Curriculum Vitae

Dr. G.ARUL ELANGO
arulelango@pec.edu
Mobile: 8220728835, 7904765402
https://www.linkedin.com/in/arul-elango-212929a0
https://www.researchgate.net/profile/Arul_Elango

_____

Academic Qualifications

Full Time Ph.D (GPS Signal Processing) from Electronics and Communication Engineering Department at **Pondicherry Engineering College** affiliated to **Pondicherry Central University**, Pondicherry, **India** completed on 2017.

Title of the Thesis: Software Based GPS Receiver Acquisition and Positioning Performance Enhancement under degraded conditions.

- **Master of Engineering** in Applied Electronics from **College of Engineering, Guindy**, **Anna University**, **Chennai**, completed on June 2004 **with first class**.

- **Bachelor of Engineering** in Electronics and communication from **National Engineering College**, affiliated to **Manonmaniam Sundaranar University,** Tamilnadu, completed on June 2000 with **first class**.

Professional Experience

- Presently working as an **Associate Professor** in **ECE Department** at **Sree Vidyanikethan Engineering College, Tirupathi**, **India** since January 2017.

- **Research Scholar** in **ECE** Department, at **Pondicherry Engineering College**, Pondicherry, India from January 2012- June 2015.

- Worked as an **Associate Professor and Head** of the Department in ECE at **Renganayagi Varatharaj College of Engineering, Sivakasi, Tamil Nadu** from June 2015 - October 2016.

- Worked as an **Assistant Professor** in ECE Department at **National Engineering College**, Kovilpatti, **Tamil Nadu** from January 2010-January 2012.

- Worked as a **Senior Lecturer** in Department of **Electronics and Communication** Engineering at **Kalasalingam University, Tamil Nadu** from June 2007 to January 2010.

- Worked as a **Lecturer** in Department of **Electronics and Communication** Engineering at Sri Balaji Chockalingam-Engineering College from July 2004 to June 2007.

Research Areas and Experience
Global Navigation Satellite Systems (GNSS)

Satellite-based positioning techniques are used to provide worldwide coverage for reliable and accurate position information of the user. The intentional and unintentional threats in signal detection deteriorate the GNSS signal and giving false information about the visibility of satellite and hence unable to provide a precise position of the user.

To counteract the effects, the main objective of my research work is focused on design and development of optimum GNSS receiver for next generation satellite based navigation systems. The effort in GNSS based R&D activities are focused towards establishing a state-of-art **GNSS laboratory** having national, international collaboration for capacity building in the fast-evolving field and currently working in the following areas.

- To improve the performance of the existing GNSS signal acquisition using various Signal Processing techniques to facilitate the processing of the weak signals under narrow, broad band and Impulsive noise conditions.

- To mitigate Threats, interference and Multipath in GNSS Receiver design.

- To obtain an accurate user positioning using software based IRNSS receiver with comprehensive propagation Channel modelling over Indian subcontinent region.

- Design and development of Multi-constellation software GNSS simulator.

- To develop laboratory based software Multi-constellation GNSS receiver for education and research.

Papers Published in International Journals

1. G. Arul Elango, Inverse spiking filter based acquisition enhancement in software based global positioning system receiver, Applied Computing and Informatics, (**Elsevier**) Volume 11, Issue 1, January 2015, Pages 13-28, ISSN 2210-8327, http://dx.doi.org/10.1016/j.aci.2014.02.002.

2. G. Arul Elango, Weak signal acquisition enhancement in software GPS receivers – Pre filtering combined post-correlation detection approach, Applied Computing and Informatics,(**Elsevier**) Available online 6 November 2014, ISSN 2210-8327, http://dx.doi.org/10.1016/j.aci.2014.10.002.

3. G. Arul Elango, Design of complete software GPS signal simulator with low complexity and precise multipath channel model, Journal of Electrical Systems and Information Technology, (**Elsevier**) Volume 3, Issue 2, September 2016, Pages 161-180, ISSN 2314-7172. http://dx.doi.org/10.1016/j.jesit.2016.03.002.

4. G. Arul Elango, Type-2 Fuzzy based GPS Satellite Selection algorithm for better Geometrical Dilution of Precision, **International Journal of Computer Science and Information Security (IJCSIS),** Vol. 14 CIC 2016**,** ISSN 1947-5500G.(Thomson Reuters indexed)

5. Arul Elango, Weak GPS acquisition via compressed differential detection using structured measurement matrix, **International Journal on Smart Sensing and Intelligent Systems**, Vol. 9, No. 4, 2016, ISSN 1178-5608, **Exeley Publications**.(Scopus indexed)

6. G. Arul Elango, Performance Analysis of Wireless Mesh Network in Hospital Environment. **IJCA** Special Issue on International Conference on Electronics, Communication and Information systems, ICECI (1):28-33, November 2012, ISBN: 973-93-80870-64-1.

7. G. Arul Elango, Multi-Algorithmic Palmprint Authentication System based on Score Level Fusion, **International Journal of Smart Sensing and Intelligent Systems,** ISSN

1178-5608-**Exeley Publications,** Issue 1,Vol. 11, 2018 -doi-10.21307/ijssis-2018-006.(Scopus indexed)

8. G. Arul Elango, Multi-Algorithmic Finger Vein Authentication System based on Score Level Fusion, **Journal of Computational and Theoretical Nanoscience, American ScientificPublishers,**Vol.15,2018, doi-10.1166/jctn.2018.7458,Vol.15,1-5,2018. (Scopus indexed)

BOOK CHAPTER

G. Arul Elango, 'Sparse based Multipath Mitigation in GPS Receivers'**, Multifunctional Operation and Application of GPS, ISBN 978-953-51-6023-6,(2017),** One Chapter contribution, InTech Publishers, doi:10.5772/intechopen.76521.(Web of Science indexed)

Conferences:

1. Arul Elango, 'Software based Precise Positioning for Indoor and Outdoor Environment, IEEE international conference on Signal Processing and Communication', Jaypee Institute of Information Technology, Noida, December 12-14, 2013.

2. Arul Elango, 'Design of GFSK Transmitter and Receiver synchronization', National Conference on Electronics Systems Informatics and Cybernetics (ESIC 2009), PSNA College of Engineering and Technology, Dindigul, 2009.

3. Arul Elango, 'Design of Transmitter and Receiver synchronization architecture for Bluetooth Modem', Second National Conference on Signal Processing and Communication Technologies, (CSPCT'09) Kamaraj College of Engineering and Technology, Virdhunagar, 2009.

4. Arul Elango, 'Implementation of Pipelined Architecture for Imaging Distortion', International Conference on Advances in Computer and Communication, Maharashtra, 2007.

Workshops and Short term courses attended

1) Participated "**ASIC design**" course conducted by Vijayanagar Engineering College, Bellary, in association with CG-COREL and SandiPani school of VLSI Design on March 2005.

2) Participated two days Workshop on "**Free and Open Software**" organized by IBM on 16-8-2007 to 17-8-2007 at Kalasalingam University.

3) Attended three days workshop on "**Statistical Simulation and Modeling**" conducted by ISI-Kolkata from 1-3 June 2009 at Kalasalingam University.

4) One day workshop on "**Software Defined Radio-The Future Radio**", VIT University, Chennai campus, 23rd February 2012.

5) "**Software Defined Radio for Real Time communication and signal processing-2012**", Amrita Vishwa Vidyapeetham, Coimbatore from 17-03-12 to18-03-2012.

6) **"Technical Paper Writing using Latex"**-Anna University Regional Centre, Coimbatore, 5th October, 2012.

7) One week ISTE-SRM short Term Training Program on **"Sparse Theory and applications**", Kongu Engineering College, Erode from 02-05-2013 to 08-05-2013.

8) Attended workshop on "**Soft Computing in Healthcare applications"** (SOFT-COMP-2014), Dept. of Bio Medical Engineering, Manipal Institute of Technology, Manipal, 28 and 29 March 2014.

9) Participated in a tutorial titled "**Software Defined Radio**", conducted by National Instruments held on 18th March 2016 at Pondicherry Engineering College.

10) Two days National Seminar on "S**parse Theory in Signal and Image Processing applications**" held at Mepco Schlenk Engineering College, 9-10 September, 2016.

11) Participated 5 days FDP on **Teaching Learning and Research** on 20-24 June 2017 at Sree Vidyanikethan Engineering College, Tirupathi.

12) One day Workshop on **MATLAB based Project learning** on 12-10-2017 attended at Sree Vidyanikethan Engineering College, Tirupathi.

13) Attended two days Faculty Development Program on "**Antenna Design and Simulation using FEKO-EM Simulation"** Tool during 19th and 20th January 2018 held at Sree Vidyanikethan Engineering College, Tirupathi.

Journal Reviewer

- Journal of Computational Methods in Science and Engineering - **IOS Press (2015)**
- Applied Computing and Informatics-**Elsevier (2016)**
- Circuits, Systems and Signal Processing**- Springer (2017)**
- International Journal of Electrical and Computer Engineering **(SCOPUS Indexed)-2018.**
- TELKOMNIKA (Telecommunication Computing Electronics and Control) **(SCOPUS Indexed)-2018.**
- Facta Universitatis, Series : Electronics and Energetics-Journal **(ESCI Indexed)-Thomson Reuters-2018**
- Survey Review Journal **-Taylor and Francis (2018)**
- **Served as an Editor** - Journal of Precision Agriculture (**2018**)
- **Editorial Board Member-** International Scientific Journal of Contemporary Research in Engineering Science and Management **(ISJCRESM).**
- **Reviewer**- 8th International Conference on Sciences of Electronics, Technologies of Information and Telecommunications (SETIT-2018), Tunisia.
- **PhD Thesis Evaluator (2018) -**Jain University, Bangalore.

Member in Professional Bodies

- Fellow of **IETE**
- Member of **IEEE**
- Member of **ISTE**

Additional Responsibilities carried out during the past tenure

- **Visited around 40 industries** in Bangalore and Chennai as **a Placement coordinator** along with director corporate relations- Kalasalingam University for strengthening campus recruitment, obtaining final year project internship, carrying out consultancy project work and setting up new labs in collaboration with leading industries.
- **Identified** contacts with new **Core Industries** like Kalki communications, Delphi automotive systems, Mobiapps, Mistral software Pvt Ltd, AK Aerotek Pvt Ltd, Antenna software Pvt Ltd, Dearborn Electronics Pvt Ltd etc for **Campus recruitment**.

- Served as a **Secretary-Alumni Association**, National Engineering College during 2011.

- Involved in **NAAC** and **NBA** Accreditation Report preparation.

- Served as a **Residential warden** for **P.G Hostel** at Pondicherry Engineering College.(2012-2015)

- **QEEE** Coordinator at Sree Vidyanikethan Engineering College, Tirupathi.

Skill Sets

Languages	:	C
Tools	:	Code Composer Studio, MATLAB
Technology	:	GPS, Compressed Sensing
Architecture & Assembly Languages	:	8085, TMS3205510

List of References

Dr.Gnanou Florence Sudha,
Professor-Research Supervisor,
Dept of Electronics and
Communication,
Pondicherry Engineering College,
Puducherry,
Email: gfsudha@pec.edu
Mobile: 9944337963

Dr.V.Vijayarangan,
Professor and Head,
Dept of Electronics and
Communication,
National Engineering College,
Kovilpatti Tuticorin District,TamilNadu
Email:vijayvrangan@gmail.com
Mobile: 9442440249

Personal Details

Fathers Name	:	V.Ganapathy
Age	:	13.02.1978
Sex	:	Male
Marital status	:	Married
Nationality	:	Indian
Languages known	:	English, Tamil, Telugu
Address for communication	:	242, 2nd middle street, Thiyagarajanagar, Tirunelveli-627 011, Tamilnadu, India.

The above-mentioned particulars are true to the best of my knowledge and belief.

(Dr. G. Arul Elango)