




# Curriculum Vitae

## XIN-WEN WU, Ph.D.

Department of Computer Science  
University of Mary Washington  
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### Summary of Accomplishments

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#### Research

- 2 monographs and 1 book published by the most prestigious publishers including a monograph on security for smart-home systems published by *Springer* in 2018 and a book on cryptology published by *Cambridge University Press* in 2017
- 98 refereed articles and book chapters in highly reputable journals and top-tier conference proceedings, such as *IEEE Transactions on Information Theory* and *IEEE Transactions on Information Forensics and Security*
- Editor, special issue of *Designs, Codes and Cryptography* (Springer), 2019
- Reviewer/Judge for the Swiss National Science Foundation, 2019
- IEEE Australian Council Best Paper Runner-Up Prize, 2015
- Senior Member of IEEE, since 2014
- Chairperson of examiners for Ph.D. theses, and examiner for Ph.D. and M.S. theses, 2010 – present
- Technical Program Committee (TPC) member of numerous international conferences, 2008 – present
- Regular reviewer for reputable journals, 2000 – present
- Tan Chin Tuan Fellowship, Singapore, 2002
- Adjunct Professor, VIT University, Indiana, Since 2016
- Adjunct Associate Professor, Griffith University, Australia, since 2018

#### Teaching

- Supervision of 8 research students (Ph.D., M.S., and Honours) to successful completion
- 3 teaching awards, 2006 - 2009
- 2 commendation letters, from the Deputy Vice Chancellor of Griffith University and the Dean Learning and Teaching for my excellent teaching and students' learning experience, 2010 and 2015, respectively
- Consistently high rate of student teaching evaluation
- A teaching grant from Griffith University for a project on innovative teaching and blended learning, 2015
- Certified Instructor of CISCO Network & Network Security programs, since 2016

#### Service and Leadership

- Program Director of Master of Information Technology at Griffith University, with contributions to the development of curriculum and the design of program, which was accredited by the ACS (Australian Computer Society) in 2014 and received the renewal of accreditation in 2017
- Contributions to the curriculum development for a new program of master's degree in cybersecurity, Indiana University of Pennsylvania (IUP), 2018-2021
- Member of IUP Cybersecurity Industry Advisory Board, 2019-2021  
Computer Science Committee Member (the Program is ABET-accredited), 2018-2021  
Organizer and session chair of international conferences  
Guest editors for reputable journals.

## Professional Experience

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- Associate Professor of Computer Science, Aug. 2021 – present  
Department of Computer Science, University of Mary Washington
- Associate Professor of Computer Science, Sept. 2018 - Aug. 2021  
Department of Mathematical and Computer Sciences, Indiana University of Pennsylvania
- Senior Lecturer (Faculty Level C), Jan. 2014 - Aug. 2018; and Lecturer (Faculty Level B), 2010 - 2013  
School of Information and Communication Technology, Griffith University, Australia
- Lecturer (Faculty Level B), 2006 - 2010  
School of Information Technology and Mathematical Sciences, University of Ballarat, Australia
- Research Fellow, Feb. 2003 - Dec. 2005  
Department of Electrical and Electronic Engineering, University of Melbourne, Australia
- Postdoctoral Researcher, Jul. 1999 - Jun. 2000  
Department of Electrical & Computer Engineering, University of California at San Diego (UCSD), USA
- Research Scientist, Aug. 1995 - Feb. 2003  
Chinese Academy of Sciences, Beijing

### Visiting positions:

- Visiting Scholar, April - May 2016  
University of Waterloo, Canada
- Visiting Scholar/Professor, Nov. - Dec. 2008, Nov. - Dec. 2009, and Nov. - Dec. 2010  
Nanyang Technological University, Singapore
- Visiting Scholar, Oct. - Dec. 2000  
University of Essen (now called University of Duisburg-Essen), Germany
- Visiting Research Associate, Oct. 1997 - Dec. 1998  
Center for Advanced Computer Studies, University of Louisiana at Lafayette, USA

## Education

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**Ph.D.** Chinese Academy of Sciences, Beijing, 1995

**M.S.**, East China Normal University, Shanghai, 1992

**B.S.**, East China Normal University, Shanghai, 1989

## Awards and Honors

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- IEEE Australian Council Best Paper Runner-Up Prize, 2015, “A 3D Object Encryption Scheme Which Maintains Dimensional and Spatial Stability,” A. Jolfaei, **X.-W. Wu**, and V. Muthu (The paper was then published in *IEEE Transactions on Information Forensics and Security*, Vol.10, 2015)
- Senior Member of IEEE, since January 2014
- Adjunct Professor, VIT (Vellore Institute of Technology) University, India, since 2016
- Adjunct Associate Professor, Griffith University, Australia, August 2018 – present
- A commendation letter received from the Dean (Learning and Teaching) of Griffith Sciences Faculty for my excellent teaching, 2010; A commendation letter received from the Deputy Vice Chancellor of Griffith University for the excellent students’ learning experience in my classes, 2015
- Three Teaching Awards, University of Ballarat, 2009, 2008, 2006
- Tan Chin Tuan Fellowship, Singapore, 2002

(This is a distinguished fellowship. More details about the fellowship and recent awardees are available at: <https://coe.ntu.edu.sg/aboutus/People/Pages/TCTExchangeFellowship.aspx>)

## Research Areas

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- **Computer Security** (Completed and ongoing projects include: *Malware Detection and Analysis*, *Phishing Attack Detection and Classification*, and *DDoS Attack Detection and Analysis*.)
- **Cybersecurity Education** (Projects include: *Cybersecurity Summer Camp for High/Middle School Students*, *Department of Defense (DoD) Cyber Scholarship Program*, funded by NSA and DoD, respectively.)
- **Cryptographic Protocols for the Internet of Things (IoT)** (Projects include: *Resource-efficient Cryptographic Protocols for IoT Networks and Cyber-physical Systems*.)
- **Multimedia and 3D Information Security** (Projects include: *3D Data Encryption*, and *Cryptanalysis of Image Encryption*.)
- **Cryptographic Key Management for Cloud Computing** (Projects include: *Information-Theoretically Secure Key-Management Schemes for Cloud Computing and Cloud Storage*.)
- **Machine-Learning based Anomaly Detection** (Projects include: *Anomaly Detection based on Machine Learning Methodologies, Applications of Emerging Technologies, such as Blockchain, to Cybersecurity*.)

## Teaching & Curriculum Development

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- **Courses taught at University of Mary Washington (2021 - present):**

- CPSC 470 Network Security
- CPSC 435 Advanced Cybersecurity
- CPSC 110 Introduction to Computer Science

- **Courses taught at Indiana University of Pennsylvania (2018 - 2021):**

- COSC 216 Introduction to Cyber Security
- COSC 316 Host Computer Security
- COSC 105 Fundamentals of Computer Science
- COSC 341 Introduction to Database Management Systems
- COSC 345 Computer Networks
- COSC 356 Network Security
- COSC 454 Information Assurance Administration

- **Courses taught at Griffith University (2010 - 2018):**

- 3400ICT Information Systems Security
- 3411ICT Network Security and Administration
- 3413ICT Network Security
- 3809ICT Applied Network Security
- 2506ICT Computer Networks
- 1410ICT Introduction to Information Systems
- 2001ICT Project Management
- 2001ICT Project Management (online)
- 1002ICT Discrete Structures (Discrete Mathematics) I
- 2400ICT Discrete Structures (Discrete Mathematics) II
- 2004ICT System Analysis and Design
  
- 6910ICT Supervised Research (Honors)
- 6205ICT Advanced Topics in Information Technology A (Honors)
- 6206ICT Advanced Topics in Information Technology B (Honors)
- 6105ICT Advanced Topics in Information Technology C (Honors)

**Graduate Courses:**

- 7002ICT System Analysis and Design
- 7501ICT Information Security
- 7502ICT Advanced Networking
- 7504ICT Network and Information Security
- 7610ICT Introduction to Information Systems
- 7621ICT Project Management
- 7808ICT Information Security Management
- 7809ICT Network Security
- 7590ICT Dissertation

8840GRG\_P1 and P2 RHDQP Research Paper

8840GRG\_P3 and P4 RHDQP Research Paper

- **Courses taught at the University of Ballarat** (January 2006 - March 2010):

Introduction to Project Management

Electronic Commerce I

Electronic Commerce II

Wireless Communications

Information Security

Electronic Commerce Security

- **Curriculum and Program Development**

- I have been working on the curriculum development for the new program of M.S. in cybersecurity (with courses to be offered online or in the hybrid mode, and the curriculum incorporating elements from the disciplines of criminology and information systems), Indiana University of Pennsylvania, Sept. 2018 – present

- Serving as the Program Director for Master of Information Technology at Griffith University, with contributions to the development and review of the program for the ACS (Australian Computer Society) Accreditation in 2014 and renewal of accreditation in 2017

- Contributions to the review and redevelopment of curriculum for the "New Griffith Model" in 2016, and development of the CISCO curriculum launched in July 2017

- I have developed the following new courses:

Electronic Commerce Security

Information Security Management

Network Security and Administration

Applied Network Security

- **Teaching Grant**

Griffith Sciences Teaching Grant, "Creating skill profiles through an online system for ICT students," \$12,640 (AUD), (in conjunction with Dr Larry Wen, etc.), 2015

## **Grants and Funded Projects** (\$1.23M+ in total)

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- CCI (Commonwealth Cyber Initiative) Faculty Research Assistant Fund, \$8,560, 2021-2022

- CCI Fellowship Start-up Fund, \$30,000, 2021-2022

- CCI Cybersecurity Summer Camp fund, \$10,000 (Andrew Marshall, Xin-Wen Wu), 2022

- NSA Cybersecurity Research Program, Research Project “Investigating the Use of Various Deep Learning Methodologies for Anomaly Detection on IoT Systems,” \$122,665, (Waleed Farag, Xin-Wen Wu, Soundararajan Ezekiel), 2020-2021.
- Senate Fellowship Grant, IUP, “Securing the Internet of Things with Intelligent and Resource-Efficient Mechanisms,” \$7,000, (Xin-Wen Wu, Soundararajan Ezekiel), 2020-2021.
- Department of Defense (DoD) Cyber Scholarship Program (CySP) Capacity Building Project, “An Innovative Learner-Centered Pedagogy for Faculty Development in Cybersecurity, \$50,000, (Waleed Farag, Xin-Wen Wu), 2020-2021.
- Department of Defense (DoD) Cyber Scholarship Program (CySP), \$627,000, (Waleed Farag, Soundararajan Ezekiel, Xin-Wen Wu), 2020-2021.
- NSA & NSF’s GenCyber (The Next **Generation** of **Cyber** Stars) Summer Cybersecurity Camp Grant, \$100,000, (Waleed Farag, Soundararajan Ezekiel, Xin-Wen Wu), 2020-2021.
- IUP Academic Computing Policy and Advisory Committee (ACPAC) Technological Exploration and Innovation Fund, “Interdisciplinary Collaboration: Integrating Chinese language and culture with science and technology through 3D printing,” \$2,500, (Shijuan Liu, Andrew Feng Zhou, and Xin-Wen Wu), 2020.
- Griffith University NRG Scheme, “*Innovative traitor-tracing schemes against illegal re-distribution of multimedia digital content,*” \$10,000 AUD (that is, \$7,100), Xin-Wen Wu, 2011.
- Mathematical Research Institute of Oberwolfach (Germany) Grant, “*Cryptanalysis of public-key cryptosystems based on linear codes,*” (Xin-Wen Wu, Ruud Pellikaan, Stanislav Bulygin, and Edgar Martinez-Moro), €46,615 EUR (that is, \$55,332), 2011.
- DSO (Defence Science Organisation) Singapore Grant, “*Reconstruction of scramblers for software-defined radio systems,*” \$180,000 SGD (that is, \$131,998), Xin-Wen Wu, Soo Ngee Koh, 2009 - 2011.
- IBM Australia and the Westpac Banking Corporation Joint Project, “*Identification of rootkit infections making use of machine learning,*” Xin-Wen Wu, Paul Watters, \$121,500 AUD (that is, \$85,745), 2008-2010.
- Deakin University and the University of Ballarat Collaboration Fund, “*Novel multi-level clustering algorithms for Phishing attack detection and classification,*” Xin-Wen Wu, Paul Watters, and John Yearwood, \$25,000 AUD (that is, \$17,642), 2009.
- RIBG (Research Infrastructure Block Grant of Australia), “*Watermarking-based protection schemes against Internet frauds,*” Xin-Wen Wu, John Yearwood, and Andrew Stranieri, \$30,800 AUD (that is, \$21,728), 2007-2008.

- University of Ballarat Research Grant, “*Traitor-tracing schemes for protecting multimedia content from unauthorized use in networked systems,*” Xin-Wen Wu, \$10,000 AUD (that is, \$7,100), 2008.
- Seeding Grant from the CIAO (Centre for Informatics and Applied Optimization), University of Ballarat, “*Fast tracing algorithms for identifying illegitimate online-content redistributors,*” Xin-Wen Wu, \$3,700 AUD (that is, \$2,610), 2008.
- The CIAO (Centre for Informatics and Applied Optimization) grant, University of Ballarat, “*Optimisation and complexity issues in coding theory,*” Xin-Wen Wu and Prabhu Manyem, \$6,000 AUD, (that is, \$4,200), 2006.
- Tan Chin Tuan Fellow Foundation, Singapore, for my *Tan Chin Tuan Fellowship*, Xin-Wen Wu, \$30,000 SGD (that is, \$21,998), 2002

## **Industrial Contract & Consultation**

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- **IBM Australia**, 2008-2010  
(*Malware/rootkit detection and analysis*)
- **Westpac Banking Corporation**, 2008-2010  
(*Anti-Phishing, and clustering and classification of Phishing attacks*)
- **KJR Australia**, 2016  
(*Privacy-preserving data mining for event prediction*)
- **BicDroid Inc. Canada** (<https://www.bicdroid.com/>), 2018-present  
(*Cryptographic key management for cloud security*)

## **Publications**

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### **Monographs and Book**

- [1] M. Usman, V. Muthukkumarasamy, **X.-W. Wu**, and S. Khanum, *Mobile Agent-Based Anomaly Detection and Verification System for Smart Home Sensor Networks*, **Springer**, 2018 (Monograph).  
Detail available at: <https://www.springer.com/us/book/9789811074660>
- [2] R. Pellikaan, **X.-W. Wu**, S. Bulygin, and R. Jurrius, *Codes, Cryptology and Curves with Computer Algebra*, **Cambridge University Press**, Cambridge, UK, 2017 (600 pages).  
Detail available at: <https://www.cambridge.org/core/books/codes-cryptology-and-curves-with-computer-algebra/509E5D6CBFAB2BC49E9641AD9D363714>

- [3] G.-L. Feng, **X.-W. Wu**, *Algebraic-Geometric Codes*, Science Press, Beijing, China, 1998 (Monograph).

### Refereed Journal Papers

- [4] G. Raja, S. Anbalagan, G. Vijayaraghavan, S. Theerthagiri, S. Suryanarayan, **X.-W. Wu**, "SP-CIDS: Secure and Private Collaborative IDS for VANETs," *IEEE Transactions on Intelligent Transportation Systems*, Vol. 22, No. 7, pp. 4385 - 4393, July 2021.
- [5] Z. Liu, **X.-W. Wu**, "Notes on LCD codes over Frobenius rings," *IEEE Communications Letters*, Vol. 25, No. 2, pp. 361-364, February 2021.
- [6] **X.-W. Wu**, A. Jolfaei, "Securing the Internet of Everything Through Adaptive and Resource-Efficient Mechanisms," *IEEE Internet of Things Magazine*, Vol. 3, No. 4, pp. 16-19, December 2020.
- [7] S. Ezekiel, A. Ali Alshehri, L. Pearlstein, **X.-W. Wu**, A. Lutz, "IoT Anomaly Detection using Multivariate," *International Journal of Innovative Technology and Exploring Engineering*, Vol.9, No.4, 2020, pp. 1662-1669.
- [8] P. Beelen, O. Geil, E. Martínez-Moro, and **X.-W. Wu**, "Foreword - Special Issue: Codes, Cryptology and Curves in honour of Ruud Pellikaan," *Designs, Codes and Cryptography*, 88(8), 1477-1478, 2020.
- [9] G. Yang, **X.-W. Wu**, Li Ying, "Energy Efficient Protocol for Routing and Scheduling for Wireless Body Area Networks," *Wireless Networks (Springer)*, Vol. 25, No.9, pp.1-9, 2019.
- [10] M. Greferath, Z. Liu, **X.-W. Wu**, J. Zumbärg, "New Results on the Pseudoredundancy," *Bulletin of the Korean Mathematical Society*, Vol. 56, No. 1, pp. 111-130, 2019.
- [11] J. Wang, X. Ren, S. Anirban, **X.-W. Wu**, "Correct Filtering for Subgraph Isomorphism Search in Compressed Vertex-Labelled Graphs," *Information Sciences*, (Elsevier), Vol. 482, pp. 363-373, 2019.
- [12] G. Yang, **X.-W. Wu**, "A Distributed Secure Monitoring System based on Blockchain," *International Journal of Performability Engineering*, Vol.14, No.10, pp.2393-2402, Oct. 2018.
- [13] Jolfaei, **X.-W. Wu**, V. Muthukkumarasamy, "On the Security of Permutation-Only Image Encryption Schemes," *IEEE Transactions on Information Forensics and Security*, Vol.11, No.2, pp.235-246, 2016.
- [14] Z. Liu, **X.-W. Wu**, "The fullrank value function," *Designs, Codes and Cryptography*, Vol.81, No.2, pp.297-315, 2016.



- [15] W. Pullan, **X.-W. Wu**, Z. Liu, "Construction of optimal constant-dimension subspace codes," *Journal of Combinatorial Optimization*, Vol.31, No.4, 1709-1719, 2016.
- [16] Z. Liu, **X.-W. Wu**, "Trellis complexity and pseudoredundancy of relative two-weight codes," *Applicable Algebra in Engineering, Communication and Computing*, 27(2): 139-158, 2016.
- [17] G.Z. Khan, R. Gonzalez, E.-C. Park, **X.-W. Wu**, "Analysis of Very High Throughput (VHT) at MAC and PHY Layers under MIMO Channel in IEEE 802.11ac WLAN," *ICACT Transactions on Advanced Communications Technology*, Vol.5, No.4, 877-888, 2016.
- [18] A. Jolfaei, **X.-W. Wu**, V.Muthukkumarasamy, "A 3D Object Encryption Scheme Which Maintains Dimensional and Spatial Stability," *IEEE Transactions on Information Forensics and Security*, Vol.10, No.2, pp.409-422, 2015.
- [19] M. Usman, V. Muthukkumarasamy, and **X.-W. Wu**, "Mobile Agent-Based Cross-Layer Anomaly Detection in Smart Home Sensor Networks Using Fuzzy logic," *IEEE Transactions on Consumer Electronics*, Vol.61, No.2, pp.197-205, 2015.
- [20] M. Usman, V. Muthukkumarasamy, and **X.-W. Wu**, "Specification and Validation of Enhanced Mobile Agent-Enabled Anomaly Detection in Resource Constrained Networks," *Journal of Networks*, Vol.10, No.6, pp.353-368, 2015.
- [21] K. Biswas, V. Muthukkumarasamy, **X.-W. Wu**, and K. Singh, "An Analytical Model for Lifetime Estimation of Wireless Sensor Networks," *IEEE Communications Letters*, Vol.19, No.9, pp.1584-1587, 2015.
- [22] Z. Liu, **X.-W. Wu**, "On Relative Constant-Weight Codes," *Designs, Codes and Cryptography*, Vol.75, No.1, pp.127-144, 2015.
- [23] K. Biswas, V. Muthukkumarasamy, **X.-W. Wu**, and K. Singh, "An Interference Aware Heuristic Routing Protocol for Wireless Home Automation Networks," *Journal of Networks*, Vol.10, No.11, pp.616-624, 2015.
- [24] A. Rahman, V. Muthukkumarasamy, and **X.-W. Wu**, "Coordinates and Bearing of Submerged Sensors Using a Single Mobile Beacon (CSMB)," *Journal of Networks*, Vol.10, No.8, pp.462-469, 2015.
- [25] A. Jolfaei, **X.-W. Wu**, V. Muthukkumarasamy, "Comments on the security of 'Diffusion-substitution based gray image encryption' scheme," *Digital Signal Processing*, Vol.32, pp.34-36, 2014.
- [26] M. Usmana, V. Muthukkumarasamy, and **X.-W. Wu**, "A Resource-Efficient System for Detection and Verification of Anomalies Using Mobile Agents in Wireless Sensor Networks," *Journal of Networks*, Vol.9, No.12, pp.3427-3444, 2014.

- [27] X.-B. Liu, S. N. Koh, C.-C. Chui, and **X.-W. Wu**, "A Study on Reconstruction of Linear Scrambler Using Dual Words of Channel Encoder," *IEEE Transactions on Information Forensics and Security*, Vol.8, No.3, pp.542-552, 2013.
- [28] X.-B. Liu, S. N. Koh, **X.-W. Wu**, and C.-C. Chui, "Primitive polynomials for robust linear feedback shift registers-based scramblers and stream ciphers," *IET Information Security*, Vol.6, No.3, pp.183-189, 2012.
- [29] X. Ren, **X.-W. Wu**, and K. Tang, "TSPass: A Dynamic User Authentication Scheme Based on Time and Space," *International Journal of Computer Science and Network Security*, Vol.12, No.10, pp.45-53, 2012.
- [30] X.-B. Liu, S. N. Koh, **X.-W. Wu**, and C.-C. Chui, "Reconstructing a Linear Scrambler with Improved Detection Capability and in the Presence of Noise," *IEEE Transactions on Information Forensics and Security*, Vol.7, No.1, pp.208-218, 2012.
- [31] **X.-W. Wu**, A. Sattar, "A New Class of Traceability Schemes for Protecting Digital Content against Illegal Re-distribution," *International Journal of Computer Science and Network Security*, Vol.11, No.12, pp.91-98, 2011.
- [32] Z. Liu, **X.-W. Wu**, W. Chen, and Y. Luo, "New code equivalence based on relative generalized Hamming weights," *Information Sciences*, Vol.181, No.19, pp.4309-4317, 2011.
- [33] A. Kelarev, J. Yearwood, P. Watters, **X.-W. Wu**, L. Ma, J. Abawajy, L. Pan, "A Groebner-Shirshov Algorithm for Applications in Internet Security," *Southeast Asian Bulletin of Mathematics*, vol. 35, pp. 807-820, 2011.
- [34] Z. Liu, J. Wang, and **X.-W. Wu**, "On the relative generalized Hamming weights of linear codes and their subcodes," *SIAM Journal on Discrete Mathematics*, Vol. 24, No.4, pp.1234-1241, 2010.
- [35] A.V. Kelarev, J.L.Yearwood, P.Watters, **X.-W. Wu**, J.H. Abawajy, L.Pan, "Internet Security Applications of the Munn Rings," *Semigroup Forum*, 81(1), 2010, pp. 162-171, 2010.
- [36] **X.-W. Wu**, M. Kuijper, and P. Udaya, "Lower Bound on Minimum Lee Distance of Algebraic-Geometric Codes over Finite Fields," *IEE Electronics Letters*, Vol.43, No.15, pp.820-822, 2007.
- [37] **X.-W. Wu**, M. Kuijper, and P. Udaya, "A Root-Finding Algorithm for List Decoding of Reed-Muller Codes," *IEEE Transactions on Information Theory*, Vol.51, No.3, pp.1190-1196, 2005.
- [38] R. Pellikaan, **X.-W. Wu**, "List Decoding of q-ary Reed-Muller Codes," *IEEE Transactions on Information Theory*, Vol.50, No.4, pp.679-682, 2004.

- [39] **X.-W. Wu**, M. Kuijper, and P. Udaya, "Lee-Metric Decoding of BCH and Reed-Solomon Codes," *IEE Electronics Letters*, Vol.39, No.21, pp.1522-1524, 2003.
- [40] **X.-W. Wu**, P. H. Siegel, "Efficient Root-Finding Algorithm with Application to List Decoding of Algebraic-Geometric Codes," *IEEE Transactions on Information Theory*, Vol.47, No.6, pp.2579-2587, 2001.
- [41] G.-L. Feng, **X.-W. Wu**, and T.R.N. Rao, "Correction to 'New Double-Byte Error-Correcting Codes for Memory Systems'," *IEEE Transactions on Information Theory*, Vol.45, No.6, p.2209, 1999.
- [42] G.-L. Feng, **X.-W. Wu**, and T.R.N. Rao, "New Double-Byte Error-Correcting Codes for Memory Systems," *IEEE Transactions on Information Theory*, Vol.44, No.3, pp.1152-1163, 1998.
- [43] **X.-W. Wu**, "The Codes with Fixed Minimum Distance and Better than the Gilbert-Varshamov Bound," *Advances in Mathematics (China)*, Vol.30, No.6, pp. 495-509, 2001.
- [44] **X.-W. Wu**, "Parameters of the Codes over Affine Varieties," *Science in China*, Vol.43, No.2, pp.141-148, 2000.
- [45] Z.-X. Wan, **X.-W. Wu**, "The Weight Hierarchies and Generalized Weight Spectra of the Projective Codes from Degenerate Quadrics," *Discrete Mathematics*, Vol.177, pp.223-243, 1997.
- [46] **X.-W. Wu**, "A Class of Codes from Projective Algebraic Varieties," *Chinese Science Bulletin*, Vol.42, No.11, pp.1146-1149, 1997.
- [47] **X.-W. Wu**, "Generalized Hamming Weights of the Projective Codes from Hermitian Varieties," *Science in China*, Vol.39, No.2, pp.148-158, 1996.
- [48] **X.-W. Wu**, "On Monodromy of Semi-Stable Fibres," *Chinese Science Bulletin*, Vol.39, No.14, pp.1145-1149, 1994.

#### Refereed Book Chapters

- [49] K. Biswas, V. Muthukkumarasamy, **X.-W. Wu**, and K. Singh, "Performance Evaluation of Block Ciphers for Wireless Sensor Networks," in: *Advanced Computing and Communication Technologies*, (Eds: R. Choudhary, et al), Springer, Singapore, 2016, pp.443-452.
- [50] M. Usman, V. Muthukkumarasamy, **X.-W. Wu**, and S. Khanum, "Anomaly Detection in Wireless Sensor Network: Challenges and Future Trends," in: *Security for Multihop Wireless Networks*, (Eds: S. Mauri and L. Mauri), CRC Press, USA, 2014, pp.273-304.
- [51] A.V. Kelarev, S. Brown, P. Watters, **X.-W. Wu** and R. Dazeley, "Establishing Reasoning Communities of Security Experts for Internet Commerce Security," in: *Technologies for*

Supporting Reasoning Communities and Collaborative Decision Making: Cooperative Approaches, (Eds: J. Yearwood and A. Stranieri), Information Science Publishing, January 2011, pp.380-395.

- [52] **X.-W. Wu**, "Generalized Hamming Weights of Projective Reed-Muller Codes of Lower Orders," In: *Advances in Cryptology - Chinacrypt'96*, (Eds: D.-Y. Pei, et al), Science Press, Beijing, China, 1996, pp.236-243.

### Refereed Conference Papers

- [53] **Xin-Wen Wu**, Yongtao Cao, and Richard Dankwa, "Accuracy vs Efficiency: Machine Learning Enabled Anomaly Detection on the Internet of Things," *Proceedings of the 2022 IEEE International Conference on Internet of Things and Intelligence Systems (IoT&IS)*, Nov. 2022, pp. 245-251.
- [54] M. Balega, W. Farag, S. Ezekiel, **X.-W. Wu**, A. Deak, and Z. Good, "IoT Anomaly Detection Using a Multitude of Machine Learning Algorithms," *Proceedings of the 2022 IEEE Applied Imagery Pattern Recognition Workshop*, Washington, DC., Oct. 11-13, 2022.
- [55] A. Robbins, W. Farag, **X.-W. Wu**, and P. Chaudhary "Zigbee as a candidate standard for use in anomaly detection in IoT LANs", Proc. SPIE 11751, *Disruptive Technologies in Information Sciences V*, 117510K (12 April 2021); <https://doi.org/10.1117/12.2588155>
- [56] T. Valentine, K. Ravindran, P. Chaudhary, S. Ezekiel, X.-W. Wu, "Mitigating Security Risk of IoT with A Blockchain-Based Solution," *Proceedings of the 2020 Annual IEEE Applied Imagery Pattern Recognition Workshop*, virtual online conference, Oct 13-15, 2020.
- [57] W. Farag, S. Ali, and **X.-W. Wu**, "Comparing Achievement of Learning Outcomes and Success Indicators in Online Computer Literacy Classes with Blended Offerings," *Proceedings of 12th Annual International Conference on Education and New Learning Technologies*, July 6-7, 2020.
- [58] **X.-W. Wu**, W. Farag, S. Ali, and S. Kulkarni, "An Efficient Security Scheme for the Internet of Things with Resource-Constrained Devices", *Proceedings of the 10<sup>th</sup> IEEE Annual Ubiquitous Computing, Electronics & Mobile Communication Conference*, Columbia University, New York, USA, October 10-12, pp. 676-682, 2019.
- [59] L. Njilla, L. Pearlstein, **X.-W. Wu**, A. Lutz, S. Ezekiel, "Internet of Things Anomaly Detection using Machine Learning," *Proceedings of the 48<sup>th</sup> Annual IEEE Applied Imagery Pattern Recognition: Cognition, Collaboration, and Cloud*, Washington, D.C., USA, Oct 15-17, 2019., 6 pages.
- [60] S. Chavan, A. Inamdar, A. Dorle, S. Kulkarni, **X.-W. Wu**, "Phishing Detection: Malicious and Benign Websites Classification using Machine Learning Techniques," *Proceedings of International Conference on Computational Science and Applications (ICCSA 2019)*, Pune, India, August 7-9, 2019.

- [61] E.-H. Yang, **X.-W. Wu**, "On Optimal Information-Theoretical Secure Key Management," *Proceedings of the 16<sup>th</sup> Canadian Workshop on Information Theory*, Hamilton, Ontario, Canada, June 2-5, 2019.
- [62] R. Kulkarni, K. Khadilkar, S. Kulkarni, **X.-W. Wu**, "A Wide & Deep Neural Network and Ensemble Based Approach for Phishing Detection," *Proceedings of the International Conference on Machine Learning and Data Science (ICMLDS 2018)*, Hyderabad, India, Dec. 21-22, 2018.
- [63] G. Yang, **X.-W. Wu**, "A Lightweight Security and Energy-efficient Clustering Protocol for Wireless Sensor Networks," *Proceedings of the 10<sup>th</sup> EAI International Conference on Ad Hoc Networks*, Cairns, Australia, September 20-23, 2018, 6 pages.
- [64] K. Hasan, **X.-W. Wu**, K. Biswas and K. Ahmed, "A Novel Framework for Software Defined Wireless Body Area Network," *Proceedings of the 8<sup>th</sup> International Conference on Intelligent Systems, Modelling and Simulation*, Kuala Lumpur, Malaysia, May 8-10, 2018, 6 pages.
- [65] **X.-W. Wu**, E.-H. Yang, and J. Wang, "Lightweight Security Protocols for the Internet of Things," *Proceedings of the 28th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (IEEE PIMRC 2017)*, Montreal, Canada, October 8 - 13, 2017, 7 pages (invited paper).
- [66] E.-H. Yang, **X.-W. Wu**, "Information-Theoretically Secure Key Generation and Management," *Proceedings of 2017 IEEE International Symposium on Information Theory (ISIT 2017)*, Aachen, Germany, June 25 - 30, 2017, pp.1529-1533.
- [67] G.Z. Khan, R. Gonzalez, **X.-W. Wu**, E.-C. Park, "On the Field Level Loss of a VHT PPDU in a MIMO-OFDM System for a WiFi Direct 802.11ac WLAN," *Proceedings of 15th International Conference on Frontiers of Information Technology (FIT 2016)*, Islamabad, Pakistan, Dec. 18-20, 2016, pp.164-169.
- [68] A. Jolfaei, **X.-W. Wu**, and V. Muthukkumarasamy, "A Secure Lightweight Texture Encryption Scheme," *Proceedings of 7th Pacific Rim Symposium on Image and Video Technology (PSIVT)*, Auckland, New Zealand, 23 - 27 November 2015, Lecture Notes in Computer Science Vol. 9555, pp.344-356.
- [69] G.Z. Khan, R. Gonzalez, E.-C. Park, **X.-W. Wu**, "A reliable multicast MAC protocol for Wi-Fi Direct 802.11 networks," *Proceedings of 2015 European Conference on Networks and Communications (EuCNC 2015)*, Paris, France, June 29 - July 2, 2015, pp.224-228.
- [70] B. Zarei, V. Muthukkumarasay, and **X.-W. Wu**, "Residual Channel Coding in Low-Power WSNs Using Minimum Hamming Distance Decoder," *Proceedings of the 2014 International Conference on Advances in Computer and Electronics Technology (ACET 2014)*, Hong Kong, 26-27 August 2014, pp.69-73.

- [71] **X.-W. Wu**, "Dynamic Traitor Tracing with Near Optimal Codes," *Proceedings of the 21st International Symposium on Mathematical Theory of Networks and Systems, (MTNS)*, Groningen, the Netherlands, July 7-11, 2014, pp. 920-922.
- [72] Z. Liu, J. Zumbregel, M. Greferath, **X.-W. Wu**, "Notes on the Pseudoredundancy," *Proceedings of 2014 IEEE International Symposium on Information Theory (ISIT 2014)*, Honolulu, HI, USA, 29 June - 4 July 2014, pp.2789-2793.
- [73] M. Usman, V. Muthukkumarasamy, **X.-W. Wu**, "Formal Verification of Mobile Agent Based Anomaly Detection in Wireless Sensor Networks," *Proceedings of the 8th IEEE Workshop on Network Security*, Sydney, Australia, October 24, 2013, pp. 1029-1037.
- [74] A. Jolfaei, **X.-W. Wu**, and V. Muthukkumarasamy, "On the Feasibility and Performance of Pass-thought Authentication Systems," *Proceedings of the 3013 Fourth International Conference on Emerging Security Technologies (EST-2013)*, Cambridge, UK, September 9-11, 2013, pp.33-38.
- [75] B. Zarei, V. Muthukkumarasay, and **X.-W. Wu**, "A Residual Error Control Scheme in Single-Hop Wireless Sensor Networks," *Proceedings of 27th IEEE International Conference on Advanced Information Networking and Applications (AINA-2013)*, Barcelona, Spain, March 25-28, 2013, pp.197-204.
- [76] **X.-W. Wu**, A. W.-C. Liew, "Near-Optimal Collusion-Secure Fingerprinting Codes for Efficiently Tracing Illegal Re-distribution," presented at the International Symposium on Cyberspace Safety and Security (CSS 2012) (Melbourne, Australia, December 12-13, 2012); published in: *Lecture Notes in Computer Science (LNCS)*, Vol.7672, 2012, pp.352-361.
- [77] X. Ren, **X.-W. Wu**, "A Novel Dynamic User Authentication Scheme," *Proceedings of 2012 International Symposium on Communications and Information Technologies (ISCIT 2012)*, Gold Coast, Australia, 2-5 October 2012, pp.718-722.
- [78] M. Usman, V. Muthukkumarasamy, **X.-W. Wu**, and S. Khanum, "Securing Mobile Agent based Wireless Sensor Network Applications on Middleware," *Proceedings of 2012 International Symposium on Communications and Information Technologies (ISCIT 2012)*, Gold Coast, Australia, 2-5 October 2012, pp.712-717.
- [79] M. Usman, V. Muthukkumarasamy, **X.-W. Wu**, S. Khanum, "Wireless Smart Home Sensor Networks: Mobile Agent based Anomaly Detection," *Proceedings of 9th IEEE International Conference on Ubiquitous Intelligence and Computing (IEEE UIC 2012)*, Fukuoka, Japan, September 04-07, 2012, pp.322-329.
- [80] Z. Liu, **X.-W. Wu**, "On a Class of Three-Weight Codes with Cryptographic Applications," *Proceedings of 2012 IEEE International Symposium on Information Theory*, MIT, Cambridge, USA, 1-6 July 2012, pp.2561-2565.

- [81] X.-B. Liu, S. N. Koh, **X.-W. Wu**, and C.-C. Chui, "Investigation on Scrambler Reconstruction With Minimum A Priori Knowledge," *Proceedings of 2011 IEEE Global Communications Conference (IEEE GLOBECOM 2011)*, Houston, Texas, 5-9 December 2011, pp.1-5.
- [82] L. Zi, J. Yearwood, and **X.-W. Wu**, "Adaptive Clustering with Feature Ranking for DDoS Attacks Detection," *Proceedings of 2010 Fourth International Conference on Network and System Security*, September 1-3, 2010, Melbourne, Australia, pp.281-286.
- [83] **X.-W. Wu**, S.N. Koh, and C.-C. Chui, "Primitive Polynomials for Robust Scramblers and Stream Ciphers Against Reverse Engineering," *Proceedings of 2010 IEEE International Symposium on Information Theory*, Austin, USA, 13 – 18 June 2010, pp. 2473-2477.
- [84] D. Lobo, P. Watters, and **X.-W. Wu**, and L. Sun, "Windows Rootkits: Attacks and Countermeasures," *Proceedings of the 2010 Cybercrime and Trustworthy Computing Workshop*, 19-20th July 2010, Ballarat, Australia, pp. 69-78.
- [85] D. Lobo, P. Watters, and **X.-W. Wu**, "Identifying Rootkit Infections Using Data Mining," *Proceedings of The 2010 International Conference on Information Science and Applications*, (21-23, April 2010, Seoul, Korea), pp. 373-379.
- [86] D. Lobo, P. Watters, and **X.-W. Wu**, "Identification of Multiple Rootkit Infections," *Proceedings of The 2010 International Conference on Communication Software and Networks*, (26 - 28, February 2010, Singapore), pp. 124-128.
- [87] D. Lobo, P. Watters, and **X.-W. Wu**, "RBACS: Rootkit Behavioral Analysis and Classification System," *Proceedings of the 3rd International Conference on Knowledge Discovery and Data Mining*, (8-11, January 2010, Phuket, Thailand), pp. 75-80.
- [88] **X.-W. Wu**, P. Watters, and J. Yearwood, "New Traceability Codes and Identification Algorithm for Tracing Pirates," *Proceedings of 2008 IEEE International Symposium on Parallel and Distributed Processing with Application*, Sydney, Australia, 10 - 12 December 2008, pp.719-724.
- [89] **X.-W. Wu**, "Efficient Traitor-Tracing Algorithms Based on List Decoding," *Proceedings of the 2007 International Conference on Graph Theory and Information Security*, Bandung, Indonesia, 10 - 13 February 2007.
- [90] **X.-W. Wu**, M. Kuijper, and P. Udaya, "On the Decoding Radius of Lee-Metric Decoding of Algebraic-Geometric Codes," *Proceedings of 2005 IEEE International Symposium on Information Theory*, Adelaide, Australia, 5 - 9 September 2005, pp.1191-1195.
- [91] M. Kuijper, **X.-W. Wu**, and P. Udaya, "Behavioral Models over Rings - Minimal Representations and Applications to Coding and Sequences," *Proceedings of the 16th World Congress of International Federation of Automatic Control*, Praha, Czech Republic, July 4-8, 2005, pp.1198-1203.

- [92] **X.-W. Wu**, M. Kuijper, and P. Udaya, "Improved Decoding of Algebraic-Geometric Codes with Respect to the Lee Metric," *Proceedings of 2005 Australian Communications Theory Workshop, Brisbane, Australia, 2-4 February 2005*, pp.111-115.
- [93] **X.-W. Wu**, M. Kuijper, and P. Udaya, "A Class of Algebraic-Geometric Codes for Lee Metric and Their Decoding," *Proceedings of 2004 IEEE International Symposium on Information Theory, Chicago, USA, 27 June - 2 July 2004*, p.77.
- [94] **X.-W. Wu**, M. Kuijper, and P. Udaya, "On Lee-Metric Decoding of Algebraic-Geometric Codes," *Proceedings of 2004 Australian Communications Theory Workshop, Newcastle, Australia, 4-6 February 2004*, pp.82-85.
- [95] P. Udaya, **X.-W. Wu**, and M. Kuijper, "List Lee-Metric Decoding Algorithm for Generalized Reed-Solomon Codes over Commutative Rings with Identity," *Proceedings of 10th Conference on Communications of India, Bangalore, India, 30 January - 1 February 2004*, pp. 244-248.
- [96] **X.-W. Wu**, M. Kuijper, and P. Udaya, "A Lee-Metric Decoding Algorithm for Reed-Solomon Codes over  $GF(p)$ ," *Proceedings of 7th International Symposium on Digital Signal Processing and Communication Systems, Gold Coast, Australia, 8-11 December 2003*, pp.26-31.
- [97] **X.-W. Wu**, "An Algorithm for Finding the Roots of the Polynomials over Order Domains," *Proceedings of 2002 IEEE International Symposium on Information Theory, Lausanne, Switzerland, June 2002*, p.202.
- [98] **X.-W. Wu**, P. H. Siegel, "Fast Computation of Roots of Polynomials over Function Fields and Fast List Decoding of Algebraic Geometric Codes," *Proceedings of 2000 IEEE International Symposium on Information Theory, Sorrento, Italy, June 2000*, p.478.
- [99] G.L. Feng, **X.-W. Wu**, and T.R.N. Rao, "New DbEC-TbED Codes Better Than the Gilbert-Varshamov Existence Bound," *Proceedings of 2000 IEEE International Symposium on Information Theory, Sorrento, Italy, June 2000*, p.32.
- [100] G.L. Feng, **X.-W. Wu**, and T.R.N. Rao, "On the Missing Functions of the Hermitian-like Codes over  $GF(22)$ ," *Proceedings of 1998 IEEE International Symposium on Information Theory, MIT, USA, August 1998*, p.379.
- [101] G.L. Feng, **X.-W. Wu**, and T.R.N. Rao, "New Double-Byte Error-Correcting Codes for Memory Systems," *Proceedings of 1997 IEEE International Symposium on Information Theory, Ulm, Germany, June 1997*, p.222.
- [102] **X.-W. Wu**, G.L. Feng, and T.R.N. Rao, "The Weight Hierarchies and Chain Condition of a Class of Codes from Varieties over Finite Fields," *Proceedings of 34th Annual Allerton Conference on Communication, Control and Computing, (Monticello, Illinois, USA, October 1996*, pp.286-293).



- [103] **X.-W. Wu**, Z.-X. Wan, "The Weight Spectra of the Projective Codes from Degenerate Quadrics," *Proceedings of 1st International Symposium of China-Japan on Algebraic Combinatorics*, Beijing, October 1994, pp.83-85.

## Recent Talks at Prestigious Conferences

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- Presentation title: An Efficient Security Scheme for the Internet of Things with Resource-Constrained Devices, presented at the conference: *The 10<sup>th</sup> IEEE Annual Ubiquitous Computing, Electronics and Mobile Communication Conference (IEEE UEMCON 2019)*, Columbia University, New York, USA, October 12, 2019.
- Title: Information-Theoretically Secure Key Generation and Management, presented at the conference: *The 2017 IEEE International Symposium on Information Theory (ISIT 2017)*, Aachen, Germany, June 27, 2017.
- Invited Talk: Lightweight Security Protocols for the Internet of Things, presented at the conference: *The 28th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (IEEE PIMRC 2017)*, Montreal, Canada, October 10, 2017.
- Title: Dynamic Traitor Tracing with Near Optimal Codes, presented at the conference: *The 21st International Symposium on Mathematical Theory of Networks and Systems, (MTNS 2014)*, Groningen, The Netherlands, July 9, 2014.
- Title: On a Class of Three-Weight Codes with Cryptographic Applications, presented at the conference: *The 2012 IEEE International Symposium on Information Theory (ISIT 2012)*, MIT, Cambridge, USA, July 5, 2012.
- Title: Near-Optimal Collusion-Secure Fingerprinting Codes for Efficiently Tracing Illegal Redistribution, presented at the conference: *The 2012 International Symposium on Cyberspace Safety and Security (CSS 2012)*, Melbourne, Australia, December 12, 2012.
- Title: Adaptive Clustering with Feature Ranking for DDoS Attacks Detection, presented at the conference: *The 2010 Fourth International Conference on Network and System Security (NSS 2010)*, Melbourne, Australia, September 3, 2010.
- Title: New Traceability Codes and Identification Algorithm for Tracing Pirates, presented at the conference: *The 2008 IEEE International Symposium on Parallel and Distributed Processing with Application*, Sydney, Australia, December 10, 2008.

- Title: On the Decoding Radius of Lee-Metric Decoding of Algebraic-Geometric Codes, presented at the conference: *The 2005 IEEE International Symposium on Information Theory (ISIT 2005)*, Adelaide, Australia, September 8, 2005.
- Title: Improved Decoding of Algebraic-Geometric Codes with Respect to the Lee Metric, presented at the conference: *The 2005 Australian Communications Theory Workshop*, Brisbane, Australia, February 3, 2005.
- Title: On Lee-Metric Decoding of Algebraic-Geometric Codes, presented at the conference: *The 2004 Australian Communications Theory Workshop*, Newcastle, Australia, February 5, 2004.
- Title: A Lee-Metric Decoding Algorithm for Reed-Solomon Codes over  $GF(p)$ , presented at the conference: *The 7th International Symposium on Digital Signal Processing and Communication Systems*, Gold Coast, Australia, December 9, 2003.
- Title: An Algorithm for Finding the Roots of the Polynomials over Order Domains, presented at the conference: *The 2002 IEEE International Symposium on Information Theory (ISIT 2002)*, Lausanne, Switzerland, July 1, 2002.
- Title: Fast Computation of Roots of Polynomials over Function Fields and Fast List Decoding of Algebraic Geometric Codes, presented at the conference: *The 2000 IEEE International Symposium on Information Theory (ISIT 2000)*, Sorrento, Italy, June 26, 2000.

## **Supervision of Research Students**

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- Completed Ph.D. students and theses
  - Alireza Jolfaei (December 2012 – December 2015)  
Thesis: *“Robust encryption schemes for 3D content protection”*
  - Kamanashis Biswas (July 2012 – December 2015)  
Thesis: *“Energy efficient secure routing in wireless sensor networks”*
  - Anisur Rahman (July 2012 – December 2015)  
Thesis, *“Localization of submerged sensors using a single mobile beacon”*
  - Muhammad Usman (January 2012 – July 2015)  
Thesis: *“Design and analysis of mobile agent-enabled anomaly detection and verification in wireless sensor networks”*
  - Desmond Lobo (July 2007 – June 2010)  
Thesis: *“Rapid identification of rootkit infections using data mining”*
- Completed M.Sc. and Honors students
  - Lifang Zi (January 2009 – June 2010), M.Sc. program

Thesis: *“An incremental cluster construction approach with adaptive feature selection for DDoS attack detection”*

Shahil Jagunundan (January 2012 – December 2012), Honors program

Thesis: *“An analysis of stream ciphers for smart card security”*

Xiancai Qiu (January 2009 – December 2009), Honors program

Thesis: *“Comparative studies of core security technologies for digital rights management”*

- Supervision of visiting scholars

Guangsong Yang, (from Jimei University, China), November 2017 – November 2018

Research Projects: *“The Internet of Things (IoT), applications and security”*

Yongli An, (from North China University of Science and Technology), May – July 2018

Research Projects: *“Emerging Security Threats for 5G Communication Systems”*

## **Professional Service and Leadership**

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- **University Service**

- Member for the
  - Graduate Committee,
  - Scholarship Committee,
  - Computer Science Curriculum Committee,
  - Institute for Cyber Security Steering Committee,
  - IUP Cybersecurity Industry Advisory Board,Indiana University of Pennsylvania (IUP), September 2018 – 2021
- Director of Program of Master of Information Technology, Jan. 2014 – Aug. 2018
- Acting Director of Program of Master of Cyber Security (Online), Jan. – Aug. 2018
- Griffith ICT School Learning and Teaching Committee member, Jan. 2014 – Dec. 2017
- Griffith Sciences Faculty Promotion Committee member, Jan. 2016 – Dec. 2017
- Griffith Honors College mentor, Jan. 2014 – Aug. 2018
- Griffith ICT School Committee member, Jan. 2014 – Dec. 2017
- Griffith ICT School International Student Coordinator, July 2013 – Dec. 2016
- Griffith ICT School First Year Coordinator, Jan. 2012 - June 2013
- Student Grievance Officer, University of Ballarat, Jan. 2007 – Mar. 2010
- Coordinator for Seminars and Colloquia, School of Information Technology and Mathematical Sciences, University of Ballarat, Jan. 2008 – Ma. 2010
- Member of Programs Committee, School of Information Technology and Mathematical Sciences, University of Ballarat, Jan. 2007 – Mar. 2010.
- Chairperson of Examiners for Ph.D. theses of the following students:

Jiang Li, 2011  
Srikanta Pal, 2014  
Vitor Bottazzi, 2015  
Nabin Sharma, 2015  
Rituraj Kunwar, 2016  
Tien Thanh Nguyen, 2017  
Rupam Deb, 2017  
Abhijit Das, 2017

- **Editor / Reviewer**

- Editor, Special issue of Designs, Codes and Cryptography (Springer), 2019
- Reviewer for the Swiss National Science Foundation, 2019
- IEEE Transactions on Information Forensics and Security
- IEEE Transactions on Information Theory
- IEEE Transactions on Dependable and Secure Computing
- IEEE Transactions on Parallel and Distributed Systems
- IEEE Transactions on Communications
- IEEE Transactions on Computers
- IEEE Transactions on Fuzzy Systems
- IEEE Transactions on Wireless Communications
- IEEE Transactions on Industrial Informatics
- IEEE Wireless Communications Magazine
- IEEE Access
- Designs, Codes and Cryptography (Springer)
- Cryptography and Communications (Springer)
- Applicable Algebra in Engineering, Communication and Computing (Springer)
- Discrete Mathematics (Elsevier)
- Linear Algebra and Its Application (Elsevier)
- International Journal of Information and Computer Security
- Science in China
- Journal of Research and Practice in Information Technology

- **Conference Technical Program Committee Member (Advisory Committee Member)**

- TPC Member for *the 2023 International Conference on Computing, Networking and Communications: Communications and Information Security Symposium (ICNC'23 CIS)*, Honolulu, Hawaii, USA, during February 20-22, 2023.
- TPC Member for *the 31<sup>st</sup> International Conference on Computer Communications and Networks (ICCCN 2022)*, July 25 - July 28, 2022, Virtual Conference.

- TPC Member for *the 2022 IEEE International Conference on Internet of Things and Intelligence System (IoTaIS 2022)*, November 24-26, 2022, Bali, Indonesia.
- TPC Member for *the 2022 IEEE Asia Pacific Conference on Wireless and Mobile (APWiMob'2022)*.
- TPC Member for 2010 IEEE International Conference on Communications - Communication and Information Systems Security Symposium (IEEE ICC-CISS 2021), Montreal, Canada, 14 - 18 June 2021.
- TPC Member for *the International Conference on Security and Privacy in Digital Economy (SPDE 2020)*, Quzhou, Zhejiang, China, Oct. 30 - Nov. 1, 2020
- TPC Member for *the 11th International Workshop on Collaborative Computing with Cloud and Client (C4W 2020)*, Guangzhou, China, November 10-13, 2020
- TPC Member for *the 29th International Conference on Computer Communications and Networks (ICCCN 2020)*, Aug. 3 - 6, 2020, Honolulu, Hawaii, USA
- TPC Member for *the 5th International Conference on Dependability in Sensor, Cloud, and Big Data Systems and Applications*, Guangzhou, China, Nov. 12-15, 2019.
- TPC Member for *SDLT 2019 - the 4th Symposium on Distributed Ledger Technology*, Dec. 10, 2019, Brisbane, Australia
- TPC Member for *SDLT 2018 - The 3rd Symposium on Distributed Ledger Technology*, Nov. 12, 2018, Gold Coast, Australia
- TPC Member for *the 2018 International Conference on Computing, Networking and Communications - Communications and Information Security Symposium (ICNC-CIS 2018)*, March 5-8, 2018, Maui, Hawaii, USA
- **Advisory Committee Member** for the International Conference on Computational Science and Applications (ICCSA), Aug. 7-9, 2019, Pune, India
- TPC Member for *the IEEE Asia Pacific Conference on Wireless and Mobile (APWiMob)*, Nov. 5-7, 2019 Bali, Indonesia
- TPC Member for IEEE International Conference on Communications - Communication and Information Systems Security Symposium (IEEE ICC-CISS), 2014, 2015, 2016, 2017, and 2018
- TPC Member for International Conference on Computing, Networking and Communications - Communications and Information Security Symposium (ICNC-CIS), 2014, 2015, 2016, 2017, and 2018
- TPC Member for IEEE International Conference on Communications - Signal Processing for Communications Symposium (IEEE ICC-SPC), 2014, and 2018
- TPC Member for International Conference on Recent Advances in Signal Processing, Telecommunications & Computing (SigTelCom), 2018
- TPC Member for Australasian Information Security Conference (AISC), 2008, 2017, and 2018
- TPC Member for Australasian Computer Science Week Conference (ACSW), 2017, 2018
- TPC Member for International Conference on Control, Electronics, Renewable Energy, and Communications (ICCEREC), 2017

- TPC Member for IEEE International Conference on Communication, Networks and Satellite (COMNETSAT), 2016
- TPC Member for IEEE Global Communication Conference (IEEE Globecom) - Communication and Information Systems Security Symposium, 2014, and 2015
- TPC Member for Pacific Rim Symposium on Image and Video Technology - Video Surveillance Workshop (PSIVT-VSWS), 2015
- **Examiner for external theses**
  - Anna University, India (Ph.D. thesis of Sahaya Beni Prathiba B), 2022
  - Indiana University of Pennsylvania (Master thesis of Philip Okoth), 2021
  - Anna University, India (Ph.D. thesis of Varun Kumar K A), 2020
  - University of Southern Queensland (Ph.D. thesis of Pan Gao), 2017
  - VIT University, India (Ph.D. thesis of I. Sumaiya Thaseen), 2017
  - Harbin Institute of Technology, China (Master thesis of Wanjun Zhao), 2015
  - Federation University, Australia (Master thesis of Srikanth Subburaj), 2014
  - Deakin University, Australia (Master thesis of Veelasha Moonsamy), 2011