


FACULTY PROFILE		
Staff Name	:	Dr. A.M.Balamurugan
Faculty ID	:	TEC13 / 3123413
VIDWAN ID	:	433965
Image		
Publon ID	:	<a href="https://www.webofscience.com/wos/author/record/AAH-8118-2020">https://www.webofscience.com/wos/author/record/AAH-8118-2020</a>
Scopus ID	:	<a href="https://www.scopus.com/authid/detail.uri?authorId=57202474112">https://www.scopus.com/authid/detail.uri?authorId=57202474112</a>
ORCID ID	:	<a href="https://orcid.org/0000-0002-1805-079X">https://orcid.org/0000-0002-1805-079X</a> View this author's ORCID profile
Google Scholar ID	:	<a href="https://scholar.google.co.in/citations?user=UKv_gb0AAAAJ&amp;hl=en">https://scholar.google.co.in/citations?user=UKv_gb0AAAAJ&amp;hl=en</a>
Anna University Supervisor Recognition No.	:	4290036
Designation	:	Associate Professor
Qualification	:	M.E., Ph.D.
Teaching Experience	:	20 years and 4 months
Area of Specialization	:	Cryptography and Network Security, Optical Communication Networks
Subjects Handled	:	<ol style="list-style-type: none"> <li>1. Computer Networks</li> <li>2. RF and Microwave Engineering</li> <li>3. Analog and Digital Communication</li> <li>4. Satellite Communication</li> <li>5. High performance Networks</li> </ol>
Books Published	:	<ul style="list-style-type: none"> <li>• Published on “<b>Advances in Computer Science and Artificial Intelligence</b>” COSMAS Scientific Publications, 2023</li> <li>• Published on “<b>Cryptography and Network Security</b>” Scientific International Publishing House, 2024</li> </ul>
Journals Published	:	<ol style="list-style-type: none"> <li>1. Wekalao, J., Patel, S.K., <b>Balamurugan, A.M.</b> <i>et al.</i> Graphene-Enabled Multiresonator Metasurfaces for Ultrasensitive Surface Plasmon Resonance Detection of Waterborne Bacteria Across Multiple Frequencies with Machine Learning Optimization. <i>Plasmonics</i> 2024. <a href="https://doi.org/10.1007/s11468-024-02645-2">https://doi.org/10.1007/s11468-024-02645-2</a></li> <li>2. <b>Balamurugan, A.M.</b>, Parvin, T., Alsalem, K.A.J. <i>et al.</i> Refractive index based optically transparent biosensor device design for early detection of coronavirus. <i>Opt Quant Electron</i> <b>55</b>, 507 (2023). <a href="https://doi.org/10.1007/s11082-023-04788-8">https://doi.org/10.1007/s11082-023-04788-8</a></li> <li>3. <b>Balamurugan, A.M.</b>, Karthikeyan, B. &amp; Farmani, H. Nanoscale graphene plasmonics logic gate based on the plasma dispersion</li> </ol>

effect. *Opt Quant Electron* **54**, 259 (2022).  
<https://doi.org/10.1007/s11082-022-03660-5>

4. **A.M. Balamurugan**, P.Priya, J. Monisha, V Chandhana, ,  
“Emotion Based Music Recommendation Using Face Detection”  
, Internal Journal of Advanced Research in Basic Engineering  
Sciences and Technology, Vol.5, Issue 7, July 2019.
5. PS Dinesh, S Dinesh, S Tephillah, **A.M. Balamurugan**,  
“Primary User Emulation Attack (PUEA) Analysis in Cognitive  
Radio Network”, International Journal of Emerging Trends &  
Technology in Computer Science (IJETTCS), Volume 6, Issue  
2, March - April 2017, pp 67-71
6. **Balamurugan, A.M**, Sivasubramanian, A & Parvathavarthini,  
B 2016, Secure Hash Based Burst Header Authentication  
Design for Optical Burst switched Networks’, Journal of Optical  
Communications, ISSN (Online) 2191-6322, ISSN (Print) 0173-  
4911, DOI: 10.1515/joc-2015-0097, July 2016.
7. **Balamurugan, A.M**, Sivasubramanian, A & Parvathavarthini  
, B, 2015 ‘QKD Based Secured Burst Integrity Design for  
Optical Burst switched Networks’, Journal of Optical  
Communications, Volume 37, Issue 1, Pages 31–36, ISSN  
(Online) 2191-6322, DOI: 10.1515/joc-2014-0093, March 2015.
8. **Balamurugan, A.M**, Sivasubramanian, A & Parvathavarthini, B  
2015, ‘Quantum Key based Unified Burst Confidentiality and  
Integrity Secured Ingress Router Architecture design for Optical  
Burst Switched Networks, International Journal of Applied  
Engineering Research, ISSN 0973-4562, vol. 10, no.66, pp.43-  
46.
9. **Balamurugan A.M** and Sivasubramanian A, “Quantum Key  
Based Burst Confidentiality in Optical Burst Switched  
Networks,” The Scientific World Journal, vol. 2014, Article ID  
786493, 7 pages, 2014. doi:10.1155/2014/786493.
10. **Balamurugan A.M**, Chandana V, Sivasubramanian A, “Survey  
of Burst Intergrity Protocols for Optical Burst Switched  
Networks”, International Journal of Advanced Research in  
Electronics and Communication Engineering (IJARECE)  
Volume 3, Issue 2, February 2014.
11. **Balamurugan A.M** and Sivasubramanian A, “A Novel QKD  
Based Secure Edge Router Architecture Design for Burst  
Confidentiality in Optical Burst Switched Networks” Journal of  
Optical Communications. Volume 35, Issue 2, Pages 109–116,  
ISSN (Online) 2191-6322, ISSN (Print) 0173-4911, DOI:  
10.1515/joc-2014-0003, April 2014.
12. **Balamurugan, A.M** & Sivasubramanian, A 2014, ‘Modeling  
the Performance of DDoS Attack in Optical Burst Switched  
Networks’, Australian Journal of Basic and Applied Sciences,  
vol. 8, no. 18, December, pp. 479-482.
13. J.Steffi Agino Priyanka, S.Tephillah and **A.M.Balamurugan**,  
“Attacks and countermeasures in WSN”, International Journal

	<p>of Electronics &amp; Communication, Volume 2, Issue 1, January 2014, pp- 16-23.</p> <p>14. <b>Balamurugan A.M</b>, Sivasubramanian A, “Optical burst switching issues and its features”, International journal of Emerging Trends &amp; Technology in computer science, Volume 2, Issue 3, May-June 2013, pp-306-315.</p> <p>15. Ramesh Rao R, Johny Richards R, Joel Manohar, <b>Balamurugan. A.M</b>, Sivasubramanian A, “ Erbium Doped Fiber Amplifiers: State Of Art”, International Journal of Scientific &amp; Technology Research, Volume 2, Issue 5, May 2013, pp- 316-319.</p>
Conference/Workshop Attended	<p>1. <b>A. M. Balamurugan</b>, G. D. Vignesh and A. K. P. Kovendan, "Optimizing Security in OBS: Implementation and Evaluation of Modified SHA-160 Algorithm," <i>2024 First International Conference on Software, Systems and Information Technology (SSITCON)</i>, Tumkur, India, 2024, pp. 1-5, doi: 10.1109/SSITCON62437.2024.10796592.</p> <p>2. <b>A. M. Balamurugan</b>, V. Sai Ravi Ganesh and R. Prinston, "Enhanced Fast Recovery Dynamic Assembly Period Algorithm for TCP over OBS Networks," <i>2024 First International Conference on Software, Systems and Information Technology (SSITCON)</i>, Tumkur, India, 2024, pp. 1-4, doi: 10.1109/SSITCON62437.2024.10797152.</p> <p>3. <b>A. M. Balamurugan</b>, N. Rajeshwar and S. Vishal, "Secure and Scalable IoT-Based Health Monitoring System using Deep Learning, Blockchain, and Decentralized Edge Computing," <i>2024 First International Conference on Software, Systems and Information Technology (SSITCON)</i>, Tumkur, India, 2024, pp. 1-6, doi: 10.1109/SSITCON62437.2024.10796443.</p> <p>4. <b>A. M. Balamurugan</b>, R. S. Vishal and R. Vignesh, "Next Hop Selection Algorithm using DS Evidence Theory for Wireless Sensor Networks," <i>2024 First International Conference on Software, Systems and Information Technology (SSITCON)</i>, Tumkur, India, 2024, pp. 1-5, doi: 10.1109/SSITCON62437.2024.10797210.</p> <p>5. Vignesh, G &amp; Sabaridharan, V &amp; <b>Balamurugan, A M</b> &amp; Ronald, T. (2024). An Efficient Cluster based Co-Operative-ED Max Selection Algorithm for Improving the Detection Accuracy of SU Nodes in CR — WSN. 1-6. 10.1109/SSITCON62437.2024.10795968.</p> <p>6. Karthikayani. K, G.Elumalai, K. Jeyapiriya, S.Sree Southry, S. Gayathri and <b>A.M. Balamurugan</b> “Performance Analysis of Various Segmentation Algorithms for Microarray Images” AIP Conference Proceedings 2518, 070001 (2022); <a href="https://doi.org/10.1063/5.0103474">https://doi.org/10.1063/5.0103474</a> Published Online: 28 September 2022.</p>

	<p>7. <b>Balamurugan. A.M</b>, Anitha. G and Victoria Jancee. B, "Secured Header Authentication Design using Time Competent HMAC for Optical Burst Switched Networks," 2021 6th International Conference on Communication and Electronics Systems (ICCES), 2021, pp. 311-315, doi: 10.1109/ICCES51350.2021.9489016.</p> <p>8. P. Merlin Sweetha Vinola, <b>Balamurugan A.M</b>, Chandana .V, Durairaji.v, "Enhanced HMAC Structure Based Burst Header Authentication Design for Optical Burst Switched Networks, 2<sup>nd</sup> IEEE International Conference On Recent Trends in Electronics Information &amp; Communication Technology (RTEICT), May 19-20, 2017, pp -409-411.</p> <p>9. <b>Balamurugan A.M</b>, Chandana V and Sivasubramanian A, "Maximize the utilization of WDM channels using WR-OBS in adaptive optical burst switching" Int. conf. IET SEISCON 2013 at KCG college of Technology, Chennai, 2013.</p> <p>10. <b>Balamurugan A.M</b>, Sivasubramanian A, "Burst Assembly in Optical Burst switching", Proc. On National Conference on Advanced Communication networks and Signal Processing, March-25, 2011.</p> <p>11. <b>Balamurugan A.M</b>, Selvakumarasamy k, "Stream Control Transmission Protocol Design and Implementation", Proc. On First National Conference on Recent Advances in Industrial Networks", March 17-18, 2005.</p> <p>12. Ahilan S., Sivasubramanian A and <b>Balamurugan A.M.</b>, "QoS based many casting in optical networks", Proc. On International conference on information communication &amp; Embedded Systems, Chennai, Feb. 2011.</p> <p>13. J.Steffi Agino Priyanka, S.Tephillah, <b>A.M.Balamurugan</b>, "Malicious Node Detection Using Minimal Event Cycle Computation Method in Wireless Sensor Networks" Proc. On International Conference on Communication and Signal Processing, April 3-5, 2014.</p> <p>14. Durairaji.V, <b>Balamurugan A.M</b> "Secured burst confidentiality ingress router architecture design for OBS networks" Proc.On, National Conference on Advance Computing –NCAC15, March 25, 2015.</p> <p>15. Chandana. V, <b>Balamurugan A.M</b> "Analysis of Burst header flooding attack in OBS", Proc. On. International Conference Advances in Computer Information Science and Technology, March 28-29, 2014.</p>
--	--

Patent Details	:	Total Number of Patents (IPR) Published : 03			
		S.No	Patent Title	Name of Applicant(s)	Status
		1	Intelligent smart poly house roof top irrigation robot	Dr.A.M.Balamurugan, G.Anitha, S.Devipriya, K.Jasmine Mystica	Published
		2	Skin Disease Identification System And A Method Thereof	Dr.A.M.Balamurugan, B.VictorianJancee, G.Anitha, V.Chandana, A.Prabhu Chakkaravarthy	Published
		3	Smart Mobile Phone Deposit Machine using IoT& Artificial Intelligence Techniques.	Dr. S.Rajeshkannan Dr.P.Ezhilarasi Dr.A.Balamurugan Dr.B. Vasudevan	Published & Applied for Grant

Consultancy	:	Title	Faculty Involved	Name of the Company	Amount
		Create a customized plugin	Dr.A.M.Balamurugan  Dr.S.Rajeshkannan  Dr. P.Ezhilarasi	Stigmata Techno Solutions	30,000

Reviewer	:	<ul style="list-style-type: none"><li>SPIE Publications</li></ul>
----------	---	---