人因工程學刊

第二十二卷 第一期 2020 年 12 月

發行人

吳欣潔 中華民國人因工程學會 理事長

出版者

中華民國人因工程學會 台中市霧峰區吉峰東路 168 號

總編輯

邱敏綺 勤益科技大學工業工程與管理系(所)

Tel: (04) 23924505 ext 7645 E-mail: mcchiu@ncut.edu.tw

編輯委員

李開偉 中華大學工業管理系 林迪意 義守大學工業管理系

陳一郎 明志科技大學工業工程與管理系

黄雪玲 國立清華大學工業工程與工程管理系(退休)

Bruder, Ralph Institut für Arbeitswissenschaft, Technische Universität Darmstadt, Germany

Chang, Wen-Ruey Liberty Mutual Research Institute for Safety, USA

Dempsey, Patrick Office of Mine Safety and Health, National Institute for Occupational Safety and

Health, USA

Hsiang, Simon Department of Industrial Engineering, Texas Tech University, USA

Hsiao, Hongwei National Institute for Occupational Safety and Health, USA

Huang, Yueng-Hsiang Liberty Mutual Research Institute for Safety, USA

Wang, Jyh-Hone Department of Industrial and Systems Engineering, University of Rhode Island, USA

Yu, Ruifeng Department of Industrial Engineering, Tsinghua University, China Zhang, Wei Department of Industrial Engineering, Tsinghua University, China

執行編輯

陳慶忠 醒吾科技大學資訊管理系

陳之璇 醒吾科技大學資訊科技應用系(所)

封面設計

唐硯漁 國立高雄師範大學工業設計系

黃偉婷 僑光科技大學電腦輔助工業設計系

Journal of Ergonomic Study

Volume 22 Number 1

December 2020

Publisher

Wu, Hsin-Chieh President, Ergonomics Society of Taiwan

168, Jifeng E. Rd., Wufeng District, Taichung, 41349 Taiwan

Editor-in-Chief

Chiu, Min-Chi Department of Industrial Engineering and Management, National Chin-Yi University of

Technology, Taiwan

Tel: +886- 4-23924505 ext 7645 E-mail: mcchiu@ncut.edu.tw

International Editorial Board

Bruder, Ralph Institut für Arbeitswissenschaft, Technische Universität Darmstadt, Germany

Chang, Wen-Ruey Liberty Mutual Research Institute for Safety, USA

Chen, Ying-Lang Department of Industrial Engineering and Management, Ming Chi University of

Technology, Taiwan

Dempsey, Patrick Office of Mine Safety and Health, National Institute for Occupational Safety and Health,

USA

Hsiang, Simon Department of Industrial Engineering, Texas Tech University, USA

Hsiao, Hongwei National Institute for Occupational Safety and Health, USA

Huang, Yueng-Hsiang Liberty Mutual Research Institute for Safety, USA

Hwang, Sheue-Ling Department of Industrial Engineering and Engineering Management, National Tsing Hua

University, Taiwan (Retired)

Li, Kai Way Department of Industrial Management, Chung Hua University, Taiwan
Lin, Dyi-Yih Department of Industrial Management, I-SHOU University, Taiwan

Wang, Jyh-Hone Department of Industrial and Systems Engineering, University of Rhode Island, USA

Yu, Ruifeng Department of Industrial Engineering, Tsinghua University, China Zhang, Wei Department of Industrial Engineering, Tsinghua University, China

Executive Editor

Chen, Ching-Chung Department of Information Management, Hsing Wu University of Science and

Technology, Taiwan

Chen, Zhi-Xuan Department of Applied Information Technology, Hsing Wu University of Science and

Technology, Taiwan

Cover Design

Kang, Yen-Yu Department of Industrial Design, National Kaohsiung Normal University, Taiwan

Huang, Wei-Ting Department of Computer-Aided Industrial Design, Overseas Chinese University, Taiwan