

Appendix 6 : Copy of Reference [7], which shows IEEE Award.

IEEE Medal for Environmental and Safety Technologies Recipients

- ♦ IEEE Awards Program
 - ▣ IEEE Awards
 - Awards Board & Related Committees
 - Awards Information and Guidelines
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- 2013 - Tsuneo Takahashi
- 2012 - John Bannister Goodenough, Rachid Yazami, and Akira Yoshino
- 2011 - James F. Gibbons
- 2010 - John L. (Larry) Chalfan, Vicky Salazar, and Wayne F. Rifer

▸ [View complete list of IEEE Medal for Environmental and Safety Technologies recipients \(PDF, 50 KB\)](#)

♦ 2013 - Tsuneo Takahashi



Tsuneo Takahashi's pioneering work has enabled automobile navigation systems providing real-time information for increased transportation efficiency and safety. During the 1970s, at a time when GPS navigation for automobiles was not yet practical, Takahashi developed a self-position navigation system using a highly efficient microprocessor and an inertial sensor for determining position. He demonstrated the first practical use of the navigation system in a passenger car in 1981, which was able to display current information on a map. His patented contributions have enabled the navigation systems that are standard in today's automobiles for providing real-time positioning data important for efficient and safe travel. The navigation technology that Takahashi helped to introduce and commercialize also has important implications for emerging vehicle-to-vehicle and vehicle-to-infrastructure communications systems that are key to the development of intelligent transportation systems. In these systems, vehicles acting as "floating cars" or "probes" can exchange dynamic data such as traffic information and safety warnings with each other or roadside nodes (such as traffic centers). Takahashi's work has been a key enabler in the development of intelligent transportation systems. Takahashi has also played a leading role in managing the development of GPS-based automobile navigation systems.

See URL: http://www.ieee.org/about/awards/bios/envsaf_recipients.html