IEEE Systems, Man, and Cybernetics Society

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There is a motion to add VP for Education

SMC Fields of Interest

Development of systems engineering technology including problem definition methods, modelling, and simulation, methods of system experimentation, human factors engineering, data and methods, systems design techniques and test and evaluation methods.

Integration of the theories of communication, control, cybernetics, stochastics, optimization, and system structure towards the formulation of a general theory of systems.

Application at hardware and software levels to the analysis and design of biological, ecological, socio-economic, social service, computer information, and operational man-machine systems.

Technical Committees (TC)

The TCs are the foundation of the SMC Society's technical activities and are an essential resource to increase SMC Society membership.

There are:

22 TCs in the System Science Technical Area (Total Membership 814)
12 TCs in the Human Machine Systems Technical Area (Total Membership 613)
22 TCs in the Cybernetics Technical Area (Total Membership 876)

Systems Science and Engineering Technical Committees (814)

1. Bio-mechatronics and Bio-robotics Systems (25)	Zhijun Li, C. L. Philip Chen, Okyay Kaynak, and Chenguang Yang
2. Conflict Resolution (11)	Liping Fang and Keith W. Hipel
3. Cyber-Physical Cloud Systems (29)	Huaglory Tianfield
4. Computer Supported Cognitive Work in Design	Maria Pia Fanti and MuDer Jeng
5. Distributed Intelligent Systems (48)	Vladimir Marik and Haibin Zhu
6. Enterprise Architecture and Engineering (33)	Alta van der Merwe and Aurona Gerber
7. Enterprise Information Systems (27)	Li Xu and Ming Yu
8. Grey Systems (71)	Sifeng Liu, Robin Qiu, Kun-Li Wen, Jeffrey Forrest, Renkuan Guo, Yingjie Yang, and Ni-Bin Chang
9. Homeland Security (23)	Francesco Flammini, Justin Zhan, Qiudan Li, and Chris Yang
10. Infrastructure Systems and Services (16)	Margot P. C. Weijnen
11. Intelligent Green Production Systems (21)	Hossam A. Gabbar
12. Intelligent Learning in Control Systems (26)	Ching-Chih Tsai, Kao-Shing Hwang, and Han-Xiong Li

Systems Science and Engineering Technical Committees (814)

13. Intelligent Power and Energy Systems (13)	Loi Lei Lai and Kit Po Wong
14. Intelligent Transportation Systems (18)	Bing-Fei Wu, Jau-Woei Perng, and Yo-Ping Huang
15. Logistics Informatics and Industrial Security Systems (74)	Runtong Zhang, Menggang Li, Martin Dresner, and Zhenji Zhang
16. Medical Mechatronics (74)	Ming-Yih Lee, Chung-Hsien Kuo, and Yi-Hung Liu
17. Model-Based Systems Engineering (49)	Dov Dori and Azad M. Madni
18. Robotics and Intelligent Sensing (17)	Saeid Nahavandi
19. Service Systems and Organization (37)	Jian Chen
20. System of Systems (14)	Mark A. Johnson, Mike Henshaw, and Ferat Sahin
21. Systems Biology (26)	Luonan Chen
22. Unmanned Marine Systems Engineering (17) **Newest SSE TC**	Ferial El-Hawary

Human-Machine Systems Technical Committees (613)

1. Biometrics and Applications	Robert Zhang, Yong Xu
2. Brain Machine Interfaces	Ricardo Chavarriaga, Iñaki Iturrate, An Kai Keng, Heung-Il Suk
3. Cognitive Computing	Yicong Zhou, Yuan Yuan, Weifeng Liu, Bin Hu
4. Computer Supported Cognitive Work in Design	Jano Moreira de Souza, Amy Trappey, Luo Junzhou, Jean Paul Barthes, Weiming Shen
5. Environmental Sensing, Networking and Decision Making	Mingcong Den, Hongnian Yu, Ni-Bin Chang, Mengchu Zhou
6. Human Centered Transportation Systems	Takeshi Imamura, Koji Murai, Shubhangi Giripunje
7. Human Computer Interaction	Greg Jamieson, Caroline Cao
8. Human Perception in Multimedia Computing	Guillaume Lavoue, Tao Wang
9. Information Systems for Design and Marketing	Katsutoshi Yada, Yi Zuo
10. Interactive and Wearable Computing and Devices	Peter Liu, Giancarlo Fortino, Mehmet Rasit Yuce, Dongyi Chen
11. Shared Control	Makoto Itoh, Erwin R. Boer, Tricia L. Gibo
12. Visual Analytics and Communication	Weidong Huang, Yuhua Luo, Henry Duh

Cybernetics Technical Committees (814)

1. Awareness Computing (60)	G. Chakraborty, T. Murata, Qiangfu Zhao, R. Kozma
2. Big Data Computing (13)	Václav Snášel, Ivan Zelinka, Michal Wozniak
3. Computational Collective Intelligence (32)	Ngoc Nguen
4. Computational Cybernetics (129)	Philip Chen, Witold Pedrycz, Imre Rudas
5. Computational Intelligence (23)	Xizhao Wang, Wing Yin Ng
6. Computational Life Science (14)	Michael R. Berthold, Hong Yan, Daniel Yeung
7. Cybermatics for Cyber-enabled Worlds (34)	Jianhua Ma, L. T. Young, J. Burgeois, H. Ning
8. Cybernetics for Cyber-Physical Systems (42)	Shiyna Hu, Albert Y. Zomaya
9. Cybernetics for Intelligent Industrial Systems (40)	Pavel Vrba, Amro M. Farid, Thomas Strasser
10. Diagnostics & Prognostics (19)	Imad Makki, Matthew Franchek, Karolos Grigoriadis
11. Evolving Intelligent Systems (26)	Plamen Angelov
12. Granular Computing (19)	Shusaku Tsumoto, Tzung-Pei Hong, Leon Wang
13. Information Assurance & Intelligent Multimedia (28)	Sos Agaian, Philip Chen, Aram Arakelyan
14. Intelligent Internet Systems (52)	John W. T. Lee, S.-M. Chen, T.-H. Tan, Yung-Fa Huang
15. Intelligent Vehicular Control Systems (20)	Jianbo Lu, Tim Gordon
16. Knowledge Acquisition in Intelligent Systems (41)	Stuart Rubin, Shu-Ching Chen
17. Machine Learning (22)	Daniel Yeung, Witold Pedrycz, Wing Yin Ng
18. Medical Informatics (24)	Yutaka Hata, Cathy M. Helgason
19. Pattern Recognition (10)	Yuan Yan Tang, Xinge You
20. Soft Computing (228)	Ajith Abraham, Mario Koeppen, Hideyuki Takagi

2016 Recipients of the Most Active TC Award

Most Active Technical Committee Award in Systems Science and Engineering

IEEE SMC TC on Intelligent Power and Energy Systems
Chairs: Loi Lei Lai and Kit Po Wong

Most Active Technical Committee Award in Human-Machine Systems

IEEE SMC TC on Brain-Machine Interface Systems
Chairs: Michael H. Smith, Seong-Whan Lee, Vinod A Prasad, and Ricardo Chavarriaga

Most Active Technical Committee Award in Cybernetics

IEEE SMC TC on Computational Collective Intelligence
Chair: Ngoc Thanh Nguyen

IEEE SMC Society Publications

- **Transactions on Systems, Man, and Cybernetics: Systems**
- **Transactions on Human-Machine Systems**
- **Transactions on Cybernetics**
- **Transactions on Computational Social Systems**
- **SMC Magazine**
- **SMC eNewsletter**

IEEE SMC Society Conferences

Flagship Conference

IEEE International Conference on Systems, Man, and Cybernetics
October 05, 2017 - October 08, 2017
Banff, Canada
http://www.smc2017.org/

IEEE International Conference on Systems, Man, and Cybernetics
October 07, 2018 - October 10, 2018
Miyazaki, Japan
http://www.smc2018.org/

IEEE SMC Society Conferences

Upcoming Financially Co-Sponsored Conferences

2017 Conference on Evolving and Adaptive Intelligent Systems
May 31, 2017 - June 02, 2017
Ljubljana, Slovenia

14th IEEE International Conference on Networking, Sensing and Control
May 16, 2017 - May 18, 2017
Calabria, Italy

2017 IEEE 21st International Conference on Computer Supported Cooperative Work in Design
April 25, 2017 - April 27, 2017
Wellington, New Zealand

SSE-area Book Project

Update on *Wiley-IEEE Press Series on Systems Science and Engineering* (Mengchu Zhou, Ed.; H. Li and M. Weijnen, Co-Eds.):

Published titles in IEEE/Wiley Series on Systems Science and Engineering, updated in Aug. 2015:

1. **Kulkarni, Reinforcement & Systemic Machine Learning for Decision Making, 2012**
2. **Chao/Cheng, Remote Sensing and Actuation Using Unmanned Vehicles, 2012**
3. **Sadati/Dumont/Gruver, Dynamical Legged Locomotion, 2012**
4. **Yu/Tao, Modern Machine Learning: Techniques and Their Applications in Carton Animation Research , 2013**
5. **Tan/Zhou, Design of Scientific Workflows, 2013**
6. **Deng, Operator-Based Nonlinear Control Systems, 2013**
7. **Li/Lu, Model-Based Robust Design for Complex Systems, 2014**
8. **Chang/Pires, Sustainable Solid Waste Management, 2015**
9. **Zhou/Li/Weijnen, *Contemporary Issues in Systems Science and Engineering*, 2015**
10. **Savkin/Cheng/Xi/Javed/Matveev/Nguyen, Distributed Coverage Control Problems for Mobile Robotic Sensor/Actuator Networks, 2015**

SSE-area Book Project

Update on *Wiley-IEEE Press Series on Systems Science and Engineering* (Mengchu Zhou, Ed.; H. Li and M. Weijnen, Co-Eds.):

11. **Liu, Automated Transit Systems: Planning, Operation, and Applications, 2016**
12. **Li/Zhou/Han, Advances in Battery Manufacturing, Service, and Management Systems, 2016**

Forthcoming:

13. **Whitcomb, Systems Design, Integration, and Engineering, Forthcoming**
14. **Schneidewind, *System Engineering of Computer Networks*, Forthcoming**
15. **Li, Advances in Battery Manufacturing, Service, and Management Systems, Forthcoming**
16. **Y. Jiang and Z.-P. Jiang, Robust Adaptive Dynamic Programming, Forthcoming**

Call for Book Proposals can be found in the IEEE SMC Magazine

IEEE SMC 2017 Operational Plan

Systems Science and Engineering Technical Area

Goal: Enhance Society recognition as the leading society in the area of SSE

1.1 Strengthen and enhance the SSE area

1.1.1 Develop new TCs and revitalize our existing TCs

- 1.1.1.1 Review common criteria for regular evaluating TCs and stress rules for closing of non-operating TCs
- 1.1.1.2 Continue in the development of mechanisms for identifying potential new TCs
- 1.1.1.3 Establish 2 new TCs according to the criteria seeking good coverage of topics

1.1.2 Increase TC involvement in all society activities (conferences, membership, and publications)

- 1.1.2.1 Support revision of TC website format and content based on continuous experience
- 1.1.2.2 Identify and implement TC website content
- 1.1.2.3 Ensure regular refreshment of TC website content by TCs
- 1.1.2.4 Continue the involvement of the Society in the ongoing Wiley book Series
- 1.1.2.5 Continue to encourage webinars, conferences, and online tutorials

Goal: Enhance Society recognition as the leading society in the area of SSE

1.1.3 Attract new researchers in SSE area

- 1.1.3.1 Develop and recommend new initiatives to increase the involvement of SSE membership
- 1.1.3.2 Introduce awards such as a best Ph.D. dissertation award in the SSE area
- 1.1.3.3 Attract new SSE leaders
- 1.1.3.4 Attract new SSE leaders from Industry and Government

Questions or comments?

Possible collaboration opportunities?

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