Transilvania University Brasov, Romania.

Additionally, many projects carried out as database programmer / consultant (for over 10 companies).

08.1990-02.1992 Systems Analyst: Greenhouse company, Codlea, Romania. FoxPro programming, MS-DOS operating system officer and computer system manager.

Referees (list can be provided upon request):

Others (2018-20):

- Associate Editor for IEEE Transactions on Industrial Informatics (IF 5.43, listed #5 in Computer Science of 105).
- embedded systems track co-chair for international conference IEEE IECON 2019 (Oct. 2019, Lisbon, Portugal)
- vice-chairman for international conference IEEE ACEMP-OPTIM (August 2019, Istanbul, Turkey)
- tutorials co-chair for international conference IEEE ISIE 2019 (June 2019, Vancouver, Canada)
- tutorials co-chair for international conference IEEE IECON 2018 (October 2018, USA)
- special sessions co-chair for international conference IEEE ISIE 2018 (June 2018, Australia)
- publicity co-chair for international conference IEEE ICIT 2018 (February 2018, France)
- embedded systems track co-chair for international conference IEEE IECON 2020 (Oct. 2020, Singapore)
- interviewed (5 minutes) by BBC Radio Cambridgeshire live on Artificial Intelligence (AI), after the press release related to our (ARU) new AI courses. Friday 12th April 2019.

Professor Marcian Cirstea - FULL LIST OF PUBLICATIONS

RESEARCH MONOGRAPH (in English)

Cirstea, M.N., Dinu, A., Khor, J., McCormick, M.: **"Neural and Fuzzy Logic Control of Drives and Power Systems"**, Elsevier Science, Oxford, 2002, ISBN 0750655585. **315 citations (13 November 2020, Google Scholar)**.

TEXT BOOK (in English):

Cirstea, M.N., Dinu, A., Nicula, D.: **"A Practical Guide to VHDL Design"**, Editura Tehnica, Bucharest, Romania, 2001, ISBN: 9733115398.

TEXT BOOKS (in Romanian):

Cirstea, M.N., Ilea, D.: **User Manual for Foxbase+ programming language** ("Manual de Utilizare a limbajului de programare Foxbase+"), Transilvania University of Brasov, Romania, 1992.

Cirstea, M.N., Ilea, D.: **User Guide for MS-DOS Operating System** ("Ghid de Utilizare a Sistemului de Operare MS-DOS"), 'Duminica' Publisher, Romania, 1991.

PUBLISHED JOURNAL PAPERS (all in English, in reverse chronological order):

29) Balan, A., Balan, T., Cirstea, M., Sandu, F.: **"A PUF-based cryptographic security solution for IoT systems on chip."** *EURASIP Journal on Wireless Communications and Networking* (EURASIP JWCN), Springer, 4 Nov. **2020**, 231 (2020), USA. <https://doi.org/10.1186/s13638-020-01839-6>

28) Gherman, T., Petreus, D., Cirstea, M. N.: **"A Real Time Simulator of a Phase Shifted Converter for High Frequency Applications"**, *Advances in Electrical and Computer Engineering*, ISSN: 1582-7445, e-ISSN: 1844-7600, vol. 20, issue 3, pp. 11 - 22, August 2020, doi: [10.4316/AECE.2020.03002](https://doi.org/10.4316/AECE.2020.03002).

27) Petreus, D., Patarau, T., Etz, R., Cirstea, M.: **"An islanded microgrid energy management controller validated by using Hardware-In-the-Loop Emulators"**, *Int. Journal of Electrical Power and Energy Systems*, Elsevier, Vol. 106, March 2019, Pages 346-357, doi.org/10.1016/j.ijepes.2018.10.020.

26) Petreus, D., Daraban, S., Cirstea, M.: **"Modular Hybrid Energy Concept Employing a Novel Control Structure Based on a Simple Analog System"**, *Advances in Electrical and Computer Engineering*, ISSN: 1582-7445, e-ISSN: 1844-7600, vol. 16, issue 2, pp. 3-10, May 2016, DOI: 10.4316/AECE.2016.02001.

25) Stanciu, A., Cirstea, M.N., Moldoveanu, F.: **"Analysis and Evaluation of PUF-based SoC Designs for Security Applications"**, *IEEE Transactions on Industrial Electronics*, vol. 63, issue 9, pp. 5699-5708, Sept. 2016, ISSN: 0278-0046. DOI: [10.1109/TIE.2016.2570720](https://doi.org/10.1109/TIE.2016.2570720).

24) Folea, S., Mois, G., Muresan, C., Miclea, L., De Keyser, R., Cirstea, M.N.: **"A Portable Implementation on Industrial Devices of a Predictive Controller using Graphical Programming"**, *IEEE Transactions on Industrial Informatics*, Vol. 12, No. 2, April 2016, pp.736-744. DOI: 10.1109/TII.2016.2532118.

23) Monmasson, E., Cirstea, M.N.: **"Industrial Control Applications of FPGAs"**, *IEEE Transactions on Industrial Informatics*, Vol.9, No.3, Aug.2013, pp.1250-1252, DOI: [10.1109/TII.2013.2270011](https://doi.org/10.1109/TII.2013.2270011) editorial review.

22) Sutikno, T, Nik Idris, N. R., Jidin, A., Cirstea, M.N.: **"An improved FPGA Implementation of Direct Torque Control for Induction Machines"**, *IEEE Transactions on Industrial Informatics*, Vol. 9, No. 3, August 2013, pp.1280-1290. DOI: [10.1109/TII.2012.2222420](https://doi.org/10.1109/TII.2012.2222420)

21) Barote, L., Marinescu, C., Cirstea, M.N.: **"Control structure for Single Phase Stand-Alone Wind Based Energy Sources"**, *IEEE Trans. on Ind. Electronics*, vol.60, Issue 2, February 2013, pp. 764-772, ISSN: 0278-0046, DOI: 10.1109/TIE.2012.2206346.

20) Tisan, A., Cirstea, M.N.: **"SOM Neural Network Design – A New Simulink Library Based Approach Targeting FPGA Implementation"**, *Journal of Mathematics and Computers in Simulation*, Elsevier, [Volume 91](https://doi.org/10.1016/j.matcom.2012.05.006), May 2013, pp. 134-149, ISSN: 0378-4754. <http://authors.elsevier.com/sd/article/S0378475412001139> DOI: [10.1016/j.matcom.2012.05.006](https://doi.org/10.1016/j.matcom.2012.05.006)

19) Alecsa, B., Cirstea, M.N., Onea, A.: **"Simulink Modeling and Design of an Efficient Hardware-constrained FPGA-based PMSM Speed Controller"**, *IEEE Transactions on Industrial Informatics*, Vol. 8, Issue 3, pp.554-562, 2012. DOI: 10.1109/TII.2012.2193891.

18) Monmasson, E., Idkhajine, L., Cirstea, M.N., Bahri, I., Tisan, A., Naouar, W.: **"FPGAs in Industrial Control Applications"**, *IEEE Transactions on Industrial Informatics*, vol. 7., no. 2, pp. 224-244, May 2011, ISSN 1551-3203, DOI: 10.1109/TII.2011.2123908. **515 citations (13 November 2020, Google Scholar)**.

17) Dinu, A., Cirstea, M.N., Cirstea, S.E.: **"Direct Neural Networks Hardware Implementation Algorithm"**, *IEEE Trans. on Ind. Electronics*, vol. 57, no. 5, May 2010, pp.1845-1848, ISSN: 0278-0046. DOI: 10.1109/TIE.2009.2033097.

16) Cirstea M. N.: **"Sustainable Renewable Energy for Europe"**, *Projects* magazine, *British Publishers Ltd.*, April 2010, pp. 78-80, ISSN 2040-7335.

15) Asher, G.; Cecati, C.; Cirstea, M. N.; Monmasson, E., (2009), **"Special Section on 2008 International Symposium on Industrial Electronics, Cambridge"**, Guest Editorial, *IEEE Transactions on Industrial Electronics*, vol. 56, no. 10, April 2008, pp. 3995-3997. ISSN: 0278-0046. DOI: 10.1109/TIE.2009.2028671.

- 14) Monmasson, E., Cirstea, M.N., (2008), **"FPGAs Used in Industrial Control Systems – part II"**, Guest Editorial, IEEE Transactions on Industrial Electronics, vol. 55, no. 4, April 2008, pp. 1499-1500. ISSN: 0278-0046. DOI: 10.1109/TIE.2008.917141.
- 13) Monmasson, E., Cirstea, M.N., (2007), **"FPGAs Used in Industrial Control Systems – part I"**, Guest Editorial, IEEE Transactions on Industrial Electronics, vol. 54, no. 7, August 2007, pp. 1807-1809. ISSN: 0278-0046. DOI: 10.1109/TIE.2007.898278.
- 12) Cirstea, M.N., Dinu, A.: **"A VHDL Holistic Modelling Approach and FPGA Implementation of a Digital Sensorless Induction Motor Control Scheme"**, IEEE Trans. on Ind. Electronics, Special Issue on *FPGAs used in Industrial control Systems*, vol.54, no.4, Aug.'07, pp.1853-1864, ISSN 0278-0046. DOI: 10.1109/TIE.2007.898286.
- 11) Monmasson, E., Cirstea, M.N.: **"FPGA Design Methodology for Industrial Control Systems – a Review"**, IEEE Transactions on Industrial Electronics, Special Issue on *FPGAs used in Industrial control Systems*, vol. 54, no. 4, August 2007, pp. 1824-1842, ISSN 0278-0046. DOI: 10.1109/TIE.2007.898281. **11,256 usage since 2011 (IEEE Xplore, 13 November 2020), reached 1006 citations (Google Scholar, 13 November 2020).**
- 10) Rana M.M., Reynolds T., Cirstea M.N., Entecott A., Jones. S. G.: **"Transforming the lives of visually impaired people through semantic web services"**, Int. Journal of Technology, Knowledge & Society, vol. 3, issue 3, Aug.'07, ISSN 1832-3669, <http://ijt.cqpublisher.com/product/pub.42/prod.355>.
- 9) Dinu, A., Cirstea, M.N.: **"A Novel Digital Neural Network Hardware Implementation Technique Targeting FPGAs"**, Journal of Electrical Engineering, no.4, vol.6, 2006, pp.103-120, ISSN 1582-4594.
- 8) Cirstea M. N.: **"Electronic SOCs. An Integrated modelling and design approach"**, *EuroAsia semiconductor*, November 2006, pp. 45-48.
- 7) Cirstea, M.N.: **"Electronic Systems Integrated Modelling and Optimised Digital Controller Prototyping – a Novel (HDL) Approach"**, IEEE Industrial Electronics Society Newsletter, vol.52, no. 3, September 2005, pp.11-13, ISSN 0746-1240.
- 6) Cirstea M.N.: **"Power Electronic Systems VHDL Modelling and FPGA Controller Prototyping"**, the *Electrotechnical Review Journal (Przegląd Elektrotechniczny)*, R.81, no.4, Warsaw, Poland, 2005, pp. 16-20, PL ISSN 0033-2097.
- 5) Cirstea, M.N.: **"Problem Based Learning in Microelectronics"**, Int. Journal of Eng. Education, Vol. 19, No.5, 2003, pp.738-741, ISSN:0949-149X
- 4) Dinu, A., Cirstea, M.N., McCormick, M., Ometto, A. and Rotondale, N.: **"Sensorless Induction Motor Control Strategy Optimised for FPGA Hardware Implementation"** Journal of Electrical Engineering, no.1, vol.1, 2001, pp.26-31, ISSN 1582-4594.
- 3) Nicula, D., Cirstea, M.N.: **"Successful CAD Tools Application to FPGA/ASIC Design"**, Int. Journ. of Eng. Education, Vol.15, No.1, 1999, pp.72-76
- 2) Patterson, E.B., Cirstea, M.N., Morley, D. and Oswald, C.: **"Concurrent Engineering - A Modern Approach to a System Design."**, "Advances in Design and Manufacturing"-Concerted Efforts for Europe-Published by the EC DG iii, 1995, Vol.6, Ch.43, pp.179-188
- 1) Cirstea, M.N., Patterson, E.B., Morley, D., Koczara W., Przybylski, J.: **"Electronic Design Automation Techniques Transferred to Central / Eastern Europe"**, "Advances in Design and Manufacturing"-Concerted Efforts for Europe - EC DG iii, 1995, Vol.6, Ch.43, pp.85-92.

PUBLISHED REFEREED CONFERENCE PAPERS (English, in reverse chronological order):

- 120) O'Reilly, J., Cirstea, S., Cirstea, M., Zhang, J.: **"A Novel Development of Acoustic SLAM"**, Proc. of IEEE Joint Int. Conference ACEMP-OPTIM, Istanbul, Turkey, 26-29 August 2019. [10.1109/ACEMP-OPTIM44294.2019.9007217](https://doi.org/10.1109/ACEMP-OPTIM44294.2019.9007217).
- 119) F. Hazzaa, S. Yousef, E. Sanchez, M. Cirstea: **"Lightweight and Low-Energy Encryption Scheme for Voice over Wireless Devices"**, Proc. of IEEE Int. Conf. on Ind. Electronics (IECON'18), Washington, USA, Oct. 2018, pp.2992-2997.
- 118) S. Sadeghi-Esfahlani, S. Cirstea, A. Sanaei, M. Cirstea: **"Fire detection of Unmanned Aerial Vehicle in a Mixed Reality-based System"**, Proc. of IEEE Int. Conf. on Ind. Electronics (IECON'18), Washington DC, USA, Oct. 2018, pp.2757-2762. DOI: [10.1109/IECON.2018.8592764](https://doi.org/10.1109/IECON.2018.8592764)
- 117) Constantinou, G., Wilson, G., Sadeghi-Esfahlani, S., Cirstea, M.N.: **"An Effective Approach to the Use of 3D Scanning Technology which Shortens the Development Time of 3D Models"**. Proc. of IEEE Joint Int. Conference OPTIM-ACEMP, Brasov, Romania, May 2017, pp.1083-1088, DOI: [10.1109/OPTIM.2017.7975116](https://doi.org/10.1109/OPTIM.2017.7975116).
- 116) Lelutiu, L.M., Lungoci, C.M., Calin, M.D., Cirstea, M.N.: **"A Power Efficient Mobile Solar Tracking System"**, Proc. of IEEE Joint Int. Conference OPTIM-ACEMP 2017, Brasov, Romania, May 2017, pp.561-566, DOI: [10.1109/OPTIM.2017.7975028](https://doi.org/10.1109/OPTIM.2017.7975028)
- 115) Darvill, J., Tisan, A., Cirstea, M.N.: **"A Novel ANFIS Architecture for FPGA Implementation"**, Proc. of IEEE Int. Conf. on Industrial Electronics (ISIE 2017), Edinburgh, UK, 19-21 June 2017, pp. 1244- 1248, DOI: [10.1109/ISIE.2017.8001423](https://doi.org/10.1109/ISIE.2017.8001423)

- 114) Stanciu, A., Cirstea, M.N., Moldoveanu, F.: **"A Novel PUF-Based Encryption Protocol For Embedded System On Chip"**, Proceedings of the 13th IEEE International Conference on Development and Application Systems, Suceava, Romania, May 2016, pp.158-165. DOI: 10.1109/DAAS.2016.7492566
- 113) Cirstea, M.N.: **"Modeling and Design of Digital Electronic Systems"**, Proc. of IEEE Int. Conference on Development and Application Systems, Suceava, Romania, May 2016, pp.189-194. **Keynote presentation.** DOI: 10.1109/DAAS.2016.7492596
- 112) Darvill, J., Tisan, A., Cirstea, M.N.: **"An ANFIS-PI Based Boost Converter Control Scheme"**, Proc. of IEEE Int. Conference on Industrial Informatics (INDIN 2015), Cambridge, UK, July 2015, pp. 632 - 639, DOI: 10.1109/INDIN.2015.7281809.
- 111) Kimmitt, J., Greaves, D., Cirstea, M.N.: **"A toolchain for safety-critical embedded programming using FPGAs"**, Proc. of IEEE Int. Conference on Industrial Informatics (INDIN 2015), Cambridge, UK, July 2015, pp. 848 - 855, DOI: 10.1109/INDIN.2015.7281847.
- 110) Folea, S., Mois, G., Muresan, C., Miclea, L., De Keyser, R., Cirstea, M.N.: **"Implementation of an Extended Prediction Self-Adaptive Controller using LabVIEW"**, Proc. of IEEE Int. Conference on Industrial Informatics (INDIN 2015), Cambridge, UK, July 2015, pp. 883 - 888, DOI: 10.1109/INDIN.2015.7281852.
- 109) Darvill, J., Tisan, A., Cirstea, M.N.: **"A Novel PSIM and Matlab Co-Simulation Approach to Particle Swarm Optimization Tuning of PID Controllers"**, Proc. of IEEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2014), Brasov, Romania, May 2014, pp.784-789, DOI: 10.1109/OPTIM.2014.6850876.
- 108) Dinita, R., Wilson, G., Winckles, A., Cirstea, M.N., Jones, A.: **"A Novel Autonomous Management Distributed System for Cloud Computing Environments"**, Proc. of IEEE Int. Conference on Industrial Electronics (IECON 2013), Vienna, Austria, 11-15 Nov.2013, pp.5618-5623.
- 107) Gomes, L, Monmasson, E., Cirstea, M.N., Rodriguez-Andina, J.J.: **"Industrial Electronic Control: FPGAs and Embedded Systems as System-on-Chip Solutions"**, Proc. of IEEE Int. Conference on Industrial Electronics (IECON 2013), Vienna, Austria, 11-15 Nov.2013, pp.60-65.
- 106) Dinita, R., Wilson, G., Winckles, A., Cirstea, M.N., Jones, A.: **"Hardware Loads and Power Consumption in Cloud Computing Environments"**, Proc. of IEEE Int. Conference on Information Technology (ICIT 2013), Cape Town, South Africa, 25-28 Feb. 2012, pp.1291-1296.
- 105) Dinita, R., Wilson, G., Winckles, A., Cirstea, M.N., Jones, A.: **"A Cloud-based Virtual Computing Laboratory for Teaching Computer Networks"**, Proc. of IEEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2012), Brasov, Romania, 24-25 May 2012, pp.1314-1318.
- 104) Barrett, J., De Souza, Cirstea, M.N., Cirstea, S.: **"Analytical Techniques for the Simulation of Electron Transport in Semiconductor Systems"**, Proc. of IEEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2012), Brasov, Romania, 24-25 May 2012, pp.822-826.
- 103) Gadde, Y, Cirstea, M.N., Toulson, R., Allingham, E.: **"An Optimised Development Model for High Volume Electronic Products"**, Proc. of IEEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2012), Brasov, Romania, 24-25 May 2012, pp.1325-1330.
- 102) Patarau, T., Petreus, D., Etz, R., Cirstea, M.N., Daraban, S.: **"Digital Control of Bidirectional DC-DC Converters in Smart Grids"**, Proc. of IEEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2012), Brasov, Romania, 24-25 May 2012, pp.1553-1558.
- 101) Alecsa, B., Cirstea, M.N., Onea, A., **"Holistic Modeling and FPGA Implementation of a PMSM Speed Controller"**, proc. 37th Annual Conference of IEEE Industrial Electronics Society IECON 2011, Melbourne, Australia, pp.4009-4014.
- 100) Alecsa, B., Tisan, A., Cirstea, M.N.: **"High Resolution 6-Channels Pulse Width Modulator for FPGA-based AC Motor Control"**, proc. IEEE International Conference on Applied Electronics, Pilsen, Czech Republic, September 2011, pp. 17-20, ISSN 1803-7232.
- 99) Petreus, D., Daraban, S., Cirstea, M.N., Patarau, T., Etz, R.: **"A Novel Implementation of a Maximum Power Point Tracking System with Digital Control"**, Proc. of IEEE International Symposium on Industrial Electronics, ISIE 2011, Gdansk, Poland, June 2011, pp.977-982, ISBN 978-1-4244-9311-1.
- 98) Alecsa, B., Onea, A., Cirstea, M.N.: **"An Efficient FPGA Implementation of the Space Vector Modulation Algorithm"**, proc. of 10th International Symposium on Signals, Circuits and Systems ISSCS 2011, Iasi, Romania, pp. 447-450.
- 97) Tisan, A., Cirstea, M.N., Cirstea, S.: **"New Simulink Library for SOM Neural Network Design and FPGA Implementation"**, IEEE Electrimacs conference, June 2011, Paris, France, CDROM.
- 96) Tisan, A., Cirstea, M.N., Buchman, A., Parera-Ruiz, A., Oniga, S., Ilea, D.: **"Hollistic Modeling, Design and Optimal Digital Control of a Combined Renewable Power System"**, Proc. of IEEE International Symposium on Industrial Electronics, ISIE 2010, Bari, Italy, July 2010, pp.2713-2718.
- 95) Cirstea, M.N., Parera-Ruiz, A.: **"An FPGA Controller for a Combined Solar / Wind Power System"**, Proc. of IEEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2010), Brasov, Romania, 20-22 May 2010, vol., pp. 1103-1108.
- 94) Tisan, A., Cirstea, M.N., Oniga, S., Buchman, A.: **"Artificial Olfaction System with Hardware On-chip Learning Neural Networks"**, Proc. of IEEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2010), Brasov, Romania, 20-22 May 2010, vol., pp. 884-889.

- 93) Parera-Ruiz, A., Cirstea, M.N., Cirstea, S.E., Dinu, A.: **"Integrated Renewable Energy System Modelling with direct FPGA Controller Prototyping"**, Proc. of IEEE Industrial Electronics Conference (IECON'09), Porto, Portugal, 3-5 Nov. 2009, pp. 2963-2968.
- 92) Ghadedo, A., Cirstea, M.N., Cirstea, S.: **"A High Level Language Approach to Matrix Converter Modelling and FPGA Controller Design"**, Proceedings of the International Conference on Mechatronics, (ICM 2009), Malaga, Spain, 14-17 April 2009, CDROM.
- 91) Ghadedo, A., Cirstea, M.N.: **"Holistic Modelling of the Matrix Converter System and FPGA Controller using Handel-C"**, Proceedings of the International Symposium on Electrical and Electronics Engineering (ISIEE-2008), Galati, Romania, ISSN 1842-8046, pp. 101-106.
- 90) Sedoyeka, E., Hunaiti, Z., Almasri, S., Rahman, A., Cirstea, M.N.: **"Evaluation of HSDPA (3.5G) Mobile Link Quality"**, Proc. of IEEE International Symposium on Industrial Electronics, ISIE 2008, Cambridge, UK, June 2008, pp.1446-1451.
- 89) Parera-Ruiz, A., Cirstea M.N.: **"Rapid development of an FPGA Controller for a Wind / Photovoltaic Power System"**, Proc. of IEEE International Symposium on Industrial Electronics, ISIE 2008, Cambridge, UK, June 2008, pp.2003-2008.
- 88) Rana M.M., Reynolds T., Cirstea M.N.: **"Developing a prototype using mobile devices to assist visually impaired users"**, Proc. of IEEE International Symposium on Industrial Electronics, ISIE 2008, Cambridge, UK, June 2008, pp.1826-1830.
- 87) Koczara, W., Cirstea, M.N., Brown, N., Iwanski, G., Kaminski, B.: **"Power Distribution in RES-Diesel Autonomous Power System with Doubly Fed Induction Generator for Reduction of Fuel Consumption"**, Proc. of IEEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2008), Brasov, Romania, May 2008, vol. II-B, pp. 340-344.
- 86) Parera-Ruiz, A., Cirstea M.N., Koczara, W., Teodorescu R.: **"A Novel Integrated Renewable Energy System Modelling Approach, Allowing Fast FPGA Controller Prototyping"**, Proc. of IEEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2008), Brasov, Romania, May 2008, vol. II-B, pp.395-400.
- 85) Barote, L., Weissbach, R., Teodorescu, R., Marinescu, C., Cirstea, M.N.: **"Stand-Alone Wind System with Vanadium Redox Battery Energy Storage"**, Proc. of IEEE Int. Conf. on Optimisation of Electrical and Electronic Equipment (OPTIM 2008), Brasov, Romania, May 2008, vol. II-B, pp.407-412.
- 84) Petrinescu, K., Cirstea, M.N., Seare, K., Marinescu, C.: **"A Novel FPGA Fuel Cell System Controller Design"**, Proc. of IEEE/IEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2008), Brasov, Romania, May 2008, vol.II-B, pp.401-406.
- 83) Dinu A., Cirstea M. N.: **"A Digital Neural Network FPGA Direct Hardware Implementation Algorithm"**, Proc. of IEEE International Symposium on Industrial Electronics, ISIE 2007, Vigo, Spain, June 2007, pp.2307-2312.
- 82) Rana M.M., Reynolds T., Cirstea M.N., Entecott A., Jones.S. G.: **"Developing a prototype using semantic Web services and wireless adaptive technologies for visually impaired people to resolve their immobility issues"**, Proc. of 5th Int. Bhurban Conf. on Applied Sciences and Technologies: IBCAST 2007, Islamabad, Pakistan, 8-11 January 2007, CDROM.
- 81) Serban, I., Ion, C., Marinescu, C., Cirstea, M.N.: **"Electronic Load Controller for Stand Alone Generating Units with Renewable Energy Source"**, Proc. of IEEE Industrial Electronics Conference (IECON'06), Paris, Nov. 2006, pp.4309-4312, ISBN: 1-4224-0136-4.
- 80) Petrinescu, K., Cirstea, M.N.: **"Holistic Modelling of a Fuel Cell Power System and FPGA Controller using Handel-C"**, Proc. of Annual Industrial Electronics Conference (IECON'06) of IEEE Industrial Electronics Society, Paris, Nov. 2006, pp.4951-4956, ISBN: 1-4224-0136-4.
- 79) Aounis, A., Cirstea, S., Cirstea, M.N.: **"PWM Induction Motor Vector Control System Design Employing Reusable VHDL Architectures and FPGA Prototyping"**, Proc. of IEEE Ind. Electronics Conf. (IECON'06), Paris, Nov.2006, pp.4923-4928, ISBN: 1-4224-0136-4.
- 78) Parera-Ruiz, A., Cirstea, M.N.: **"Holistic Modelling of an Integrated Renewable Energy System Controller, Enabling Rapid Hardware Prototyping"**, Proc. of IEEE International Symposium on Industrial Embedded Systems, Nice, France, October 2006, CDROM, ISBN: 1-4244-0777-X.
- 77) Rana M.M., Reynolds T., Cirstea M.N., Entecott A., Jones. S. G.: **"Usability Issues of Adaptive Technologies for Visually Impaired Users to Operate their Computers"**, Int. Conf. on Mobility for All The Use of Ambient Intelligence in Addressing the Mobility Needs of People with Impairments: The Case of ASK-IT 2006, Nice, France, 26-27 October, 2006. Available online: <http://www.ask-it.org/DOWNLOADS/>.
- 76) Rana M.M., Reynolds T., Cirstea M.N., Entecott A., Jones. S. G.: **"Design Checks for Microsoft Dot Net Framework Accessibility"**, Int. Conf. on Mobility for All The Use of Ambient Intelligence in Addressing the Mobility Needs of People with Impairments: The Case of ASK-IT 2006, Nice France, 26-27 October, 2006, available on line: <http://www.ask-it.org/DOWNLOADS/>.
- 75) Rana M.M., Reynolds T., Cirstea M.N., Entecott A., Jones S.G.: **"A Prototype to Examine Accessibility level of Semantic Web Services"**. P. Isaias, M.B. Nunesand, I.J. Martinez, eds., in: The IADIS International Conference WWW/Internet 2006, 5-8 October 2006, Murcia Spain, IADIS Press, pp.251-257.
- 74) Rana, M.M., Reynolds, T., Cirstea, M.N., Entecott, A., Gregory-Jones, S.: **"It's Time to Say Goodbye to Screen Reader – A Prototype to Examine Accessibility Level of Semantic Web Services"**, Proceedings of

Int. Conf. on Knowledge Information and Creativity Support Systems, Aug. 2006, Ayutthaya, Thailand, pp.176-181.

73) Cirstea, M.N.: **"VHDL for Industrial Electronic Systems Integrated Development"**, Proc. of IEEE International Symposium on Ind. Electronics, 2006, Montreal, Canada, pp.1516-1520, ISBN 1-4244-0497-5.

72) Cirstea, M.N., Dinu, A.: **"Simulation Package for A New Sensorless Control Strategy for PMSM and Brushless DC Machines"**, Proc. of IEEE International Symposium on Industrial Electronics, ISIE 2006, Montreal, Canada, pp. 2077-2082, ISBN 1-4244-0497-5.

71) Mitchell, C., Nunn, D., Cirstea, M.N.: **"Merging Music Genre Ontologies with Controlled Vocabularies"**, Active Media Technology Int. Conf., AMT2006, Brisbane, Australia, June 2006, pp 366-371.

70) Serban, I., Marinescu, C., Cirstea, M.N.: **"Hybrid Power System based on Micro-Hydro and Wind Turbine Generation"**, Proc. of IEEE/IEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2006), Brasov, Romania, May, 2006, vol.II, pp. 267-274.

69) Marinescu, C., Clotea, L., Cirstea, M.N., Serban, I., Ion, C.: **"Controlling Variable Load Stand-Alone Hydrogenerators"**, Proceedings of the Annual Conference of the IEEE Industrial Electronics Society, Raleigh, North Carolina, USA, Nov. 2005, pp. 2554 – 2559.

68) Coggins, T.J., Cirstea, M.N.: **"A Novel System on a Programmable Chip Design of a fastflex Data Controller"**, Proceedings of the Annual Conference of the IEEE Industrial Electronics Society, Raleigh, North Carolina, USA, Nov. 2005, pp. 2220 - 2223.

67) Coggins, T.J., Cirstea, M.N.: **"FPGA Implementation of a fastflex Supervisory Control and Data Acquisition (SCADA) Remote Telemetry Unit"**, Proceedings of the Annual Conference of the IEEE Industrial Electronics Society, Raleigh, North Carolina, USA, Nov. 2005, pp.2216 - 2219.

66) Serban, I., Ion, C., Marinescu, C., Clotea, L., Cirstea, M.N.: **"Paralleling Synchronous and Induction Generators in Island Grids"**, Proc. of the International IEEE Conference PELINCEC'05, Warsaw, Poland, 17–19 Oct. 2005, CDROM.

65) Cirstea, M.N., Dinu, A., Redpath, S., Comnac, V.: **"Permanent Magnet Synchronous Motor Drive Simulator Using C++"**, Proc. of the International IEEE Conference PELINCEC'05, Warsaw, Poland, 17-19 Oct. 2005, CDROM.

64) Cirstea, M.N.: **"HDL Modelling Environment for Power Electronic Systems Integrated Development and Controller Rapid Prototyping"**, Tutorial Proceedings of the IEEE International Symposium on Industrial Electronics, Dubrovnik, Croatia, June 2005, CDROM.

63) Cirstea, M.N., Khor, J., Marinescu, C.: **"Fuzzy-Logic Controller For Hybrid Electric Vehicle Applications"**, Proceedings of the IEEE International Symposium on Industrial Electronics, Dubrovnik, Croatia, June 2005, pp. 1465-1468.

62) Cirstea, M.N., Dinu, A., Redpath, S.: **"Modelling a New Sensorless Control Strategy for Brushless DC Motors"**, Proc. of IEEE Int. Conference on Industrial Technology ICIT'04, Hammamet, Tunisia, December 2004, CDROM. **Best Presentation award in its section.**

61) Cirstea, M.N., Tbrojevic M., Cirstea, S., Coggins, T.J., Al-Akaidi, M.M.: **"FPGAs Replacing Microprocessors in SDH Communication Networks"**, Proceedings of the IASTED Int. Conf. of Signal and Image Processing, SIP 2004, Hawaii, USA, August 2004, pp. 541-546.

60) Coggins, T.J., Cirstea, M.N., Cuff, A.: **"Signal Processing Industrial Application: A New Data Controller Design using VHDL"**, Proceedings of the IASTED Int. Conf. on Signal and Image Processing, SIP 2004, Hawaii, USA, August 2004, pp.585-589.

59) Cirstea, M.N.: **"Power Electronic Systems Modelling & Controller Rapid Prototyping - An Efficient Method using VHDL"**, Proc. of the 9th IEEE Workshop on Computers in Power Electronics COMPEL 2004, Urbana, USA, 15-18 August 2004, CDROM.

58) Nicula, D., Sbarcea, B., Cirstea, M.N.: **"Dual-client DDR-SDRAM Controller"**, Proc. of IEEE/IEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2004), Brasov, Romania, May, 2004, vol.4, pp.53-56.

57) Zregh, A., Cirstea, M.N., Dinu, A., Ilea, D.: **"A Novel PWM Power Converter Controller Design using VHDL"**, Proc. of IEEE/IEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2004), Brasov, Romania, 2004, vol.3, pp.15-20.

56) Coggins, T. J., Cirstea, M.N.: **"A Novel HDL Based In-house Design Approach to fastflex Data Controllers"**, International IEEE. Symposium on Industrial Electronics (ISIE'2004), Ajaccio, France, May 2004, pp. 1531-1536. **Best Student Paper Prize !**

55) Dinu, A., Cirstea, M.N.: **"Stochastic Motor Controllers"**, Tutorial (3 hours) included in the Tutorials Proc. of Int. Industrial Electronics Conference (IECON'03), Roanoke, Virginia, USA, November, 2003, CDROM.

54) Cirstea, M.N., Dinu, A., McCormick, M.: **"A New Power Systems Modelling Method"**, Proc. of Int. Annual Conference of the IEEE Industrial Electronics Society (IECON'03), Roanoke, Virginia, USA, November 2003, pp.643-646, ISBN: 0780379071, IEEE Catalogue Number: 03CH37468C.

53) Cirstea, M.N.: **"Modern Electronic Design Automation Techniques (based on Hardware Description Languages) Applied to Power Electronic Systems Holistic Modelling "**, Tutorials vol. of IEEE Int. Symposium on Ind. Electronics, Rio de Janeiro, Brasil, June 2003, ISBN 0780379128, pp. 23-52.

- 52) Cirstea, M.N.: **"Holistic Modelling of Drives and Power Systems – A Novel Approach"**, Proc. of Int. Conf. on Power Conversion & Intelligent Motion (PCIM'03), Intelligent Motion volume, Nurnberg, Germany, May 2003, pp. 215-219.
- 51) Dinu, A., Cirstea, M.N., McCormick, M.: **"Stochastic Implementation of Motor Controllers"**, Proc. of IEEE Int. Symposium on Industrial Electronics (ISIE'2002), L'Aquila, Italy, 2002, vol. 2, pp.639-644.
- 50) Fioravanti, P., Cirstea, M.N., Cecati, C., McCormick, M., Dinu, A.: **"Passivity Based Control Applied to Stand Alone Generators"**, Proc. of IEEE Int. Symposium on Industrial Electronics (ISIE'2002), L'Aquila, Italy, 2002, vol.4, pp.1160-1165.
- 49) Comnac, V., Cirstea, M.N., Moldoveanu, F., Ilea, N.D., Cernat, R.M.: **"Sensorless Speed and Direct Torque Control of Interior Permanent Magnet Synchronous Machine Based on Extended Kalman Filter"**, Proc. of IEEE Int. Symposium on Industrial Electronics, L'Aquila, Italy, 2002, pp.1142-1147.
- 48) Fioravanti, P., Cecati, C., Cirstea, M.N., McCormick, M.: **"Design of a FPGA Implementing a Passivity Based Pulse Width Modulation"**, Proc. of Power Electronics, Electrical Drives, Automation & Motion, Ravello, Italy, June 2002, pp. A2-43 – A2-48.
- 47) Dinu, A., Cirstea, M.N., Urwin, P.: **"Hardware Implemented Stochastic Neural Motor Controllers"**, Proc. of IEEE/IEE Int. Conference on Optimisation of Electrical and Electronic Equipment (OPTIM 2002), Brasov, Romania, 17-19 May, 2002, pp. 463-468.
- 46) Cirstea, M.N., Aounis, A., McCormick, M.: **"Rapid Prototyping of Induction Motor Vector Control System Based on Reusable VHDL Digital Architectures and FPGA Implementation"**, Proc. of Int. Conf. on Power Conversion & Intelligent Motion, Nurnberg, Germany, May 2002, pp.199-202.
- 45) Aounis, A., McCormick, M., Cirstea, M.N.: **"A Novel Approach to Induction Motor Controller Design and Implementation"**, Proc. of IEE/IEEE Int. Power Conversion Conference (PCC), Osaka, Japan, 2-5 April 2002, pp.993-998.
- 44) Cirstea, M.N., Khor, J.G., McCormick M.: **"FPGA Fuzzy Logic Controller for Variable Speed Generators"**, Proc. IEEE Int. Conference on Control Applications (CCA), Mexico City, 4-7 Sept. 2001, CDROM.
- 43) Cirstea, M.N., Dinu, A., McCormick, M.: **"A New Neural Networks Approach to Induction Motor Speed Control"**, Proc. of the IEEE Power Electronics Specialists Conference (PESC), Vancouver, Canada, 18-22 June 2001, CD-ROM.
- 42) Cirstea, M.N., Aounis, A., McCormick, M., Urwin, P.: **"Vector Control System Design and Analysis Using VHDL"**, Proc. of the IEEE Power Electronics Specialists Conference (PESC), Vancouver, Canada, 18-22 June 2001, CD-ROM.
- 41) Dinu, A., Cirstea, M.N., McCormick, M., Aounis, A.: **"Sensorless Induction Motor FPGA Controller using Polar Coordinates"** Proc. of Int. Drives and Controls Conference, London, March 2001, pp.19-24.
- 40) Cirstea, M.N., Aounis, A., McCormick, M., Urwin, P. and Haydock, L.: **"Induction Motor Drive System Modelled in VHDL"**, Proc. of IEEE VIUF/BMAS Fall Conference, Orlando, Florida, Oct. 2000, pp. 113-117.
- 39) Cirstea, M.N., Dinu, A., McCormick, M. and Nicula, D.: **"A VHDL Success Story: Electric Drive System using Neural Controller"**, Proc. IEEE VIUF/BMAS Fall Conference, Orlando, Florida, Oct. 2000, pp.118-122.
- 38) Hu, Y., Cirstea, M.N., McCormick M., Urwin, P. and Haydock, L.: **"Modelling and Simulation of a Variable Speed Stand-Alone Generator System"** Proc. of the IEE Int. Conf. on Power Electronics and Variable Speed Drives PEVD 2000, London, UK, September 2000, pp.372-377.
- 37) Aounis, A., Cirstea, M.N., McCormick, M., and Dinu, A.: **"Vector Controlled Induction Motor Drive Modelling Using VHDL"**, Proc. of IEE Int. Conf. on Computer Aided Control Systems Design (CACSD 2000), Salford, UK, Sept. 2000.
- 36) Cirstea, M.N., Aounis, A., Dinu, A. and McCormick, M.: **"A VHDL Approach to Induction Motor Modelling"**, Proc. of the IEE CONTROL'00, Cambridge, UK, Sept. 2000, CD-ROM.
- 35) Moldoveanu, F., Cirstea, M.N., Comnac, V., Cernat, M. and Draghici, I.: **"Variable Structure Torque and Stator Flux Control of PWM Inverter-Fed Asynchronous Machine Drives"**, Proc. of SPEEDAM'00 Int. Conf., Italy, June 2000, pp. A1-7 - A1-12.
- 34) Comnac, V., Cirstea, M.N., Moldoveanu, F., McCormick, M. and Cernat, R.M.: **"Kalman Filter – Based Control of Interior Permanent Magnet Synchronous Machine without Mechanical Sensors"**, Proc. of SPEEDAM'00 Int. Conf., Italy, June, 2000, pp. BB2-7 -- BB2-12.
- 33) Dinu, A., Cirstea, M.N., McCormick, M., Haydock, L. and Al-Khayat, N.: **"Neural Current Controller for Induction Motor Applications"** Proc. of IEE Int. Conf. on Optimization of Electronic Equipment (OPTIM), Brasov, Romania, 2000, pp. 665-670. **Award: 3rd ABB prize!**
- 32) Dinu, A., Cirstea, M.N., McCormick, M., Ometto, A. and Rotondale, N.: **"Sensorless Induction Motor Control Strategy Optimised for FPGA Hardware Implementation"** Proc. of IEE Int. Conf. on Optimization of Electronic Equipment (OPTIM), Romania, 2000, pp. 625-630.
- 31) Comnac, V., Cirstea, M.N., Giamusi, M., Cernat, R.M.: **"Torque and Speed Control of Inverter-Fed Interior Permanent Magnet Synchronous Motor Using Sliding Mode"**, Proc. European Conf. on Power Electronics & Applications EPE Lausanne-Switzerland, 1999, CDROM.
- 30) Cirstea, M.N., Khor, J.G., Hu, Y., McCormick M., Haydock, L.: **"Intelligent Fuzzy Logic Controller for Power Generation Systems"** Proc. of the 9th International Conference on Electrical Machines and Drives, Canterbury, UK, 1-3 September 1999, pp.321-324.

- 29) Cirstea, M.N., Khor, J.G., Hu, Y., McCormick M., Al-Khayat, N.: **"An Intelligent Fuzzy Logic Controller Implemented in FPGA"** Proc. of the International Conference on Power Conversion and Intelligent Motion (PCIM'99), Nurnberg, Germany, 22-24 June 1999, vol. 39, pp. 523-527.
- 28) Cirstea, M.N., Khor, J.G., McCormick M., Haydock, L.: **"VHDL Design of an Intelligent Fuzzy Logic Controller for Synchronous Generator Sets Implemented in FPGA"**, Proc. of the International HDL Conference, Santa Clara, California, USA, 6-9 April 1999, pp.43-47.
- 27) Dinu, A., Cirstea, M.N., McCormick, M.: **"A Novel Neural PWM Controller"**, Proc. of the IEE International Conference on Simulation (SIMULATION'98), York, UK, 30 Sept.-2 October 1998, pp. 375-379.
- 26) Cirstea, M.N., McCormick, M.: **"Control Systems for Power Electronics"**, Proc. of the IEE International Conference on Simulation (SIMULATION'98), York, UK, 30 Sept.-2 October 1998, pp.182-186
- 25) Dinu, A., Cirstea, M.N., McCormick, M., Ometto, A., Rotondale, N.: **"Neural ASIC Controller for PWM Power Systems"**, Proc. of IEEE International ASIC Conference, Rochester, USA, Sept. 1998, pp.29-33.
- 24) Dinu, A., Cirstea, M.N., McCormick, M., Ometto, A., Rotondale, N.: **"Neural Network for Control of PWM Inverters"** Proc. Of the Power Electronics and Motion Control (PEMC'98), Prague, 8-10 September 1998, CD-ROM, pp.2-121 - 2-124.
- 23) Giamusi, M., Cirstea M.N., McCormick, M.: **"Power Rectifier ASIC Controller"**, Proc. International IEE CONTROL Conference, Swansea, UK, 1998, vol.1, pp.219-223.
- 22) Dinu, A., Cirstea, M.N., McCormick, M., Ometto, A., Rotondale, N.: **"Load Independent Current Control Strategy for PWM Inverters"**, Proc. IEE CONTROL, Swansea, UK, Sept.'98, vol.2, pp.1118-1122.
- 21) Khor, J.G., Cirstea, M.N., McCormick M.: **"Control of Stand Alone Synchronous Generators at Optimum Speed"** Proc. of the 33rd IEEE Intersociety Energy Conversion Engineering Conference (IECEC'98), Colorado Springs, USA, 2-6 August 1998, CD-ROM.
- 20) Dinu, A., Cirstea, M.N., McCormick, M., Ometto, A., Rotondale, N.: **"New Approach for a PWM Inverter Using a State Space Observer"**, Proc. of the SPEEDAM'98 International Conference, Sorrento, Italy, June 1998, pp.A2-31 - A2-36.
- 19) Dinu, A., Cirstea, M.N., McCormick, M.: **"Virtual Prototyping of a Digital Neural Current Controller"**, Proc. Of the IEEE International Workshop on Rapid Systems Prototyping, Leuven, Belgium, 2-5 June, 1998, pp.176-181.
- 18) Dinu, A., Cirstea, M.N., McCormick, M., Ometto, A., Rotondale, N.: **"An Adaptive Control Strategy for Electric Drives"**, Proc. of the International Conference on Power Conversion and Intelligent Motion (PCIM'98), Nurnberg, Germany, 26-28 May 1998, pp. 101-107.
- 17) Cirstea, M.N., McCormick, M.: **"Intelligent ASIC Control of Power Electronics"**, Proc. of International Conference on Power Conversion and Intelligent Motion (PCIM'98), Nurnberg, Germany, May 1998, pp.95-99.
- 16) Khor, J.G., Cirstea, M.N., McCormick M. and Low, W.F.: **"PWM Control Techniques for Variable Speed Generator Set"** Proc. of the Int. Conf. on Optimization of Electric and Electronic Equipment (OPTIM'98-IEE, IEEE), vol. II, Brasov, Romania, May 1998, pp. 379-382.
- 15) Cirstea, M.N., Giamusi, M. and McCormick M.: **"A High Performance ASIC Controlled Power Rectifier"** Proc. of the 6-th International Conf. on Optimization of Electric and Electronic Equipment (OPTIM'98-IEE, IEEE), vol. II, Brasov, Romania, May 1998, pp.331-334.
- 14) Cirstea, M.N.: **"ASIC Control System for Electric Drives"**, Proceedings of the International Symposium of Integrated Circuits (ISIC'97, IEE, IEEE), Singapore, 11-12 September, 1997, pp. 621-624.
- 13) Cirstea, M.N., Giamusi, M. and McCormick, M.: **"A Modern ASIC Controller for a 6-pulse Rectifier"**, Proceedings of the ASIC'97 IEEE Conference, Portland, Oregon, USA, 7-10 September, 1997, pp. 335-338.
- 12) Cirstea, M.N., Patterson, E.B., Morley, D. and Holmes, P.G.: **"An Universal Digital Control System for Cycloconverter Drives"** Proc. of the IEE/IEEE Int. Conf. on Optimization of Electric and Electronic Equipment (OPTIM'96), Brasov, Romania, May 1996, Vol.5, pp.1361-1368.
- 11) Cirstea, M.N., Patterson, E.B., Morley, D., Holmes, P.G.: **"ASIC Control System for Cycloconverter Drives"**, Proc. of the international conference on Power Conversion and Intelligent Motion (PCIM'96), Nurnberg, Germany, May 1996, Vol. 29, pp.113-116.
- 10) Cirstea, M.N., Patterson, E.B., Morley, D. and Holmes, P.G.: **"A Complete ASIC Controlled Electric Drive System"**, Proc. of the International Symposium on Circuits And Systems (ISCAS'96-IEEE sponsored), Atlanta, Georgia, USA, May 1996, vol.1, pp.561-564.
- 9) Cirstea, M.N., Patterson, E.B., Holmes, P.G. and Morley, D.: **"A New Technique to Model and Simulate Divided Winding Induction Motors."**, Proc. of the International Conf. on Computation in Electromagnetics (CEM'96-IEE sponsored), Bath, UK, April 1996, pp.194-199.
- 8) Cirstea, M.N., Patterson, E.B. and Morley, D.: **"The Concurrent Engineering Approach of a System Design."** Proc. of the International Conf. on Concurrent Engineering and Electronic Design Automation (CEEDA-IEE sponsored), Poole, Dorset, UK, January 1996, pp. 91-98.
- 7) Cirstea, M.N., Patterson, E.B., Morley, D.: **"The Development and Design of an Universal Digital Control System for Cycloconverter Drives using Electronic Design Automation (EDA) Techniques."** Proc. of International. UPEC, Greenwich, London, UK, 1995, pp.725-728.

- 6) Cirstea, M.N.: "**A Concurrent Engineering Approach to a System Design.**", poster presented at the IEE Colloquium "Concurrent Engineering-Get it Right First Time", Savoy Place, London, 8th of June 1995.
 - 5) Cirstea, M.N., Morley, D. and Patterson, E.B.: "**The Teaching of Electronic Design Automation Techniques for Modern Machine Control Systems in Romania.**" Proc. of IEE British-Hungarian Mechatronics Int. Conf., Budapest, Hungary, September 1994, pp.813-818.
 - 4) Cirstea MN, Patterson EB, Morley D.: "**A Modern Design Approach using Computer Aided Engineering (CAE) for an Educational Environment**", Proc. of Intern. Conf. on Power Electronics & Motion Control (PEMC'94), Warsaw, Poland, September 1994, Vol.2, pp.915 - 920.
 - 3) Cirstea, M.N., Patterson, E.B., Morley, D.: "**Electronic Design Automation Techniques in Power Electronics System Design. Mentor Graphics Idea Software.**" Proc. of Int. Conf. on Optimisation of Electronic Equipment (OPTIM'94), Brasov, Romania, 1994, Vol.3, pp.115-120.
 - 2) Cirstea MN, Patterson EB, Morley D.: "**Electronic Design Automation Techniques for Modern Machine Control Systems in Romania.**" Proc. of the IEE Int. Conf. on Concurrent Engineering and Electronic Design Automation (CEEDA), Poole, Dorset, UK, April 1994, pp.257-262.
 - 1) Matlac, I., Marinescu, C., Ilea, D., Georgescu, M., Iulian, L, Cirstea, M.N.: "**Mentor Graphics, A Modern Simulator for Power Electronics**", Proc. of Power Electronics Conference, Iasi, Romania, 1992, pp.75-80.
-