CURRICULUM VITAE

NAME	:	PAUL DEVASAHAYAM MANUEL
OCCUPATION	:	Professor, Kuwait University, Kuwait
QUALIFICATION	:	1992 ~ 1996 Ph.D. University of Newcastle, Australia 1991 ~ 1992 M.S. University of Saskatchewan, Canada 1981 ~ 1986 Ph.D. Indian Institute of Technology, India
RESEARCH INTERESTS	:	Information Systems, Algorithms, Cheminformatics,
ADMINISTRATIVE SKILLS	:	ABET Accreditation Process.
SOFTWARE SKILLS	:	Enterprise Resource Planning (ODOO). Machine Learning - Python
AWARD	:	2010 – 2011 **Best Teacher Award** Kuwait University, Kuwait. 2008 – 2009 **Distinguished Lecturer Award** Kuwait University Center of Information Systems 2002 – 2003 **Industry Relationship Award,** KFUPM, Saudi Arabia.
PERSONAL MILESTONE:		World's Top 2% Scientist 2022' as one of the world's most influential scientists by Stanford University and Elsevier Foundation
SIGNIFICANT PROJECT:		The UNESCO-HP Brain Gain Initiative.

The most significant accomplishment is that I am listed in the 'World's Top 2% Scientist 2022' as one of the world's most influential scientists, which was released by Stanford University and Elsevier Foundation.

CV in Brief

I am in the Top 2% Most Influential Scientists in the world listed by Scopus and Stanford University:

https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4

According to Clarivate Analytics, the total impact factors of all my papers exceeds 200.

https://www.researchgate.net/profile/Paul_Manuel2
https://scholar.google.com.au/citations?user=ip2nY0IAAAAJ&hl=en
https://kuniv.academia.edu/PaulManuel
https://www.mendeley.com/research-papers/?query=paul+manuel

Journal Papers - 101

According to Web of Science,

SCI (ISI) Indexed	– 81 Papers
Scopus Indexed	– 20 Papers
Number of Q1/Q2 Journal papers	– 60+ Papers
The Net Impact Factor	– 200+ Points

According to Google Scholar,

https://scholar.google.com/citations?user=ip2nY0IAAAAJ&hl=en

Citations	2694
h-index	29
i10-index	66

According to Scopus,

https://www.scopus.com/authid/detail.uri?authorId=56224800200

Citations	1489
h-index	27

According to Web of Science,

https://www.webofscience.com/wos/author/record/3807426

Citations	1025
h-index	19

Conference Papers - 62

Research Projects:

KU Projects	– 11 + 2 ongoing projects
KFAS Project	– 2
UNESCO Project	– 1

ACCREDITATION EXPERTISE

Sept 2013 ~ Till date	Department Accreditation Coordinator Department of Information Science College of Computing Science & Engineering, Kuwait University, Kuwait
Mar 2009 ~ Sept 2012	Director Office of Assessment and Accreditation College for Women, Kuwait University, Kuwait
Aug 2009 ~ Dec 2010	ABET Accreditation of ISC Program Department of Information Science College of Computing Science & Engineering, Kuwait University, Kuwait
Aug 2003 ~ Dec 2004	ABET Accreditation of ICS Program Department of Information and Computer Science King Fahd University of Petroleum and Minerals, Saudi Arabia

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EDUCATION

1992 – 1996	**Ph.D.**	Faculty of Engineering, University of Newcastle, Newcastle, Australia Major: Computer Science & Engineering Thesis: Sequential and Parallel Algorithms.
1991 – 1992	**M. S.**	Faculty of Engineering, University of Saskatchewan, Saskatoon, Canada Major: Computer Science Thesis: Sequential and Parallel Algorithms.
1981 – 1986	**Ph.D.**	Indian Institute of Technology, Madras, India Thesis: High speed computing.

WORK EXPERIENCE

Sep 2019 ~ May 2020	Acting Vice Dean of Academic Affairs College of Life Sciences, Kuwait University, Kuwait
Nov 2011 ~ Till date	Professor in Information Science Dept of Information Science College of Computing Science & Engineering, Kuwait University, Kuwait
Aug 2014 ~ Aug 2019	Conjoint Professor Faculty of Science and Information Technology University of Newcastle Newcastle, NSW, Australia
Sept 2017 ~ Aug 2018	Director MSIT College of Graduate Studies, Kuwait University, Kuwait
Sept 2015 ~ Till Date	Coordinator Assessment and Accreditation
Nov 2011 ~ Jun 2015	Director MSIT College of Graduate Studies, Kuwait University, Kuwait
March 2009 ~ Sept 2012	Director Office of Assessment and Accreditation College for Women, Kuwait University, Kuwait
March 2005 ~ Nov 2011	Associate Professor in Information Science Dept of Information Science College for Women, Kuwait University, Kuwait
Sept 2005 ~ Sept 2007	Acting Chairman Dept of Information Science College for Women, Kuwait University, Kuwait
Sept 2001 ~ February 2005	Associate Professor Department of Information and Computer Science King Fahd University of Petroleum and Minerals, Saudi Arabia
June 2000 ~ Sept 2001	Project Manager BITECH Software, Chennai, India
Sept 1998 ~ June 2000	Associate Professor, Department of Computer Science, Applied Science University, Jordan.

January1996 ~ Sept 1998	Professor and Head, Dept of Computer Applications Madurai Kamaraj University, India.

WORKSHOP AND TRAINING

6 - 8 October 2013	Shaping the future of mathematics and science foundation, 6th inGenious workshop in collaboration with the EPCA 47th Annual Meeting, Berlin, Germany.
22 - 26 March 2011	Advanced training on Grid Computing organized by UNESCO-HP, HP South Africa, Pretoria, South Africa.
May 2010	"Training Course on Post Graduate Career", AAIM International for Training and Development, Kuwait.
14 – 18 Dec 2009	"UNESCO-HP training in Grid Computing", HP South Africa, Johannesburg, South Africa
15 – 19 March 2009	"Workshop on Bioinformatics", Kuwait University, Kuwait

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KU RESEARCH PROJECTS

Ongoing Projects:

Title of the Project	:	"A new metric to measure the performance of fixed interconnection networks"
Funding Agency	:	FI 01/22, Kuwait University, Kuwait
Project Fund	:	KD. 3000
Duration	:	7 October2022 – 6 September 2023
Status	:	ongoing
Investigators	:	Paul Manuel, Sandi Klavzar and Bosjan Bresar

Completed Projects:

Title of the Project	:	"Mulder meta-conjecture and edge general position problem"
Funding Agency	:	FI 02/21, Kuwait University, Kuwait
Project Fund	:	KD. 3250
Duration	:	10 Nov 2021 – 9 Feb 2023
Status	:	Completed – Very Good (42 / 50)
Investigators	:	Paul Manuel, Sandi Klavzar and R Prabha

Title of the Project	:	"Geodesic-transversal problem in large-scale networks"
Funding Agency	:	QI 01/20, Kuwait University, Kuwait
Project Fund	:	KD. 4000
Duration	:	8 Feb 2021 – 7 Feb 2022
Status	:	completed - Rated as "Excellent".
Investigators	:	Paul Manuel, Sandi Klavzar and Bosjan Bresar

Title of the Project	:	"Computational complexity of isometric path partition problems"
Funding Agency	:	QI 02/18, Kuwait University, Kuwait
Project Fund	:	KD. 3000
Duration	:	Dec 2018 – Dec 2019
Status	:	completed – 90.53%
Investigators	:	Paul Manuel

Title of the Project	:	"Graph Theory General Position problem with Applications"
Funding Agency	:	QI 02/17, Kuwait University, Kuwait
Project Fund	:	KD. 3500
Duration	:	Dec 2017 – Dec 2018
Status	:	completed – 92.63% - Rated as "Excellent".
Investigators	:	Paul Manuel and Sandi Klavzar

Title of the Project	:	"Geodetic problems with application in social networks"
Funding Agency	:	QI 01/16, Kuwait University, Kuwait
Project Fund	:	KD 3500.
Duration	:	May 2016 – May 2017.
Status	:	completed - 84.21% - Rated as "Very Good".
Investigators	:	Paul Manuel and Sandi Klavzar

Title of the Project	:	"Computational aspects of topological indices of molecular graphs" (WI 05/11)
Funding Agency	:	Kuwait University, Kuwait
Project Fund	:	KD 2500.
Duration	:	1 October 2011 – 30 September 2012
Status	:	Completed - Rated as "Good".
Investigators	:	Paul Manuel

Title of the Project	:	"A practical approach of trust management system for cloud environment" (WI 07/11)

Funding Agency	:	Kuwait University, Kuwait
Project Fund	:	KD 3100.
Duration	:	16 March 2012 – 15 March 2013
Status	:	Completed - Rated as "Excellent".
Investigators	:	Paul Manuel

Title of the Project	:	"Trust Monitoring System for Grid Computing" (WI 02/08)
Funding Agency	:	Kuwait University, Kuwait
Project Fund	:	KD 6850.
Duration	:	30 April 2009 – 29 April 2010
Status	:	Completed - Rated as "Very Good".
Investigators	:	Paul Manuel and Mostafa Abd-El Barr

Title of the Project	:	"Topological Properties of silicate networks" (WI 01/07)
Funding Agency	:	Kuwait University, Kuwait
Project Fund	:	KD 6844.
Duration	:	December 2007 – April 2009
Status	:	Completed - Rated as "Excellent".
Investigators	:	Paul Manuel and Kalim Qureshi

Title of the Project	:	"Empirical study of task partitioning, scheduling and load balancing strategies for heterogeneous distributed data parallel applications" (SM02/07)
Funding Agency	:	Kuwait University, Kuwait
Project Fund	:	KD 1500.
Duration	:	June 2007 – June 2008
Status	:	Completed - Rated as "Good".
Investigators	:	Kalim Qureshi and Paul Manuel

Title of the Project	:	"Knowledge Based E-Governance Using Neural Network" (WI 04/05)
Funding Agency	:	Kuwait University, Kuwait
Project Fund	:	KD 6000.
Duration	:	September 2006 – March 2007
Status	:	Completed - Rated as "Excellent".
Investigators	:	Paul Manuel and Mostafa Abd-El Barr

OTHER RESEARCH PROJECTS IN KUWAIT

Title of the Project	:	"Nanotechnology-based interconnection networks" UNESCO Ref Number is 3250039600 and KU Ref Number is XX06/09
Funding Agency	:	UNESCO-HP
Project Fund	:	US$ 45, 000.
Duration	:	December 2009 – December 2012
Status	:	Completed
Investigators	:	Paul Manuel, Kalim Qureshi and Mohsen Guizani

Title of the Project	:	"Topological and physicochemical descriptors of Nano Structures"
Funding Agency	:	KFAS, Kuwait
Project Fund	:	KD 22000.
Duration	:	May 2013 – May 2014.
Status	:	completed - Rated as "Excellent".
Investigators	:	Dr Thalaya Al-Fozan and Paul Manuel

Title of the Project	:	"Computational Chemical Graphs in Bioinformatics"
Funding Agency	:	Kuwait Foundation for the Advancement of Sciences (KFAS), Kuwait
Project Fund	:	KD 7, 500.

Duration : January 2010 – January 2011
Status : Completed - Rated as "Very Good"
Investigators : Ahmed Al-Kandari and Paul Manuel

CONFERENCES ORGANIZED

1. Convener, Technical Committee, 2nd International Conference on Computing Sciences and Engineering (ICCSE18), March 11-13, 2018, Kuwait University, Kuwait
2. Session Chair and Paper Presentation - 40 ACCMCC-2016, 12th — 16th December 2016, University of Newcastle, Australia. (https://40accmcc.newcastle.edu.au/)
3. Keynote Speaker - ICMCE 2016, 16th — 17th December 2016, VIT, Chennai, India (http://chennai.vit.ac.in/files/icmce2016/)
4. Program Committee, Distance in Graph 2016, 18 – 22, July 2016 in Ubud, Bali, 2016.
5. Program Chair, WORKSHOP ON UNESCO-HP BRAIN GAIN INITIATIVE, In Conjunction with: 2nd Kuwait Conf. on e-Services & e-Systems, Kuwait University, Kuwait, 5 – 7 April 2011
6. Joint Secretary, International Conference of Mathematics and Computer Science – ICMCS 2011, Chennai, India, January 7 – 8, 2011.
7. Joint Secretary, International Conference of Mathematics and Computer Science – ICMCS 2010, Chennai, India, February 5 – 6, 2010.
8. Session Chair, 5th IEEE GCC 2009 conference, Kuwait, March 16-19, 2009.
9. Co-chair, Technical Program Committee, ISTA 2009, Kuwait University, Kuwait.
10. Joint Secretary, International Conference of Mathematics and Computer Science – ICMCS 2009, Chennai, India, January 5-6, 2009.
11. Joint Secretary, International Conference of Mathematics and Computer Science – ICMCS 2008, Chennai, India, June 15-16, 2008
12. Member, 4th International Workshop on Graph labeling – IWOGL 2008, Harbin, China, January 7 – 10, 2008.
13. Joint Secretary, International Conference of Mathematics and Computer Science – ICMCS 2007, Chennai, India, March 1-3, 2007.
14. Keynote speaker, Workshop on Graph Theory, Chennai, India, December 18 – 19, 2007.
15. Member, Program Committee, AWOCA 2006, Kings Canyon, Australia 2006.
16. Member, Program Committee, AWOCA 2005, Ballarat, Australia 2005.
17. Member, Scientific Committee, ICICS 2004, KFUPM, Dhahran, Saudi Arabia, 2004.
18. Member, Program Committee, AWOCA 2003, Hunter Valley, Australia 2003.
19. Member, Program Committee, WICS – 2002, KFUPM, Dhahran, Saudi Arabia, 2002.

TEACHING

I believe in teaching courses which focus on state-of-the-art technology. Now I teach the following courses:

1. Enterprise Resource Planning (ERP)
2. Information Technology and Social Media
3. Internet of Things
4. Health Informatics
5. Cybersecurity

I have recently built a software lab and developed a Lab Manual for Enterprise Resource Planning.

Students' Comments: Here are some of the students' comments in the instruction evaluation. "*One of the best teachers ever*", "*You are a great doctor*", "*It is a privilege to study with Prof Paul Manuel*", "*Prof Paul is an example of how to deal with students fairly and professionally*", "*I learnt a lot from Prof Paul*".

Teaching Methodology: I got the best teacher award in 2010. I always strive to be as helpful to the students as possible. I enjoy interacting with students, other academics and people in general. I am considered an "easily approachable teacher" in our department.

ERP Expertise: I am an expert in the software of Enterprise Resource Planning which is the backbone of Information Systems Curriculum. The SAP is the most expensive software and we use freeware ODOO in the lab.

Availability: Students do not need any appointments to meet me. I make it a point that I reply to each email of each student instantly. This is how I respect the students.

Proactive Interests: I always show keen interests in the expansion of the department and the college. I and Dr Kalim Qureshi have proposed a new undergraduate program "BS in IT Multimedia".

My teaching experiences (at the undergraduate and graduate level) are:

1. Introduction to Software Engineering
2. Software Design (Rational suite)
3. Software Requirements Engineering (Rational suite)
4. Software Project Management
5. Web Services and Internet Technology – .NET Frameworks and J2EE
6. Computer Programming languages – C++, Java, C#
7. Parallel algorithms and Architecture
8. Computer Algorithms
9. Theoretical Computer Science
10. Discrete Structures
11. Database Systems
12. Health Informatics
13. Enterprise Resource Planning
14. Social Networks

PUBLICATIONS

BOOKS CHAPTERS

[1]. Paul Manuel, Macro and Micro Level Classification of social media Private Data, New Knowledge in Information Systems and Technologies, Advances in Intelligent Systems and Computing (AISC), Pages 853-866, volume 931, 2019, Springer Publications.
Springer, Germany
Scopus Indexed

[2]. Belmir Patkovic, Kassem Saleh, and Paul Manuel, "SIMS: A Stakeholder Information Management System for Successful Projects", Advances in Intelligent Systems and Computing, pp 402-420, Volume 881, 2018, Springer.
Springer, Germany
Scopus Indexed

[3]. R. Sundara Rajan, Indra Rajasingh, Paul Manuel, T. M. Rajalaxmi and N. Parthiban. *Embedding Circulant Networks into Butterfly and Benes Networks*, **Combinatorial Algorithms, Lecture Notes in Computer Science**, 2015
Springer, Germany

[4]. Paul Manuel, Indra Rajasingh, R. Sundara Rajan, N. Parthiban, T. M. Rajalaxmi, *A Tight Bound for Congestion of an Embedding*, **Algorithms and Discrete Applied Mathematics, Lecture Notes in Computer Science** Volume 8959, 2015, pp 229-237.
Springer, Germany

[5]. Paul Manuel, Indra Rajasingh, Bharati Rajan, and Joice Punitha, *Kernel in Oriented Circulant Graphs*, "**Lecture Notes in Computer Science"** Vol. 5874, pp. 396-407 (2009).
Springer, Germany.

[6]. Paul D. Manuel, Bharati Rajan, Indra Rajasingh, and Amutha Alaguvel. *Tree Spanners, Cayley Graphs, and Diametrically Uniform Graphs*, "**Lecture Notes in Computer Science"** Vol. 2880, pp. 334-345 (2003).
Springer, Germany.

JOURNAL PUBLICATIONS

2024:

[1]. Paul Manuel, Sandi Klavzar, Prabha Kumar, "*Generalization of edge general position problem*", **The Art of Discrete and Applied Mathematics**, Accepted, 2024
Scopus Indexed

2023:

[2]. Bader Ali, Hanady Abdulsalam, Sabah Al-Madani and Paul Manuel, "*A Study of a Hybrid Fogg-Hook based Social Media Addictive Algorithm from the perspective of Kuwait Society*", **Journal of Engineering Research**, September 14, 2023.
https://doi.org/10.1016/j.jer.2023.09.008, Elsevier Publications
JCR Impact Factor: 1.0
SCIE Indexed

[3]. Paul Manuel, Bostjan Bresar, Sandi Klavzar, "*Geodesic packing in graphs*", **Applied Mathematics and Computation**, Volume 459, 128277, 15 December 2023.
KU Project FI-01/22
ISI Impact Factor 4.397 (Q1)

[4]. Kalim Qureshi, Fatima Yousef and Paul Manuel, "*UML Framework: National Institute for Health and Care Excellence (NICE) Diabetes Guidelines Based Diabetes Information System"*, **International Journal of Computers and their Applications**, Volume 30, No. 3, Pages 297-310, 2023.
Scopus Indexed.

[5]. Vijay N, Bharati R, and Paul Manuel, "*A new bound for the crossing number of wrapped butterflies*", **The International Journal of Nonlinear Studies**, Vol.30, No.2, Pages 485-492, 2023.
Scopus Indexed.

[6]. Paul Manuel, Bostjan Bresar, Sandi Klavzar, "*The geodesic transversal problem on some networks*", **Journal of Computational and Applied Mathematics**, 42, Pages 59-72, 9 January 2023. DOI: 10.1007/s40314-023-02199-9
ISI Impact factor 2.872 (Q1)
KU Project QI-01/20

2022:

[7]. Paul Manuel, Sandi Klavzar, Prabha Kumar, and Andrew Arokiaraj, "*The geodesic cover problem for butterfly networks*", http://arxiv.org/abs/2210.12675, 23 Oct 2022. Submitted to **Discussiones Mathematicae Graph Theory**.

[8]. Paul Manuel, Prabha Kumar, and Sandi Klavzar, "*Edge General Position Problem*", **Bulletin of the Malaysian Mathematical Sciences Society**, 15 June 2022,
DOI:https://doi.org/10.1007/s40840-022-01319-8
ISI Impact Factor is 1.397 (Q1)
KU Project FI-02/21

[9]. Zainab AlMeraj, Ali K. Alenezi, Paul Manuel, "*An empirical investigation into organization cyber security readiness from the IT employee and manager perspectives*", **An International Journal of Electronic Government**, 2021.
DoI:10.1504/EG.2023.10042424
Scopus Impact Factor 1.64 (Q3)

[10]. Paul Manuel, Bostjan Bresar, Sandi Klavzar, "*The geodesic-transversal problem*", **Applied Mathematics and Computation**, Volume 413, 126621, 15 January 2022.

DOI: https://doi.org/10.1016/j.amc.2021.126621
ISI Impact Factor 4.397 (Q1)
KU Project QI-01/20

2021:

[9]. Hawraa Aref Al-Mutawa and Paul Manuel, "*Human Resource Information System in Healthcare Organizations*", **Intelligent Sustainable Systems**, Springer Nature, 2021. DOI: 10.1007/978-981-16-6369-7.
Springer, Germany

[10]. Sondos Yousef Alonaizi and Paul Manuel, "*IoT-based smart government enablers: An exploration of governments' experiments*", **IEEE Xplore**, Pages 58 - 64, 2021. DOI: 10.1109/WorldS451998.2021.9514061.
IEEE Publications.

[11]. R. Stalin Mary, and N. Parthiban, Indra Rajasingh and Paul Manuel, "*Optimal Layout of Recursive Circulant Graphs*", **International Journal of Computer Mathematics: Computer Systems Theory**, Volume 6, Issue 3, Page 209-219, August 2021. DOI: https://doi.org/10.1080/23799927.2021.1963999
ISI Indexed and Scopus Indexed.
ISI Impact Factor: 0.253

[12]. M. Keerthana1, B. Sivakumar and Paul Manuel, "*An Inventory System with Postponed and Renewal Demands*", **International Journal of Systems Science: Operations & Logistics**, Pages 1-19, 2 Jan 2021. DOI: https://doi.org/10.1080/23302674.2020.1864505
ISI Impact Factor 6.547 (Q1)

[13]. Paul Manuel, "*On the isometric path partition problem*", **Discussiones Mathematicae Graph Theory**, Volume 41, Pages 1077-1089, 2021.
DOI: https://doi.org/10.7151/dmgt.2236.
ISI Impact Factor 0.6 (Q2)

2020:

[14]. Paul Manuel, Sandi Klavzar, Antony Xavier, Andrew Arokiaraj and Elizabeth Thomas, "*Strong geodetic problem in networks*", **Discussiones Mathematicae Graph Theory**, Volume 40, Issue 1, pp 307- 322, 2020.
ISI Impact Factor 0.6 (Q2)

2019:

[15]. Paul Manuel, "*Revisiting path-type covering and partitioning problems*", arXiv:1807.10613 [math.CO], 25 Jul 2018.

[16]. Vijaya Natarajan, Bharati Rajan and Paul Manuel, "*A new bound for the crossing number of wrapped butterflies*", arXiv:1907.06245 [Cornell University], 14 Jul 2019.

2018:

[17]. Ali AlEnezi, Zainab AlMeraj and Paul Manuel, "*Challenges of IoT based new generation smart-government"*, **Journal of Informatics and Mathematical Sciences**, Vol. 10, No. 3, pp. 533–544, 2018. DOI: 10.26713/jims.v10i3.1092.
ISI Emerging Sources Citation Indexed

[18]. Paul Manuel, "*An efficient Hosoya Index Algorithm and its application*", **International Journal of Computer aided Engineering and Technology**, 11(2), May 2018, DOI: 10.1504/IJCAET.2019.10018262
Scopus Impact Factor 2.03

[19]. Sandi Klavˇzar, D. Azubha Jemilet, Indra Rajasingh, Paul Manuel, and N. Parthiban, "*General transmission lemma and Wiener complexity of triangular grids*", **Applied Mathematics and Computation**, 338 (2018) 115–122.
ISI Impact Factor 4.397 (Q1)

[20]. Paul Manuel and Sandi Klavzar, "*The graph theory general position problem on some interconnection networks*", **Fundamenta Informaticae**, Volume 163, Issue 4, pp. 339-350, 2018. DOI 10.3233/FI-2018-1748
KU Project QI 02/17
Impact Factor is 1.333 (Q1)

[21]. Paul Manuel and Sandi Klavzar, "*A general position problem in graph theory*", **Bulletin of the Australian Mathematical Sciences Society**, Volume 98, Issue 2, pp. 177-187, October 2018. DOI: https://doi.org/10.1017/S0004972718000473
KU Project QI 02/17
ISI Impact factor 0.622 (Q2)

[22]. Sandi Klavzar and Paul Manuel, "*Strong geodetic problem in grid-like architectures*", **Bulletin of the Malaysian Mathematical Sciences Society**, Volume 41, Issue 3, pp 1671–1680, July 2018.
ISI 2016 Impact Factor is 1.397 (Q1)

2017:

[23]. Paul Manuel, Sandi Klavzar, Antony Xavier, Andrew Arokiaraj and Elizabeth Thomas, "*Strong edge geodetic problem in networks*", **Open Mathematics** (Formerly Central European Journal of Mathematics), Issue 1, Volume 15, pp 1225-1235, 2017.
ISI Impact factor: 0.979

2016:

[24]. Paul Manuel, D. Antony Xavier, S. Kulandai Therese, and Andrew Arokiaraj, "*A class of perfect domination problems on diamond lattices*", **International Journal of Pure and Applied Mathematics**, Volume 109, No. 7, 115-123, 2016.
Scopus Impact Factor 0.325

[25]. Sandi Klavzar, Paul Manuel, MJ Nadjafi-Arani, R Sundara Rajan, Cyriac Grigorious, Sudeep Stephen, "*Average distance in interconnection networks via reduction theorems for vertex-weighted graphs*", **The Computer Journal**, 59 (12), 1900-1910, 2016.
ISI Impact factor 1.762 (Q1)

[26]. Mirka Miller, R. Sundara Rajan, R. Jayagopal, Indra Rajasingh and Paul Manuel, "*A note on the Locating-Total Domination in graphs",* **Discussiones Mathematicae Graph Theory** Volume 37, Issue 3, 2017.
ISI Impact Factor 0.6 (Q2)

[27]. Indra Rajasingh, Paul Manuel, N. Parthiban, D. Azubha Jemilet, and R. Sundara Rajan, "*Transmission in Butterfly Networks*", **The Computer Journal**, Volume 59, Issue 8, Pages 1174–1179, 2016.
ISI Impact factor 1.762 (Q1)

2015:

[28]. Indra Rajasingh, R. Sundara Rajan and Paul Manuel, "*A Linear Time Algorithm for Embedding Christmas Trees into Certain Trees",* **Parallel Processing Letters**, Volume 25, Issue 04, December 2015.
Scopus Impact Factor 0.499

[29]. R. Sundara Rajan, Indra Rajasingh, Paul Manuel, Mirka Miller and T. M. Rajalaxmi, "*Maximum Incomplete Recursive Circulants in Graph Embeddings*", **Discrete Mathematics, Algorithms and Applications**, Volume 07, Issue 04, December 2015.
https://doi.org/10.1142/S1793830915500536
Impact factor 0.796

[30]. R. Sundara Rajan, Paul Manuel and Indra Rajasingh, "*Embedding between Hypercubes and Hypertrees*", **Journal of Graph Algorithms and Applications (JGAA)**, Vol. 19, no. 1, pp. 361-373, 2015
Scopus Impact Factor 0.759

[31]. Bader Ali, Abdullah Al Mutairi and Paul Manuel, "*Paired Domination Problems of Infinite Diamond Lattice*", **Journal of Combinatorial Mathematics and Combinatorial Computing**, Volume 92, pp. 3-13, 2015
Scopus Impact Factor 0.546

[32]. Abdullah Al Mutairi, Bader Ali and Paul Manuel, "*Packing in Carbon Nanotubes*", **Journal of Combinatorial Mathematics and Combinatorial Computing**, Volume 92, pp. 195-206, 2015.
Scopus Impact Factor 0.546

[33]. Indra Rajasingh, R. Sundara Rajan, Rajesh M and Paul Manuel, "*Oriented Diameter of Grids*", **Journal of Combinatorial Mathematics and Combinatorial Computing**, Volume 92, pp. 283-288, 2015.
Scopus Impact Factor 0.546

[34]. Paul Manuel and A. S. Shanthi, "*Berge–Fulkerson Conjecture on Certain Snarks*", **Mathematics in Computer Science**, 7, May 2015

Scopus Impact Factor 0.54

[35]. Paul Manuel, Bharati Rajan, Cyriac Grigorious, Sudeep Stephen, "*On the Strong Metric Dimension of Tetrahedral Diamond Lattice*", **Mathematics in Computer Science**, 07 May 2015
Scopus Impact Factor 0.54

[36]. Sundara Rajan, Paul Manuel. Indra Rajasingh, Parthiban Natarajan and Mirka Miller, "*A Lower Bound for Dilation of an Embedding*", **The Computer Journal**, Volume 58, Issue 12, Pages 3271–3278, 2015.
ISI Impact factor 1.762 (Q2)

2014:

[37]. Cyriac Grigorious, Paul Manuel, Mirka Miller, Bharati Rajan, Sudeep Stephen, "*On the metric dimension of Circulant and Harary graphs"*, **Applied Mathematics and Computation**, Volume 248, Pages 47–54, 2014.
ISI Impact Factor 4.397 (Q1)

[38]. Indra Rajasingh, Paul Manuel, A. S. Shanthi, *"Excessive Index of Certain Nanotubes"*, **Journal of Computational and Theoretical Nanoscience**, 11(9), 2014.
ISI Impact factor 1.256 (Q2).

[39]. Indra Rajasingh, Bharati Rajan, Paul Manuel, Joice Punitha, "*Total - Kernel in Oriented Circular Ladder and Mobius Ladder"*, **Ars Combinatoria** - 126: 337-349, 2016.
ISI Impact factor 0.396.

[40]. Bharati Rajan, Indra Rajasingh, Jude Annie Cynthia and Paul Manuel, "*Metric Dimension of Directed Graphs"*, **International Journal of Computer Mathematics**, Volume 91, Issue 7, Pages 1397-1406, 2014.
ISI Impact factor 1.750 (Q2)

[41]. Thalaya Al-Fozan, Paul Manuel, Indra Rajasingh, and R. Sundara Rajan, "*Computing Szeged Index of Certain Nanosheets Using Partition Technique"*, **MATCH Communications in Mathematical and in Computer Chemistry**, Volume 72, pp. 339-353, 2014.
ISI Impact factor 2.633 (Q1)

[42]. Thalaya Al-Fozan, Paul Manuel, Indra Rajasingh, and R. Sundara Rajan, "*A New Technique to Compute Padmakar-Ivan Index and Szeged Index of Pericondensed Benzenoid Graphs"*, **Journal of Computational and Theoretical Nanoscience**. Volume 11, Number 2, pp. 533-539, 2014.
ISI Impact factor 1.256 (Q2).

[43]. Paul Manuel, Indra Rajasingh and Arockiaraj, "*Computing Total-Szeged Index of Nanostar Dendrimer NSC_5C_6",* **Journal of Computational and Theoretical Nanoscience**. Volume 11, Number 1, pp. 160-164, 2014
ISI Impact factor 1.256 (Q2).

2013:

[44]. Paul Manuel, Indra Rajasingh and Arockiaraj, "*Total-Szeged Index of C_4-nanotubes, C_4-nanotori and Dendrimer Nanostars",* **Journal of Computational and Theoretical Nanoscience**. Vol 10, No 2, pp. 405-411, February 2013.
ISI Impact factor 1.256 (Q2).

[45]. Paul Manuel, Indra Rajasingh, Bharati Rajan and R. Sundara Rajan, "*A New Approach To Compute Wiener Index",* **Journal of Computational and Theoretical Nanoscience** Vol 10, No 6, pp. 1515-1521, June 2013
ISI Impact factor 1.256 (Q2)

[46]. Indra Rajasingh, Paul Manuel, M. Arockiaraj, Bharati Rajan, "*Embedding of circulant networks",* **Journal of Combinatorial Optimization**, Vol 26, No 1, pp 135-151, 2013;
ISI Impact factor 1.262 (Q2).

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TECHINCAL EXPERTISE

Languages	:	C, C++, JAVA, C#, COBOL
Middleware	:	Apache, MS-IIS, WebLogic
Databases	:	Oracle, MS-SQL Server, MS Access
Mark-up Languages	:	HTML, XML
Script Languages	:	VBScript, JavaScript
Case Tools	:	Rational Suite, MS-Projects
Internet Technology	:	.NET Frameworks
Functional Expertise	:	Enterprise Resource Planning – ODOO Machine Learning - Python

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