



## 2023 The 14th International Conference & Global Competition on Systematic Innovation (ICSI & GCSI)

### PAPER COMPETITION AWARDS

Category: Strategic & Business Aspects of Innovation Methods			
Rank	ID	Paper Title	Authors
FIRST PLACE AWARD	64	Technological Evolution Using Backpropagation Neural Network Technique and TRIZ for AC Adapter Development	Li-Yu Lin, Hsin Rau
SECOND PLACE AWARD	27	A study on problem solving cases using the law of increasing dynamics and Su-Field analysis.	Soo Yeon Ko, Yong Won Song, Hong Kyun Shim, Yong Mun Jeon, Seong Min Seo
THIRD PLACE AWARD	15	Customized problem-solving process according to task type S-Cube Performance Study	Kwang Ho Lee, Yong Won Song, Wan Bok Park, Sung Bok Kim, Jea Hyun, Hu
HONORABLE MENTION PLACE AWARD	66	Knowledge-driven Selection of Circular Food Strategies Using the TRIZ Approach	Wan-Chiao Chen, Hsin Rau
HONORABLE MENTION PLACE AWARD	6	Intellectual property protection of 3D printing model with blockchain-enabled data storage and watermarking encryption algorithm	Hing Kai Chan, Min Guo

Category: Technical Aspects of Innovation Methods			
Rank	ID	Paper Title	Authors
FIRST PLACE AWARD	17	Examining the Structural Attributes of TRIZ Contradiction Matrix Using Exploratory Data Analysis	Won-Shik Shin, Youngjoon Choi, Jung Suk Hyun
SECOND PLACE AWARD	10	A systematic new su-field structure for enhanced standard solutions	Ryan Chen, D. Daniel Sheu, Maggie Y. Sheu
THIRD PLACE AWARD	70	Enhancing Idea Generation and Problem Solving: Leveraging Generative AI and TRIZ Tools	Tanasak Pheunghua
HONORABLE MENTION PLACE AWARD	20	A Strategy for Solving Multi-Conflict Networks Based on Extension-Correlation Analysis	Xu Chenhui, Zhang Jianhui, Yu Fei
HONORABLE MENTION PLACE AWARD	18	The Value of Function-Oriented Search in the Age of AI: An Examination of its Synergy with ChatGPT in Efficient Problem-Solving and Data Protection	Won-Shik Shin, Youngjoon Choi, Yong-Won Song



Category: Integration of Innovation Methods with Artificial Intelligence (AI), Internet of Things (IoT), Smart Design/Manufacturing/Services, or Computer-Aided Innovation (CAI)

Rank	ID	Paper Title	Authors
FIRST PLACE AWARD	12	A NLP-based Approach to Identifying Technical Features of Patents	Tien-Lun Liu, Chang-Hsi Chiang, Pei-Yu Wu
SECOND PLACE AWARD	19	Priority Recommendation for Invention Principle Application Based on Deep Learning	Zhang Shun, Zhang Jiannan, Zhang Jianhui
THIRD PLACE AWARD	40	Construction of Intelligent Conflict Matrix Based on Deep Learning	Luo XinYang, Zhang Jianhui, Zhang Jiannan
HONORABLE MENTION PLACE AWARD	65	Ideation AI Application for Complexity Management	Alla Zusman, Boris Zlotin, David Bonner, Boudewijn Bertsch, Ben Sadegh Babaii, Bob King
HONORABLE MENTION PLACE AWARD	39	Technology Innovation of Dryer Machine based on Sustainability Automation Systems to Increase Agel Fiber Production in Handicraft MSMEs	Khakam Maruf, Rizal Justian Setiawan, Syukri Fathudin Achmad Widodo, Nur Evirda Khosyati, Sumantri Sri Nugroho, Nur Azizah, Yu Tzu Chen

Category: Other tools, theories, and applications related to or can be integrated with innovation methods

Rank	ID	Paper Title	Authors
FIRST PLACE AWARD	22	Project-based Teaching of Product Innovation Design based on KJ/FAST/TRIZ	CHENG Siyuan, DONG Jie, YANG Xuerong
SECOND PLACE AWARD	13	Introduction of Algorithm with TRIZ Tool in QC Story	Sung Bok Kim, Yong Won Song, Wan Bok Park, Kwang Ho Lee, Jea Hyun Hu
THIRD PLACE AWARD	24	A Study on the Application of 40 Invention Principles to Solve Problems in Industrial Sites	Wan Bok Park, Yong Won Song, Kwang Ho Lee, Sung Bok Kim, Jea Hyun Hu
HONORABLE MENTION PLACE AWARD	53	An Innovation of Hydrogen Fuel Used in the Rotor Engines	Sun Zhong Yonggang, Su Ai, Wang Chun-Yuan
HONORABLE MENTION PLACE AWARD	52	An Innovation of High-mobility Hydrogen Production System	Su Ai, Wang Chun-Yuan, Sun Zhongshan