

The Top and the Best: Toward Excellence in ITS Research and Development

IT is finally here, and it will mark the beginning of a new stage in the history and development of the IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS!

In 2009, to celebrate the 10th Anniversary of our Transactions and to promote research and development in ITS, the Board of Governors of the IEEE Intelligent Transportation Systems Society decided to accept our proposal of creating the Top 10 List and the Best Paper Awards for papers published during 2000–2009 and each year afterward in T-ITS, and charged the Top 10 and Best Paper Committees with the task of selection and implementation [1], [2].

The selection process turned out to be much difficult and time consuming than we have initially expected. We have carefully examined each paper and commissioned a group of researchers for a bibliographic study of our publications and their impact during the period of 2000 to 2009, which including both conventional statistical analysis and deep social network analysis for both author/keyword networking and spatial-temporal relations [3], [4]. Still, the task of selecting the best among the bests is daunting, we have on-going debating and doubts about what are the proper criteria until the last minutes. In the process, we have decided to create a separate category for survey papers and the annual best papers will be selected among all papers published within the previous two years so each paper will have two chances for consideration. As the chair of the committee, I understand the selection process is not perfect and must be improved in many aspects, I will elaborate on the selection criteria and process late in one of my future editorials.

Here, is the final result for the Top 10 List and Best Paper Awards for 2000–2012.

Top 10 Best Research Papers (2000 to 2009):

L. Zhao and C. E. Thorpe, “Stereo- and neural network-based pedestrian detection,” 2000. *IEEE Transactions on Intelligent Transportation Systems*, vol. 1, no. 3, pp. 148–154, September 2000.

S. Gupte, O. Masoud, R. Martin, and N. P. Papanikolopoulos, “Detection and classification of vehicles,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 3, no. 1, pp. 37–47, March 2002.

L. Pallottino, E. M. Feron, and A. Bicchi, “Conflict resolution problems for air traffic management systems solved with mixed integer programming,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 3, no. 1, pp. 3–11, March 2002.

J. Rice and E. van Zwet, “A simple and effective method for predicting travel times on freeways,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 5, no. 3, pp. 200–207, September 2004.

J. J. Blum, A. Eskandarian, and L. J. Hoffman, “Challenges of intervehicle ad hoc networks,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 5, no. 4, pp. 347–351, December 2004.

L. Wischhof, A. Ebner, and H. Rohling, “Information dissemination in self-organizing intervehicle networks,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 6, no. 1, pp. 90–101, March 2005.

J. A. Healey and R. W. Picard, “Detecting stress during real-world driving tasks using physiological sensors,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 6, no. 2, pp. 156–166, June 2005.

L. M. Bergasa, J. Nuevo, M. A. Sotelo, R. Barea, and M. E. Lopez, “Real-time system for monitoring driver vigilance,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 7, no. 1, pp. 63–77, March 2006.

M. M. Trivedi, T. Gandhi, and J. McCall, “Looking-In and Looking-Out of a Vehicle: Computer-Vision-Based Enhanced Vehicle Safety,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 8, no. 1, pp. 108–120, March 2007.

S. Maldonado-Bascon, S. Lafuente-Arroyo, P. Gil-Jimenez, H. Gomez-Moreno, and F. Lopez-Ferreras, “Road-Sign Detection and Recognition Based on Support Vector Machines,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 8, no. 2, pp. 264–278, June 2007.

Top 3 Best Survey Papers (2000 to 2009):

J. K. Kuchar and L. C. Yang, “A review of conflict detection and resolution modeling methods,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 1, no. 4, pp. 179–189, December 2000.

M. Papageorgiou and A. Kotsialos, “Freeway ramp metering: an overview,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 3, no. 4, pp. 271–281, December 2002.

I. Skog and P. Handel, “In-Car Positioning and Navigation Technologies—A Survey,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 10, no. 1, pp. 4–21, March 2009.

2010 Best Research Paper (2009 to 2010):

A. Broggi, P. Cerri, S. Ghidoni, P. Grisleri, and H. G. Jung, “A New Approach to Urban Pedestrian Detection for Automatic Braking,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 10, no. 4, pp. 594–605, December 2009.

2010 Best Survey Paper (2009 to 2010):

J. Candamo, M. Shreve, D. B. Goldgof, D.B. Sapper, and R. Kasturi, "Understanding Transit Scenes: A Survey on Human Behavior-Recognition Algorithms," *IEEE Transactions on Intelligent Transportation Systems*, vol. 11, no. 1, pp. 206–224, March 2010.

2011 Best Research Paper (2010 to 2011):

F. Calabrese, M. Colonna, P. Lovisolo, D. Parata, and C. Ratti, "Real-Time Urban Monitoring Using Cell Phones: A Case Study in Rome," *IEEE Transactions on Intelligent Transportation Systems*, vol. 12, no. 1, pp. 141–151, March 2011.

2011 Best Survey Paper (2010 to 2011):

B. Chen and H. H. Cheng, "A Review of the Applications of Agent Technology in Traffic and Transportation Systems," 2010. *IEEE Transactions on Intelligent Transportation Systems*, vol. 11, no. 2, pp. 485–497, June 2010.

2012 Best Research Paper (2011 to 2012):

I. Leontiadis, G. Marfia, D. Mack, G. Pau, C. Mascolo, and M. Gerla, "On the Effectiveness of an Opportunistic Traffic Management System for Vehicular Networks," *IEEE Transactions on Intelligent Transportation Systems*, vol. 12, no. 4, pp. 1537–1548, December 2011.

2012 Best Survey Paper (2011 to 2012):

N. Buch, S. A. Velastin, and J. Orwell, "A Review of Computer Vision Techniques for the Analysis of Urban Traffic," *IEEE Transactions on Intelligent Transportation Systems*, vol. 12, no. 3, pp. 920–939, September 2011.

All awards will be officially announced and presented at the 2013 IEEE International Intelligent Transportation Systems Conference in October at Hague, Netherlands.

Congratulations to All Winners of the Top and Best Paper Awards!. Many thanks for your great contribution to our journal—the IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS.

Finally, I would like to take this opportunity to say thanks to our Top 10 and Best Paper Award Committee, its founding chair and co-chair Williams Scherer and Mathew Berth, and members selected from US, Europe, Asia and Pacific regions for their specialties: Mashrur Chowdhury, Liuqing Yang, Mark Brackstone, Bin Ning, and Ljubo Vlacic. Thanks to all members of our Editorial Board for supporting this effort and providing constructive comments and suggestions during the entire process of the selection.

FEI-YUE WANG, *Editor-in-Chief*

The National University of Defense Technology
Changsha 410073, China

Chinese Academy of Sciences
Beijing 100864, China

REFERENCES

- [1] F.-Y. Wang, "Building an intellectual highway for ITS research and development," *IEEE Trans. Intell. Transp. Syst.*, vol. 11, no. 1, pp. 2–3, Mar. 2010.
- [2] F.-Y. Wang, A. Broggi, and C. White, "Road to transactions on intelligent transportation systems: A decade's success," *IEEE Trans. Intell. Transp. Syst.*, vol. 10, no. 4, pp. 553–555, Dec. 2009.
- [3] L. J. Li, X. Li, Z. Li, D. Zeng, and W. T. Scherer, "A bibliographic analysis of the IEEE Transactions on Intelligent Transportation Systems," *IEEE Trans. Intell. Transp. Syst.*, vol. 11, no. 2, pp. 251–255, Jun. 2010.
- [4] L. J. Li, X. Li, C. Chang, C. Chen, G. Ke, D. Zeng, and W. T. Scherer, "Research collaboration and ITS topic evolution: 10 years at T-ITS," *IEEE Trans. Intell. Transp. Syst.*, vol. 11, no. 3, pp. 517–523, Sep. 2012.