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Research Interests

Applied Cryptography, Multimedia Security, Multimedia Forensics, and AI Security;

Nonlinear Dynamics

Research Experience

2024/01 - present	**Professor, School of Computer Science and Technology, Harbin Institute of Technology, Shenzhen** (A Top University in China)
2018/03 - 2023/12	Associate Professor, School of Computer Science and Technology, Harbin Institute of Technology, Shenzhen
2016/11 - 2018/03	Assistant Professor, School of Computer Science and Technology, Harbin Institute of Technology, Shenzhen
2010/10 - 2011/04	Research Intern, Hewlett-Packard Company

Honours and Recognitions

- **2024 Highly Cited Researcher (6,886 researchers all over the world)**
- **2023 Highly Cited Researcher (6,849 researchers all over the world)**
- **2022 Highly Cited Researcher (6,938 researchers all over the world)**
- **Twenty-one Highly Cited Papers in the ISI database**

Academic Qualifications

2013/09 - 2016/08	**Ph. D.** in Software Engineering, University of Macau, Macau
2011/08 - 2013/08	**M. S.** in Software Engineering, University of Macau, Macau
2007/09 - 2011/06	**B. S.** in Software Engineering, Chongqing University, China

Academic Service Experience

2024-present	**Associate Editor,**	**IEEE Signal Processing Letters**
2022-present	**Associate Editor,**	**International Journal of Bifurcation and Chaos**
2020-present	**Editorial Board,**	**China Computer Science Review (A Chinese Journal)**
2021	**Special Issue Editor,**	**“Cyber Security and AI” in Sensors**
2022	**Special Issue Editor,**	**“Mathematical Methods for Computer Science” in Mathematics**
2020/10/30-11/01	**2020 International Conference on Security and Privacy in Digital Economy, Section Chair**	
2018/10/7 - 10/10	**2018 IEEE International Conference on SMC, Special Section Chair**	
2023- present	**IEEE Senior Member**	

Selected Publications

Google Scholar: https://scholar.google.com/citations?user=Sl0BI_IAAAAJ&hl Citations: 8329. H-index: 39

Applied Cryptography:

1. Mingyang Song, **Zhongyun Hua***, Yifeng Zheng, Tao Xiang, Guoai Xu, Xingliang Yuan，"Assuring Certified Database Utility in Privacy-Preserving Database Fingerprinting", ***Proc. of the 34th USENIX Security Symposium (USENIX Security)***, accepted, 2025. (**Big Four**)
2. Shuangqing Xu, Yifeng Zheng*, **Zhongyun Hua***，“Camel: Communication-Efficient and Maliciously Secure Federated Learning in the Shuffle Model of Differential Privacy”, ***Proc. of the ACM Conference on Computer and Communications Security (ACM CCS)***, pp. 243–257, 2024. (**Big Four**)

3. Mingyang Song, **Zhongyun Hua***, Yifeng Zheng, Tao Xiang, and Xiaohua Jia, "SimLESS: A Secure Deduplication System over Similar Data in Cloud Media Sharing", ***IEEE Transactions on Information Forensics and Security***, vol. 19, pp. 4700-4715, 2024
4. **Zhongyun Hua**, Yan, Tong, Yifeng Zheng*, Yuhong Li, and Yushu Zhang, "PPGloVe: Privacy-Preserving GloVe for Training Word Vectors in the Dark", ***IEEE Transactions on Information Forensics and Security***, vol. 19, pp. 3644-3658, 2024
5. **Zhongyun Hua**, Yufei, Yao, Mingyang Song, Yifeng Zheng*, Yushu Zhang, and Cong Wang, "Blockchain-Assisted Secure Deduplication for Large-Scale Cloud Storage Service", ***IEEE Transactions on Services Computing***, vol. 17, no. 3, pp. 821-835, 2024.
6. Weibo Wang, Yifeng Zheng*, Songlei Wanga, **Zhongyun Hua**, Lei Xub, and Yansong Gao, "BopSkyline: Boosting Privacy-Preserving Skyline Query Service in the Cloud", ***Computer & Security***, vol. 140, article no. 103803, 2024
7. Yifeng Zheng, Weibo Wang, Songlei Wang, **Zhongyun Hua***, and Yansong Gao, "ObliuSky: Oblivious User-Defined Skyline Query Processing in the Cloud", ***IEEE Transactions on Services Computing***, accepted, 2024.
8. Yifeng Zheng*, Tianchen Xiong, Huajie Ouyang, Songlei Wang, **Zhongyun Hua**, Yansong Gao，"SARA: A Sparsity-Aware Efficient Oblivious Aggregation Service for Federated Matrix Factorization", ***Proc. of International Conference on Web Information Systems Engineering***, 2025.
9. Bo Fang, Zhongyun Hua, Hejiao Huang, "Locality-Sensitive Hashing Scheme Based on Heap Sort of Hash Bucket," in 2019 14th International Conference on Computer Science & Education (ICCSE), 5-10, Toronto, Canada, 2019.08.19-2019.08-21.
10. 佟岩, 花忠云*, 廖清, 张玉书, "基于秘密共享的安全命名实体识别推理方法", ***网络与信息安全学报***, accepted, 2024.
11. Yifeng Zheng, Menglun Zhou, Songlei Wang, **Zhongyun Hua***, Jinghua Jiang, and Yansong Gao, "Privacy-Preserving Competitive Detour Tasking in Spatial Crowdsourcing", ***IEEE Transactions on Services Computing***, accepted, 2024.
12. Mingyang Song, **Zhongyun Hua***, Yifeng Zheng, Tao Xiang, and Xiaohua Jia, "Enabling Transparent Deduplication and Auditing for Encrypted Data in Cloud", ***IEEE Transactions on Dependable and Secure Computing***, in press, 2023.
13. Mingyang Song, **Zhongyun Hua***, Yifeng Zheng, Hejiaog Huang, Xiaohua Jia, "LSDedup: Layered Secure Deduplication for Cloud Storage", ***IEEE Transactions on Computers***, vol. 73, no. 2, pp. 422-435, 2024
14. Mingyang Song, **Zhongyun Hua***, Yifeng Zheng, Tao Xiang, Xiaohua Jia, "FCDedup: A Two-Level Deduplication System for Encrypted Data in Fog Computing", ***IEEE Transactions on Parallel and Distributed Systems***, vol. 34, no. 10, pp. 2642-2656, 2023.
15. Yifeng Zheng, Shuangqing Xu, Songlei Wang, Yansong Gao, **Zhongyun Hua***, "Privet: A Privacy-Preserving Vertical Federated Learning Service for Gradient Boosted Decision Tables", ***IEEE Transactions on Services Computing***, vol. 16, no. 5, pp. 3604-3620, 2023.
16. Menglun Zhou, Yifeng Zheng*, Songlei Wang, **Zhongyun Hua**, Hejiao Huang, Yansong Gao, Xiaohua Jia, "PPTA: A location privacy-preserving and flexible task assignment service for spatial crowdsourcing", ***Computer Networks***, vol. 224, pp. 109600, 2023.
17. **Zhongyun Hua***, Yanxiang Wang, Shuang Yi, Yifeng Zheng, Xingyu Liu, Yongyong Chen, Xinpeng Zhang, "Matrix-Based Secret Sharing for Reversible Data Hiding in Encrypted Images", ***IEEE Transactions on Dependable and Secure Computing***, vol. 20, no. 5, pp. 3669-3686, 2023.
18. Xingyu Liu, **Zhongyun Hua***, Shuang Yi, Yushu Zhang, Yicong Zhou, "Bi-directional Block Encoding for Reversible Data Hiding over Encrypted Images", ***ACM Transactions on Multimedia Computing, Communications, and Applications***, vol. 20, no. 5, article no. 149, 2024.
19. **Zhongyun Hua**, Xingyu Liu, Yifeng Zheng, Shuang Yi*, Yushu Zhang, "Reversible Data Hiding over Encrypted Images via Preprocessing-Free Matrix Secret Sharing", ***IEEE Transactions on Circuits and Systems for Video Technology***, vol. 34, no. 3, pp. 1799-1814, 2024.
20. **Zhongyun Hua**, Ziyi Wang, Yifeng Zheng, Yongyong Chen, Yuanman Li*, "Enabling Large-Capacity Reversible Data Hiding over Encrypted JPEG Bitstreams", ***IEEE Transactions on Circuits and Systems for Video Technology***, vol. 33, no. 3, pp. 1003–1018, 2023.

21. Mingyang Song, **Zhongyun Hua***, Yifeng Zheng, Hejiao Huang, Xiaohua Jia, "Blockchain-Based Deduplication and Integrity Auditing over Encrypted Cloud Storage", ***IEEE Transactions on Dependable and Secure Computing***, vol. 20, no. 6, pp. 4928-4945, 2023
22. **Zhongyun Hua**, Yanxiang Wang, Shuang Yi*, Yicong Zhou, Xiaohua Jia, "Reversible Data Hiding in Encrypted Images Using Cipher-Feedback Secret Sharing", ***IEEE Transactions on Circuits and Systems for Video Technology***, vol. 32, no. 8, pp. 4968–4982, 2022
23. 李忠文, 丁烨, **花忠云**, 李君一, 廖清*, "结合三元组重要性的知识图谱补全模型", 计算机科学, 2020
24. Shuang Yi, Yicong Zhou, **Zhongyun Hua***, "Reversible data hiding in encrypted images using adaptive block-level prediction-error expansion", ***Signal Processing: Image Communication***, vol. 64, pp. 78-88, 2018.

Multimedia Security, Multimedia Forensics, and AI Security:

25. Yushu Zhang, Yuanyuan Sun, Shuren Qi, **Zhongyun Hua**, Wenying Wen, Yuming Fang, "Atkscopes: Multiresolution Adversarial Perturbation as a Unified Attack on Perceptual Hashing and Beyond", ***Proc. of The 34th USENIX Security Symposium (USENIX Security)***, Accept on shepherd approval, 2025. (**Big Four**)
26. Ruoyu Zhao, Yushu Zhang, Rushi Lan, Shuang Yi, Zhongyun Hua, and Jian Weng, "All Roads Lead to Rome: Achieving 3D Object Encryption through 2D Image Encryption Methods", ***IEEE Transactions on Image Processing***, in press, 2025.
27. Kuiyuan Zhang, **Zhongyun Hua***, Rushi Lan, Yifang Guo, Yushu Zhang, Guoai Xu，"Multi-View Collaborative Learning Network for Speech Deepfake Detection", ***Proc. of Thirty-Ninth AAAI Conference on Artificial Intelligence (AAAI)***, 2025.
28. Kuiyuan Zhang, **Zhongyun Hua***, Rushi Lan, Yushu Zhang, Yifang Guo， "Phoneme-Level Feature Discrepancies: A Key to Detecting Sophisticated Speech Deepfakes", ***Proc. of Thirty-Ninth AAAI Conference on Artificial Intelligence (AAAI)***, 2025.
29. Kuiyuan Zhang, **Zhongyun Hua***, Yushu Zhang, Yifang Guo, and Tao Xiang, "Robust AI-Synthesized Speech Detection Using Feature Decomposition Learning and Synthesizer Feature Augmentation", ***IEEE Transactions on Information Forensics and Security***, in press, 2024.
30. Yuhang Zhou, Yushu Zhang, Leo Yu Zhang, **Zhongyun Hua***， "DERD: Data-free Adversarial Robustness Distillation through Self-adversarial Teacher Group", ***Proc. of The 32nd ACM International Conference on Multimedia (ACM MM)***, 2024.
31. Zixuan Yang, Yushu Zhang*, Tao Wang, **Zhongyun Hua**, Zhihua Xia, Jian Weng， "Once-for-all: Efficient Visual Face Privacy Protection via Person-specific Veils", ***Proc. of The 32nd ACM International Conference on Multimedia (ACM MM)***, 2024.
32. Linshan Hou, Ruili Feng, **Zhongyun Hua***, Wei Luo, Leo Yu Zhang, Yiming Li*，"IBD-PSC: Input-level Backdoor Detection via Parameter-oriented Scaling Consistency"，***Proc. of Forty-first International Conference on Machine Learning (ICML)***, 2024.
33. Yuhang Zhou, **Zhongyun Hua***, "Continual Adversarial Defense with Anisotropic & Isotropic Pseudo Replay", ***Proc. of IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR)***, 2024.
34. Qiuyu Duan, **Zhongyun Hua***, Qing Liao, Yushu Zhang, LEO Yu Zhang, "Conditional Backdoor Attack via JPEG Compression", ***Proc. of Thirty-Eighth AAAI Conference on Artificial Intelligence (AAAI)***, 2024.
35. Enji Liang, Kuiyuan Zhang, **Zhongyun Hua***, and Xiaohua Jia, "Multi-Scale Feature Attention Fusion for Image Splicing Forgery Detection", ***ACM Transactions on Multimedia Computing, Communications, and Applications,*** in press, 2024.
36. 段秋宇, 候琳珊, 花忠云*, 廖清, 张玉书, 张瑜, "基于模型操作的单参数后门攻击", ***网络与信息安全学报***, accepted, 2024.
37. Kuiyuan Zhang, Zeming Hou, **Zhongyun Hua***, Yifeng Zheng, and Leo Yu Zhang, "Boosting Deepfake Detection Generalizability via Expansive Learning and Confidence Judgement", ***IEEE Transactions on Circuits and Systems for Video Technology***, in press, 2024.
38. Xiangli Xiao, Yushu Zhang*, Leo Yu Zhang, **Zhongyun Hua**, Zhe Liu, Jiwu Huang, "FairCMS: Cloud Media Sharing with Fair Copyright Protection", ***IEEE Transactions on Computational Social Systems***, in press, 2024.

39. Tao Wang, Yushu Zhang*, Zixuan Yang, Xiangli Xiao, Hua Zhang, **Zhongyun Hua**, "MSeeing is not believing: An identity hider for human vision privacy protection", ***IEEE Transactions on Biometrics, Behavior, and Identity Science***, in press, 2024.
40. Linshan Hou, **Zhongyun Hua***, Yuhong Li, Yifeng Zheng, and Leo Yu Zhang, "M-to-N Backdoor Paradigm: A Multi-Trigger and Multi-Target Attack to Deep Learning Models", ***IEEE Transactions on Circuits and Systems for Video Technology***, in press, 2024.
41. Yuanman Li, Lanhao Ye, Haokun Cao, Wei Wang, **Zhongyun Hua***, "Cascaded Adaptive Graph Representation Learning for lmage Copy-Move Forgery Detection", ***ACM Transactions on Multimedia Computing, Communications, and Applications***, in press, 2024.
42. Xiangli Xiao, Yushu Zhang*, **Zhongyun Hua**, Zhihua Xia, Jian Weng, "Client-Side Embedding of Screen-Shooting Resilient Image Watermarking", ***IEEE Transactions on Information Forensics and Security***, vol. 19, pp. 5357-5372, 2024.
43. Kuiyuan Zhang, **Zhongyun Hua***, Yuanman Li, Yushu Zhang, Yicong Zhou, "Uformer-ICS: A U-Shaped Transformer for Image Compressive Sensing Service", ***IEEE Transactions on Services Computing***, in press, 2023
44. Xiangli Xiao, Yushu Zhang*, Leo Yu Zhang, **Zhongyun Hua**, Zhe Liu, Jiwu Huang, "FairCMS: Cloud Media Sharing with Fair Copyright Protection", ***IEEE Transactions on Computational Social Systems***, in press, 2024.
45. Yushu Zhang, Nuo Chen, Shuren Qi*, Mingfu Xue, **ZhongyuHua**, "Detection of Recolored Image by Texture Features in Chrominance Components", ***ACM Transactions on Multimedia Computing, Communications and Applications***, vol. 19, no. 3, article no. 121, 2023.
46. Xuanqi Zhang, Qiangqiang Shen, Yongyong Chen∗, **Zhongyun Hua**, Jingyong Su, "Multi-View Ensemble Clustering via Low-Rank and Sparse Decomposition: from Matrix to Tensor", ***ACM Transactions on Knowledge Discovery from Data***, vol. 17, no. 7, article no. 103, 2023
47. Yongyong Chen, Lei Cheng, **Zhongyun Hua***, Shuang Yi, "Laplacian Regularized Deep Low-Rank Subspace Clustering Network", ***Applied Intelligence***, vol. 53, pp. 22282-22296, 2023.
48. Kuiyuan Zhang, **Zhongyun Hua***, Yuanman Li, Yongyong Chen, Yicong Zhou, "AMS-Net: Adaptive Multi-Scale Network for Image Compressive Sensing" ***IEEE Transactions on Multimedia,*** vol. 25, pp. 5676-5689, 2023.
49. **Zhongyun Hua***, Kuiyuan Zhang, Yuanman Li, Yicong Zhou, "Visually secure image encryption using adaptive-thresholding sparsification and parallel compressive sensing", ***Signal Processing***, vol. 183, 107998, 2021.
50. **Zhongyun Hua**, Shuang Yi, Yicong Zhou*, "Medical image encryption using high-speed scrambling and pixel adaptive diffusion", S***ignal Processing***, vol. 144, pp. 134-144, 2018. **[ESI 1% Highly Cited Paper]**
51. Ruoyu Zhao, Yushu Zhang, Rushi Lan, **Zhongyun Hua**, Yong Xiang, "Heterogeneous and Customized Cost-Efficient Reversible Image Degradation for Green IoT", ***IEEE Internet of Things Journal***, vol. 10, no. 3, pp. 2630-2645, 2023.
52. Yushu Zhang, Zhibin Fu, Shuren Qi, Mingfu Xue, Zhongyun Hua, Yong Xiang, "Localization of Inpainting Forgery With Feature Enhancement Network", ***IEEE Transactions on Big Data,*** vol. 9, no. 3, pp. 936-948, 2023.
53. **Zhongyun Hua**, Jiaxin Li, Yuanman Li, Yongyong Chen*, "Image Encryption Using Value-Differencing Transformation and Modified ZigZag Transformation", ***Nonlinear Dynamics,*** vol. 106, pp. 3583-3599, 2021. **[ESI 1% Highly Cited Paper]**
54. **Zhongyun Hua***, Jiaxin Li, Yongyong Chen, Shuang Yi, "Design and application of an S-box using complete Latin square", ***Nonlinear Dynamics***, vol. 216, pp. 807-825, 2021.
55. Yongyong Chen, Shuqin Wang, Xiaolin Xiao, Youfa Liu*, **Zhongyun Hua***, Yicong Zhou, "Self-paced Enhanced Low-rank Tensor Kernelized Multi-view Subspace Clustering", ***IEEE Transactions on Multimedia***, vol. 24, pp. 4054-4066, 2022.
56. Yongyong Chen, Xiaolin Xiao, **Zhongyun Hua**, and Yicong Zhou*, "Adaptive Transition Probability Matrix Learning for Multi-view Spectral Clustering", ***IEEE Transactions on Neural Networks and Learning Systems***, vol. 33, no. 9, pp. 4612-4726, 2022.
57. Yuchao Su, Jie Du, Yuanman Li, Xia Li, Rongqin Liang, **Zhongyun Hua**, Jiantao Zhou, "Trajectory Forecasting Based on Prior-Aware Directed Graph Convolutional Neural Network", ***IEEE Transactions on Intelligent Transportation Systems***, vol. 23, no. 9, pp. 16773-16785, 2022.

58. Jie Zhao, Hejiao Huang*****, Chonglin Gu, Zhongyun Hua, Xiaojun Zhang, "Blockchain-Assisted Conditional Anonymity Privacy-Preserving Public Auditing Scheme with Reward Mechanism", ***IEEE Systems Journal***, vol. 16, no. 3, pp. 4477-4488, 2022.

59. **Zhongyun Hua**, Binxuan Xu, Fan Jin, Hejiao Huang, "Image Encryption Using Josephus Problem and Filtering Diffusion", ***IEEE Access***, vol. 7, pp. 8660-8674, 2019.

60. **Zhongyun Hua,** Yicong Zhou*****, "Design of image cipher using block-based scrambling and image filtering," ***Information Sciences***, vol. 396, pp. 97–113, 2017.

61. Yongyong Chen, Shuqin Wang, Chong Peng, **Zhongyun Hua***, and Yicong Zhou, "Generalized Nonconvex Low-Rank Tensor Approximation for Multi-View Subspace Clustering", ***IEEE Transactions on Image Processing***, vol. 30, pp. 4022-4035, 2021.

62. Xiaolin Xiao, Yuejiao Gong*****, **Zhongyun Hua***, Weineng Chen, "On Reliable Multi-View Affinity Learning for Subspace Clustering", ***IEEE Transactions on Multimedia***, vol. 23, pp. 4555-4566, 2021.

63. Zeming Hou, Zhongyun Hua*, Kuiyuan Zhang, Yushu Zhang, "CDNet: Cluster Decision for Deepfake Detection Generalization" in 2023 IEEE International Conference on Image Processing (ICIP), 2023.

64. Jinhao Cui, Heyan Chai, Yanbin Gong, Ye Ding, Zhongyun Hua, Cuiyun Gao, Qing Liao, "MocGCL: Molecular Graph Contrastive Learning via Negative Selection", 2023 International Joint Conference on Neural Networks (IJCNN)

65. Zhibin Zheng, Zhongyun Hua, Leo Yu Zhang, "Detecting and Mitigating Backdoor Attacks with Dynamic and Invisible Triggers" in The 29th International Conference on Neural Information Processing (ICONIP 2022), IIT Indore, India, November 22-26, 2022.

66. Lei Chen, Yongyong Chen, Zhongyun Hua, "Deep Contrastive Multi-view Subspace Clustering" in The 29th International Conference on Neural Information Processing (ICONIP 2022), IIT Indore, India, November 22-26, 2022.

67. Jiaxiang You, Yuanman Li, Jiantao Zhou, Zhongyun Hua, Weiwei Sun, Xia Li, "A Transformer based Approach for Image Manipulation Chain Detection" in The 29th ACM International Conference on Multimedia (ACMMM), Chengdu, China, October, 20-24 2021.

68. Shuang Yi and Juan Zhou and Zhongyun Hua and Yong Xiang, "Reversible data hiding method in encrypted images using secret sharing and Huffman coding," in 2021 11th International Conference on Information Science and Technology (ICIST), Sichuan, China, 2021.05.21-2021.05.23.

69. **Zhongyun Hua***, Zhihua Zhu, Shuang Yi, Zheng Zhang, Hejiao Huang, "Cross-plane colour image encryption using a two-dimensional logistic tent modular map", ***Information Sciences***, vol. 546, pp. 1063-1083, 2021. **[ESI 1% Highly Cited Paper]**

70. **Zhongyun Hua***, Zhihua Zhu, Yongyong Chen, and Yuanman Li, "Color image encryption using orthogonal Latin squares and a new 2D chaotic system", ***Nonlinear Dynamics***, vol. 104, no. 4, 4505-4522, 2021. **[ESI 1% Highly Cited Paper]**

71. Han Bao, **Zhongyun Hua**, Wenbo Liu and Bocheng Bao*****, "Discrete memristive neuron model and its interspike interval-encoded application in image encryption", ***Science China Technological Sciences***, vol. 64, pp. 2281-2291, 2021.

72. **Zhongyun Hua**, Fan Jin, Binxuan Xu, Hejiao Huang*****, "2D Logistic-Sine-Coupling Map for Image Encryption", ***Signal Processing***, vol. 149, pp. 148-161, 2018. **[Most Cited in SIGPRO] [Most downloaded in SIGPRO] [ESI 1% Highly Cited Paper]**

73. Yicong Zhou*****, **Zhongyun Hua**, Chi-Man Pun, C. L. Philip Chen, "Cascade chaotic system with applications," ***IEEE Transactions on Cybernetics***, vol. 45, no. 9, pp. 2001-2012, 2015.

74. **Zhongyun Hua**, Yicong Zhou*****, "Image encryption using 2D Logistic-adjusted-Sine map," ***Information Sciences***, vol. 339, pp. 237–253, 2016. **[Most Cited in INS] [ESI 1% Highly Cited Paper]**

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76. Hang Cai, **Zhongyun Hua**, Hejiao Huang, "A Novel Differential-Chaos-Shift-Keying Secure Communication Scheme," in *2018 IEEE International Conference on Systems, Man and Cybernetics (SMC)*, pp. 1794-1798, Miyazaki, Japan, 2018.10.7-2018.10.10.

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79. **Zhongyun Hua**, Binghang Zhou, Yicong Zhou, "Image content-based encryption algorithm using high-dimensional chaotic system," in *2015 International Symposium on Nonlinear Theory and its Applications (NOLTA2015)*, pp. 554-557, Hong Kong, China, 2015.12.01-2015.12.04.

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Nonlinear Dynamics:

81. Junxin Chen, Wenrui Lv, Leo Yu Zhang, **Zhongyun Hua**, Li-bo Zhang, Zhi-liang Zhu，Power chaotic system with robust chaos", ***Nonlinear Dynamics***, in press, 2024.

82. **Zhongyun Hua**, Zihua Wu, Yinxing Zhang*, Han Bao, Yicong Zhou, "Two-Dimensional Cyclic Chaotic System for Noise-Reduced OFDM-DCSK Communication", ***IEEE Transactions on Circuits and Systems I: Regular Papers***, in press, 2024.

83. Han Bao, Yuanhui Su, **Zhongyun Hua**, Mo Chen, Senior, and Bocheng Bao*, "Two-Dimensional Bounded Chaotic System With Hardware Implementation", ***IEEE Transactions on Industrial Electronics***, in press, 2024.

84. **Zhongyun Hua**, Jinhui Yao, Yinxing Zhang, Han Bao, Shuang Yi*, "Two-Dimensional Coupled Complex Chaotic Map", ***IEEE Transactions on Industrial Informatics***, in press, 2024.

85. Han Bao, Yuanhui Su, **Zhongyun Hua**, Quan Xu, Bocheng Bao*, "Two-Dimensional Threshold Hyperchaotic Map and Application in Timed One-Time Password", ***IEEE Transactions on Industrial Informatics***, in press, 2024.

86. ChenLong Yi, ChunBiao Li*, YongXin Li, Ming Xia, **ZhongYun Hua**, "Modifying Lyapunov exponent of chaotic map by self-cascading", ***Science China Technological Science***, in press, 2024.

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89. Zihua Wu, Yinxing Zhang, Han Bao, Rushi Lan, **Zhongyun Hua***, "nD-CS: A Circularly Shifting Chaotic Map Generation Method", ***Chaos, Solitons and Fractals***, vol. 181, article no. 114650, 2024.

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94. Yinxing Zhang, **Zhongyun Hua***, Han Bao, Hejiao Huang, Yicong Zhou, "Generation of n-Dimensional Hyperchaotic Maps Using Gershgorin-Type Theorem and Its Application", ***IEEE Transactions on Systems, Man, and Cybernetics: Systems***, vol. 53, no. 10. Pp. 6516-6529, 2023.

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97. Yinxing Zhang, Han Bao, **Zhongyun Hua***, Hejiao Huang, "Two-Dimensional Exponential Chaotic System With Hardware Implementation", ***IEEE Transactions on Industrial Electronics***, vol. 70, no. 9, pp. 9346-9356, 2023.

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Program Committee Member

- *The 37th AAAI Conference on Artificial Intelligence (AAAI 2024)*
- *2024 IEEE International Conference on Multimedia and Expo (ICME 2024)*
- *2023 IEEE International Conference on Multimedia and Expo (ICME 2023)*
- *2022 IEEE International Conference on Multimedia and Expo (ICME 2022)*
- *The 31th International Conference on Neural Information Processing (ICONIP 2024)*
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Peer review

- *IEEE Transactions on Information Forensics and Security*
- *IEEE Transactions on Pattern Analysis and Machine Intelligence*
- *IEEE Transactions on Image Processing*
- *IEEE Transactions on Signal Processing*
- *IEEE Transactions on Knowledge and Data Engineering*
- *IEEE Transactions on Dependable and Secure Computing*
- *IEEE Transactions on Circuits and Systems I: Regular Papers*
- *IEEE Transactions on Cybernetics*
- *IEEE Transactions on Circuits and Systems and Video Technology*
- *IEEE Transactions on Circuits and Systems II: Express Briefs, etc*

Research Grants (Selected)

- Research on high-dimensional robust chaos mechanism and its application in generative adversarial network, the National Natural Science Foundation of China, 62071142, 2021.01-2024.12, PI (570K CNY).
- High-Dimensional Chaos Theory with Application in Secure Communication, the Guangdong Basic and Applied Basic Research Foundation, 2021A1515011406, 2021.1-2023.12, PI (100 K CNY).

- Research on Designing New Chaotic Systems with Robust Chaos and Their Applications, the National Natural Science Foundation of China, 61701137, 2018.01-2020.12, PI (260K CNY).
- Modeling on Robust Chaotic Behaviors and Their Applications in Network Multimedia Security, the Shenzhen Science and Technology Program, JCYJ20170307150704051, 2017.6-2019.6, PI (300K CNY).