# 科技部個人資料表

## 一、基本資料

| 身份證號碼 | U 1 2 0 1 8 * * * * | | 填表日期： 2016 /8/ 22 | | |
|---|---|---|---|---|---|
| 中文姓名 | 蔡朋枝 | 英文姓名 | PERNG-JY TSAI | | |
| 國　　籍 | 中華民國 | 性　　別 | ☒ 男　□ 女 | 出生日期 | 1959 年 12 月*日 |
| 聯絡地址 | 70403 台南市勝利路 138 號醫學院門診大樓 8 樓成大環醫所 | | | | |
| 聯絡電話 | (公) 06-2353535 EXT 5806　　(宅) 0933-798423 | | | | |
| 傳真號碼 | (06) 275-2484 | E-MAIL | pjtsai@mail.ncku.edu.tw | | |

## 二、主要學歷 請填學士級以上之學歷或其他最高學歷均可，若仍在學者，請在學位欄填「肄業」。

| 畢／肄業學校 | 國別 | 主修學門系所 | 學位 | 起訖年月(西元年/月) |
|---|---|---|---|---|
| 明尼蘇達大學 | 美國 | 環境與職業衛生 | 博士 | 1991/09 至 1995/01 |
| 成功大學 | 中華民國 | 環境工程 | 碩士 | 1983/09 至 1985/05 |
| 中興大學 | 中華民國 | 環境工程 | 學士 | 1977/09 至 1981/05 |

## 三、現職及與專長相關之經歷 指與研究相關之專任職務，請依任職之時間先後順序由最近者往前追溯。

| 服務機關 | 服務部門/系所 | 職稱 | 起訖年月 |
|---|---|---|---|
| 現職： | | | |
| 國立成功大學 | 工業衛生科暨環境醫學研究所 | 特聘教授 | 2013/08 訖今 |
| | 環境保護暨安全與衛生中心 | 中心主任 | 2016/08 訖今 |
| 經歷： | | | |
| 國立成功大學 | 教務處 | 副教務長 | 2013/08 至 2015/01 |
| 中國醫藥大學 | 公衛學院/職業安全與衛生學系 | 院長/教授 | 2011/08 至 2013/07 |
| 中華民國職業衛生學會 | | 理事長 | 2005/04 至 2008/03 |
| 國立成功大學 | 工業衛生科暨環境醫學研究所 | 講師/副教授/教授/所長/特聘教授 | 1995/08 至 2011/07 |
| 行政院勞委會 | 勞工安全衛生研究所 | 館長/研究員 | 1995/01 至 1995/08 |
| 行政院勞委會 | 勞工檢查處 | 技士/技正/代科長 | 1987/12 至 1995/01 |
| 台灣省勞工檢查委員會 | 第二組 | 檢查員 | 1987/01 至 1987/12 |

## 四、專長 請自行填寫與研究方向有關之學門名稱。

| 1. 暴露評估 | 2. 風險評估 | 3. 工業衛生 | 4. 工業安全 |
|---|---|---|---|

# 1. Publications

**(A) SCI Papers**

1. Chen, W.-Y., Juang, Y.-J., Hsieh, J-Y., **Tsai, P.-J.* (Corresponding author),** Chen C.-P., Estimation of Respiratory Heat Flows in Prediction of Heat Strain among Taiwanese Steel Workers. *International Journal of Biometeorology*, 2016, (DOI 10.1007/s00484-016-1195-y). (**SCI;** 5Year IF=2.649; IF=2.309; R/C= 31/84=36.9%, in Atmos. Sci. in JCR-2015)
2. Ham, S., Kim, S., Lee, N., Kim, P., Eom, P., Eom, I., Lee, B., **Tsai, P.-J.**, Lee, K., Yoon, C., Comparison of Data Analysis Procedures for Real-time Nanoparticle Sampling Data Using Classical Regression and ARIMA Models. *Journal of Applied Statistics*, 2016, (https://dx.doi.org/10.6084/m9.figshare.c.3253420.v1). (**SCI;** 5Year IF=0.630; IF=0.419; R/C= 109/123=88.6%, in Statis. & Proba. sci. in JCR-2015)
3. Wu, W.T., Lin, Y.-J., Li, C.-Y., **Tsai, P.-J.**, Yang, C.-Y., Liou, S.-H., Wu, T.-N., Pershouse, M.A., Cancer Attributable to Asbestos Exposure in Shipbreaking Workers: A Matched-Cohort Study. *PLoS ONE*, 2016 (http://dx.doi.org/10.1371/journal.pone.0133128) (**SCI;** 5Year IF=3.535; IF=3.057; R/C= 11/63=17.4%, in Multi. Sci. in JCR-2015)
4. Chen, Y.-C., Kuo, Y.-C., Chen, M.-R., Lin, M.-Y., Wang, Y-.F., Chen, C.-H., Yoon, C., **Tsai, P.-J.* (Corresponding author),** Reducing PCDD/F emissions from a real-scale iron ore sinter plant by adjusting its sinter raw mix. *Journal of Cleaner Production*. 2016, 112: 1184–1189. (**SCI;** 5Year IF=5.315; IF=4.959; R/C= 5/50=10.0%, in Eng. Environ. in JCR-2015)
5. Park, J., Kang, T., Jin, S., Heo, Y., Kim, K., Lee, K., **Tsai, P-J.**, Yoon, C., Asphyxiation Incidents by Hydrogen Sulfide at Manure Storage Facilities of Swine Livestock Farms in Korea. *Journal of Agromedicine*, 2016; 21:144-148. (**SCI;** 5Year IF=0.834; IF=0.784; R/C= 150/173=86.7%, in Pub. Environ. Occup. Health in JCR-2015)
6. Young, L.-H., Li, C.-H., Lin, M.-Y., Hwang, B.-F., Hsu, H.-T., Chen, Y.-C., Jung, C.-R., Chen, K.-C., Cheng, D.-H., Wang, V.-S., Chiang, H.-C., **Tsai, P.-J.* (Corresponding author)**, Field Performance of a Semi-continuous Monitor for Ambient PM2.5 Water-soluble Inorganic Ions and Gases at a Suburban Site. *Atmospheric Environment*, 2016, 144: 376-388.( **SCI;** 5Year IF=3.841; IF=3.459; R/C=42/225=18.6%, in Environ. Sci. in JCR-2015)
7. Chen, Y.-C., Hsu, C.-K., Wamg C. C., **Tsai, P.-J.**, Wang, C.-Y., Chen, M.-R., Lin, M.-Y., Particulate Matter Exposure in a Police Station Located near a Highway. *International Journal of Environmental Research and Public Health*, 2015, *12*(11), 14541-14556. (**SCI;** 5Year IF=2.471; IF=2.035; R/C= 101/225=44.8%, in Environ. Sci. in JCR-2015)
8. Lee, J., Ham, S., Yoon, C., **Tsai, P-J.**, Optimal Treatment Condition for Changing Characteristics of Naturally Occurring Asbestos. *Aerosol and Air Quality Research*, 2015, 15: 2332–2345. (**SCI;** 5Year IF=2.518; IF=2.393; R/C= 78/225=64.6%, in Environ. Sci. in JCR-2015)
9. Ham, S., Kim, S., Lee, Naroo, Kim P., Eom, I., **Tsai, P.-J.**, Lee, K., Yoon, C., Comparison of Nanoparticle Exposure Levels Based on Facility Type—Small-Scale Laboratories, Large-Scale Manufacturing Workplaces, and Unintended Nanoparticle-Emitting Workplaces. *Aerosol and Air Quality Research*, 2015, 15: 1967-1978. (**SCI;** 5Year IF=2.518; IF=2.393; R/C= 78/225=64.6%, in Environ. Sci. in JCR-2015)
10. Kuo, Y.-C., Chen, Y.-C., Lin, M.-Y., Young, L.i-H., Hsu, H.-T., Liou, S.-H., Wu, T.-N., Wang, L,-C, **Tsai, P.-J.* (Corresponding author),** Ambient Air Concentrations of PCDD/Fs, Coplanar PCBs, PBDD/Fs, and PBDEs and Their Impacts on Vegetation and Soil. *International Journal of Environmental Science and Technology*, 2015, 12: 2997-3008. (**SCI;**5Year IF=2.655; IF= 2.344; R/C= 79/225=35.1%, in Environ. Sci. in JCR-2015)
11. Kim, Y., Yoon, C., Ham, S., Park, J., Kim S., Kwon, O., **Tsai, P.-J.,** Emissions of Nanoparticles and Gaseous Material from 3D Printer Operation. *Environmental Science & Technology*, 2015, 49: 12044–12053. (**SCI;** 5Year IF=6.396; IF=5.393; R/C= 3/50=6.0%, in Eng., Environ. in JCR-2015)
12. Chen, W.-Y., Lo, C.-L., Chen C.-P., Juang Y.-J., Yoon, C., **Tsai, P.-J.* (Corresponding author),** Prioritizing Factors Associated with Thermal Stresses Imposed on Workers in Steel

and Iron Casting Industries Using the Monte Carlo Simulation and Sensitivity Analysis. *Journal of Occupational Health*, 2014, 56: 505–510. (**SCI;** 5Year IF=1.668; IF=1.446; R/C= 108/173=62.4%, in Pub. Environ. Occup. Health. in JCR-2015)

13. Chen, C.-H., Soo, J.-C., Wu, T.-N., Yoon, C., Lai, C.-Y., **Tsai, P.-J.* (Corresponding author),** Effect of the quartz particle size on XRD quantifications and its implication to field collected samples. *Aerosol and Air Quality Research*, 2014, 14: 1573–1583. (**SCI;** 5Year IF=2.518; IF=2.393; R/C= 78/225=64.6%, in Environ. Sci. in JCR-2015)
14. Hsu, H.-I, Lin, M.-Y., Chen, Y.-C., Chen, W.-I, Yoon, C., Chen, M.-R., **Tsai, P.-J.* (Corresponding author)**, An Integrated Approach to Assess Exposure and Health-risk from Polycyclic Aromatic Hydrocarbons (PAHs) in a Fastener Manufacturing Industry**.** *International Journal of Environmental Research and Public Health*, 2014, 11: 9578–9594. (**SCI;** 5Year IF=2.471; IF=2.035; R/C= 101/225=44.8%, in Environ. Sci. in JCR-2015)
15. Wu, W.-T., Lin, Y.-J., Shiue, S,-H., Li, C.-Y., **Tsai, P.-J.**, Yang, C.-Y., Liou, S.-H., Wu, T.-N., Cancer incidence of Taiwanese shipbreaking workers who have been potentially exposed to asbestos. *Environmental Research*, 2014, 132: 370–378. (**SCI;** 5Year IF=3.827; IF=3.088; R/C= 57/225=25.3%, in Environ. Sci. in JCR-2015)
16. Jung,H., Kim, J., Lee, S., Lee, J., Kim, J., **Tsai, P.-J.**, Yoon, C., Comparison of Filtration Efficiency and Pressure Drop in Anti-Yellow Sand Masks, Quarantine Masks, Medical Masks, General Masks, and Handkerchiefs. *Aerosol and Air Quality Research*, 2014,14: 991–1002. (**SCI;** 5Year IF=2.518; IF=2.393; R/C= 78/225=64.6%, in Environ. Sci. in JCR-2015)
17. Park, J., Lee, L., Byun., H., Ham, S., Lee, I., Park, J., Rhie, K., Lee, Y., Yeom, J., **Tsai, P.-J.**, Yoon, C., A study of the volatile organic compound emissions at the stacks of laboratory fume hoods in a university campus. *Journal of Cleaner Production*. 2014, 66: 10–18. (**SCI;** 5Year IF=5.315; IF=4.959; R/C= 16/225=7.1%, in Environ. Sci. in JCR-2015)
18. Chen, J.-L.. Yang, W.-D., **Tsai, P.-J.* (Corresponding author),** Wang, S.-M., Chen, C.-H., A sampling and analytical method for simultaneously assessing multiple organic solvent exposures to plastic material printing industry workers. *Aerosol and Air Quality Research*, 2013, 13: 1504–1511. (**SCI;** 5Year IF=2.518; IF=2.393; R/C= 78/225=64.6%, in Environ. Sci. in JCR-2015)
19. Wang, S.-M., Wu, T.-N., Juang, Y.-J., Dai, Y.-T., **Tsai, P.-J.* (Corresponding author),** Chen, C.-Y., Developing a semi-quantitative occupational risk predicting model for chemical exposures and its application to a national chemical exposure databank. *International Journal of Environmental Research and Public Health*, 2013, 10: 3157-3171**.** (**SCI;** 5Year IF=2.471; IF=2.035; R/C= 101/225=44.8%, in Environ. Sci. in JCR-2015)
20. Chen, C.-H., **Tsai, P.-J.,** Wang, W.-C., Pan, C.-H., Ho, J.-J., Guo, Y.-L., Obliterative bronchiolitis in workers laying up fiberglass-reinforced plastics with polyester resin and methylethyl ketone peroxide catalyst. *Occupational and Environmental Medicine*, 2013, 70: 675-676. (**SCI;** 5Year IF=3.490; IF=3.745; R/C= 22/173=12.7%, in Pub. Environ. Occup. Health. in JCR-2015)
21. Cullinan, P., McGavin, C.R., Kreiss, K., Nicholson, A.G., Maher,T.M., Howell, T., Banks, J., Taylor, A.J.N., Chen, C.-H., **Tsai, P.-J.,** Shih, T.-S., Burg, P.S., Obliterative bronchiolitis in fibreglass workers: a new occupational disease? *Occupational and Environmental Medicine*, 2013, 70: 357–359. (**SCI;** 5Year IF=3.490; IF=3.745; R/C= 22/173=12.7%, in Pub. Environ. Occup. Health. in JCR-2015)
22. Young, L.-H., Lee, S.-H., Kanawade, V. P., Hsiao, T.-C., Lee, Y. L., Hwang, B.-F., Liou, Y.-J., Hsu, H.-T., **Tsai, P.-J.**, New particle growth and shrinkage observed in subtropical environments. *Atmospheric Chemistry and Physics*, 2013, 13: 547–564. (**SCI;** 5Year IF=5.626; IF=5.114; R/C= 6/84=7.1%, in Meteo. & Atoms. Sci. in JCR-2015)
23. Young, L.-H., Lin, Y.-H., Lin, T.-H., **Tsai, P.-J.* (Corresponding author),** Wang, Y.-F., Hung, S.-M., Tsai, C.-J., Chen, C.-W., Field application of a newly developed personal nanoparticle sampler to selected metalworking operations. *Aerosol and Air Quality Research*, 2013, 13: 849–861. (**SCI;** 5Year IF=2.518; IF=2.393; R/C= 78/225=64.6%, in Environ. Sci. in JCR-2015)

24. Shieh, T.-.S, Chung, J.-J., Wang, C.-J., **Tsai, P.-J.**, Kuo, Y.-C., Guo, H.-R., Pulmonary function, respiratory symptoms, and dust exposures among workers engaged in early manufacturing processes of tea: a cohort study. *BMC Public Health*, 2012, 12: 121–129. (**SCI;** 5Year IF=2.746; IF=2.209; R/C= 58/173=33.5%, in Pub. Environ. Occup. Health. in JCR-2015)
25. Hsu, H.-I., Chen, M.-R., Wang, S.-M., Chen, W.-Y., Wang, Y.-F., Young, L.-H., Yoon, C.-S., **Tsai, P.-J.* (Corresponding author)**, Assessing Long-term Oil Mist Exposures to Workers in a Fastener Manufacturing Industry Using the Bayesian Decision Analysis Technique. *Aerosol and Air Quality Research*, 2012, 12: 834–842. (**SCI;** 5Year IF=2.518; IF=2.393; R/C= 78/225=64.6%, in Environ. Sci. in JCR-2015)
26. Chen, Y.-C., **Tsai, P.-J.* (Corresponding author)**, Mou, J.-L., Kuo, Y.-C., Wang, S.-M., Young, L.-H., Wang, Y.-F., A pilot study for determining the optimal operation condition for simultaneously controlling the emissions of PCDD/Fs and PAHs from the iron ore sintering process. *Chemosphere*, 2012, 88: 1324–1331. (**SCI;** 5Year IF=4.068; IF=3.698; R/C= 37/225=16.4%, in Environ. Sci. in JCR-2015)
27. Kuo, Y.-C., Chen, Y.-C., Yang, J.-H., **Tsai, P.-J.* (Corresponding author)**, Wang, L.-C., Chang-Chien G.-P., Correcting the gas and particle partitioning of PCDD/F congeners in the flue gas of an iron ore sinter plant . *Journal of Hazardous Materials*, 2012, 209-210: 402–407. (**SCI;** 5Year IF=5.641; IF=4.836; R/C= 19/225=8.4%, in Environ. Sci. in JCR-2015)
28. Wu, W.-T., Lin, Y.-J., Liou, S.-H., Yang, C.-Y., Cheng, K.-F., **Tsai, P.-J.**, Wu, T.-N., Brain cancer associated with environmental lead exposure: Evidence from implementation of a National Petrol-Lead Phase-Out Program (PLPOP) in Taiwan between 1979 and 2007. *Environment International*, 2012; 40: 97–101. (**SCI;** 5Year IF=6.604; IF=5.929; R/C= 8/225=3.5%, in Environ. Sci. in JCR-2015)
29. Wang, Y.-F., **Tsai, P.-J.* (Corresponding author)**, Chen, C.-W., Chen, D.-R., Dai, Y.-T. Size distributions and exposure concentrations of nanoparticles associated with the emissions of oil mists from fastener manufacturing processes. *Journal of Hazardous Materials*, 2011, 198: 182–187. (**SCI;** 5Year IF=5.641; IF=4.836; R/C=19/225=8.4%, in Environ. Sci. in JCR-2015)
30. Lin, C.-Y., Shih, T.-S., Guo, Y.-L., Wu, J.-L., Sun, Y.-M., **Tsai, P.-J.* (Corresponding author),** Effects of Gene-environmental Interaction on Noise-induced Hearing Threshold Levels for High Frequencies (HTLHF). *Environmental Science & Technology*, 2011, 45: 7128–7134. (**SCI;** 5Year IF=6.396; IF=5.393; R/C=3/50=6.0%, in Environ. Sci. in JCR-2015)
31. Kuo, Y.-C., Chen, Y.-C., Yang, C.-W., Mo, J.-L., Shih, T.-S., **Tsai, P.-J.* (Corresponding author)**, Identification the Content of the Windbox Dust Related to the Formation of PCDD/Fs during the Iron Ore Sintering Process. *Aerosol and Air Quality Research*, 2011, 11: 351–359. (**SCI;** 5Year IF=2.518; IF=2.393; R/C= 78/225=64.6%, in Environ. Sci. in JCR-2015)
32. Soo, J.-C., **Tsai, P.-J.* (Corresponding author),** Chen C.-H., Chen M.-R., Hsu H.-I, Wu,T.-N., Influence of Compressive Strength and Applied Force in Concrete on Particles Exposure Concentrations during Cutting Processes. *Science of The Total Environment*, 2011, 409: 3124–3128. (**SCI;** 5Year IF=4.317; IF=3.976; R/C= 32/225=14.2%, in Environ. Sci. in JCR-2015)
33. Soo, J.-C., Li, S.-R.,Chen, J.-R., Chang,C.-P., Ho, Y.-F., Wu,T.-N., **Tsai, P.-J.* (Corresponding author),** Acid Gas, Acid Aerosol and Chlorine Emissions from Trichlorosilane Burning Processes. *Aerosol and Air Quality Research*, 2011, 11: 323–330. (**SCI;** 5Year IF=2.518; IF=2.393; R/C= 78/225=64.6%, in Environ. Sci. in JCR-2015)
34. Wu, W.-T., **Tsai, P.-J. (Co-first author),** Yang, Y.-H., Yang, C.-Y., Cheng, K.-F., Wu, T.-N., Health impacts associated with the implementation of a national petrol-lead-phase-out program (PLPOP): Evidence from Taiwan between 1981 and 2007. *Science of The Total Environment*, 2011, 409: 863–867. (**SCI;** 5Year IF=4.317; IF=3.976; R/C= 32/225=14.2%, in Environ. Sci. in JCR-2015)
35. Wang, Y.-F., **Tsai, P.-J.* (Corresponding author),** Chen, C.-W., Chen, D.-R., Hsu, D.-J., Using a Modified Electrical Aerosol Detector (MEAD) to Predict Nanoparticle Exposures to Different regions of the Respiratory Tract for Workers in a Carbon Black Manufacturing Industry. *Environmental Science & Technology*, 2010, 44: 6767–6774. (**SCI;** 5Year IF=6.396;

IF=5.393; R/C=3/50=6.0%, in Environ. Sci. in JCR-2015)

36. Lin, C.-Y., Wu, J.-L., Shih, T.-S., **Tsai, P.-J.,** Sun, Y.-M., Ma, M.-C., Gou, Y.-L., N-acetyl-cysteine against Noise-induced Temporary Threshold Shift in Male Workers. *Hearing Research*, 2010, 269: 42–47. (**SCI;** 5Year IF=3.126; IF=3.565; R/C= 1/43=2.3%, in Otorhinolaryngology Sci. in JCR-2015)
37. Yu, K.-M., Lee, W.-J., **Tsai, P.-J.* (Corresponding author),** Fang, K., Lin, M.**,** Emissions of Polychlorinated Dibenzo-p-dioxins and Dibenzofurans (PCDD/Fs) from Both of Point and Area Sources of an Electric-Arc Furnace-Dust Treatment Plant and Their Impacts to Vicinity Environments. *Chemosphere*, 2010, 80: 1131–1136. (**SCI;** 5Year IF=4.068; IF=3.698; R/C= 37/225=16.4%, in Environ. Sci. in JCR-2015)
38. Soo, J.-C., **Tsai, P.-J.* (Corresponding author)**, Lee, S.-C., Lu, S.-Y., Chang C.-P.**,** Liu, Y.-W., Shih, T.-S., Establishing Aerosol Exposure Predictive Models Based on Vibration Measurements. *Journal of Hazardous Materials*, 2010, 178: 306–311. (**SCI;** 5Year IF=5.641; IF=4.836; R/C=19/225=8.4%, in Environ. Sci. in JCR-2015)
39. Chen, Y.-C., **Tsai, P.-J.* (Corresponding author)**, Wang, L.-C., Shih, M., Lee, W.-J., An Integrated Approach for Identification of Polychlorinated Dibenzo-*p*-dioxins and Dibenzofurans (PCDD/Fs) Pollutant Sources Based on Human Blood Contents. *Environmental Science and Pollution Research*, 2010, 17: 759–769. (**SCI;** 5Year IF=2.876; IF=2.760; R/C= 65/225=28.8%, in Environ. Sci. in JCR-2015)
40. Chen, C.-H., **Tsai, P.-J.* (Corresponding author)**, Lai, C.-Y., Peng, Y.-L., Soo, J.-C., Chen, C.-Y., Effects of Uniformities of Deposition of Respirable Particles on Filters on Determining Their Quartz Contents by Using the Direct on-Filter X-ray Diffraction (DOF XRD) Method. *Journal of Hazardous Materials*, 2010, 176: 389–394. (**SCI;** 5Year IF=5.641; IF=4.836; R/C=19/225=8.4%, in Environ. Sci. in JCR-2015)
41. Lin, J.-Y., Wu, J.-L., Shih, T.-S., **Tsai, P.-J.**, Sun, Y.-M., Guo, Y.L., Glutathione S-transferase M1, T1, and P1 Polymorphisms as Susceptibility Factors for Noise-induced Temporary Threshold Shift. *Hearing Research*, 2009, 257: 8–15. (**SCI;** 5Year IF=3.126; IF=3.565; R/C= 1/43=2.3%, in Otorhinolaryngology Sci. in JCR-2015)
42. Li, L., Chen, D.-R., **Tsai, P.-J.* (Corresponding author)**, Evaluation of an Electrical Aerosol Detector (EAD) for the Aerosol Integral Parameter Measurement. *Journal of Electrostatics*, 2009, 67: 765–773. (**SCI;** 5Year IF=1.357; IF=1.286; R/C= 127/257=49.4%, in Eng. Elec.& Elek. Sci. in JCR-2015)
43. Wang, S.-M., Chang, H.-Y., Tsai, J.-C., Lin, W.-C., Shih, T.-S., **Tsai, P.-J.* (Corresponding author)**, Skin penetrating abilities and reservoir effects of neat DMF and DMF/water mixtures. *Science of The Total Environment*, 2009, 407: 5229–5234. (**SCI;** 5Year IF=4.317; IF=3.976; R/C= 32/225=14.2%, in Environ. Sci. in JCR-2015)
44. Soo, J.-C., **Tsai, P.-J.* (Corresponding author)**, Chen, C.-H., Hsu, D.-J., Dai, Y.-T., Chang C.-P., Establishing Aerosol Exposure Predictive Models Based on Noise Measurements– Using the Concrete Drilling as an Example. *Journal of Environmental Monitoring*, 2009, 11, 1523–1528. (**SCI;** 5Year IF=2.461; IF=2.179; R/C= 87/223=39.0%, in Environ. Sci. in JCR-2015)
45. Chen, Y.-C., **Tsai, P.-J.* (Corresponding author)**, Mou, J.-L., Reducing PAH Emissions from the Iron Ore Sintering Process by Optimizing Its Operation Parameters. *Environmental Science & Technology*, 2009, 43: 4459–4465. (**SCI;** 5Year IF=6.396; IF=5.393; R/C= 3/50=6.0%, in Eng., Environ. in JCR-2015)
46. Chen, Y.-C., Sun, Y.-M., Mou, J.-L., **Tsai, P.-J.* (Corresponding author)**, Application of Orthogonal Array Method to Optimize Operating Conditions for Iron Ore Sintering. *ISIJ International*, 2009, 49: 743–748. (**SCI;** 5Year IF=1.257; IF=0.960; R/C= 33/73=45.2%, in Metal. & Metal. Eng. Sci. in JCR-2015)
47. Shih, T.-S., Shih, M., Lee, W.-J., Huang, S.-L., Wang, L.-C., Chen,Y.-C., **Tsai, P.-J.* (Corresponding author)**, Particle Size Distributions and Health-related exposures of polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/Fs) of sinter plant workers. *Chemosphere*, 2009, 74: 1463–1470. (**SCI;** 5Year IF=4.068; IF=3.698; R/C= 37/225=16.4%, in

Environ. Sci. in JCR-2015)

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## 2. **Patents**

1. **Tsai, P.-J.**, Lee, W.-J., Air pollution control devices for dust and volatile organic compounds, Patent No.: M517014, Date of Patent: Feb. 11, 2016.
2. Lai, C.-Y., **Tsai, P.-J.**, Tang, D.-T., Shih, T.-S., Lee, H.-Y., Lee, W.-Y., Uniform Aerosol Deposit Sampling Device. *Republic of China Patent,* Patent No.: I322866, Date of Patent: Apr. 1, 2010.
3. Lai, C.-Y., **Tsai, P.-J.**, Tang, D.-T., Shih, T.-S., Lee, H.-Y., Lee, W.-Y., Uniform Aerosol Deposit Sampling Device. *United States Patent,* Patent No.: US 7,582,146 B2, Date of Patent: Sep. 1, 2009.

## 3. Technique Transference

1. **Tsai, P.-J.**, Lee, W.-J., Push-Pull Ventilation and Air pollution Control Techniques for the Large Area Spray Painting Process. Titech Co. Ltd (NT$ 200,000) Dec. 12, 2013.

## 4. Awards and Honors

- **Personal Awards and Honors**

1. Best Research Paper Award for 2014 Taiwan Association for Aerosol Research (TAAR), " Young, L.-H., Lin, Y.-H., Lin, T.-H., **Tsai, P.-J.* (Corresponding author),** Wang, Y.-F., Hung, S.-M., Tsai, C.-J., Chen, C.-W., Field application of a newly developed personal nanoparticle sampler to selected metalworking operations. *Aerosol and Air Quality Research*, 2013, 13: 849–861." .
2. Distinguished Professor, National Cheng Kung University, 2013-2016.
3. Best Paper Award in Industrial Safety and Health Techniques (First prize) for 2nd Workplace Safety and Health Forum, "Developing techniques for heath-risk assessment and alarm system for workers exposed to multiple chemical agents", Taichung, Taiwan, June 13rd, 2013.
4. Best Paper Award in Industrial Safety and Health Technique Category in 2012 Industrial Safety and Health Technology Best Paper Competition, “Assessing Long-term Oil Mist Exposures to Workers in a Fastener Manufacturing Industry Using the Bayesian Decision Analysis Technique”, Council of Labor Affairs, Executive Yuan, July 4, 2012.
5. Best Paper Award in Industrial Safety and Health Techniques (First prize) for 1st Workplace Safety and Health Forum, "Developing Techniques for Control Banding and Health Risk Assessment for Workplace Chemical exposures", Taichung, Taiwan, May 31st, 2012.
6. Outstanding Research Award, "Correcting the Gas and Particle Partitioning of PCDD/F Congeners in the Flue Gas of an Iron Ore Sinter Plant", College of Medicine, National Cheng Kung University, May 31, 2012.
7. Outstanding Research Award, "Effects of Uniformities of Deposition of Respirable Particles on Filters on Determining Their Quartz Contents by Using the Direct on-Filter Z-ray Diffraction (DOF XRD) method", College of Medicine, National Cheng Kung University, May 31, 2012.
8. Best Paper Award in Industrial Hygiene (First prize) in 2012 International Occupational Hygiene Conference, “Effects of exposure to combustion products of scented candle on social stress-induced cardiopulmonary injury in mice”, Taiwan Occupational Hygiene Association. Apr. 27, 2012.
9. Best Paper Award, “Reducing PAH emissions from the iron ore sintering process by optimization its operation operators”. Cheng Hsing Medical Research and Teaching Foundation, July 25, 2011.
10. Best Paper Award in Industrial Safety Technique Category (Second prize) in 2011 Industrial Safety and Health Technology Best Paper Competition, “Acid Gas, Acid Aerosol and Chlorine Emissions from Trichlorosilane Burning Processes”, Council of Labor Affairs, Executive Yuan, July 5, 2011.
11. Best Paper Award in Industrial Safety and Health Management Technique Category (Second prize) in 2011 Industrial Safety and Health Technology Best Paper Competition, “Implementing a National Occupational Health Control Strategy by Combining a Semi-quantitative Risk Assessment Model and Bayesian Decision Analysis Technique”, Council of Labor Affairs, Executive Yuan, July 5, 2011.
12. Best Paper Award in Industrial Health Technique Category in 2011 Industrial Safety and Health Technology Best Paper Competition, “Developing a New Technique for Free Silica Exposure Assessment”, Council of Labor Affairs, Executive Yuan, July 5, 2011.
13. Best Reviewer Award (Vol.2, No. 1) of Safety and Health at Work (SH@W), Occupational

Safety and Health Research Institute (OSHRI), Korea Occupational Safety and Health Agency (KOSHA), June 14, 2011.

14. Best Paper Award in Industrial Hygiene (First prize) in 2011 International Industrial Hygiene and Occupational Medicine Conference, "Can Acid Values of Cooking Oil be Used as an Index for Assessing Workers' Exposures to PAHs emitted from Cooking Process", Taichung, Taiwan, Apr., 2011.
15. Best Research Award in Health Science, "Reducing PAH emissions from the iron ore sintering process by optimization its operation operators". National Cheng Kung University Medical College, Dec. 31, 2010.
16. Best Paper Award, "Determining Optimal Operation Parameters for Reducing PCDD/F emissions from the iron ore sintering process by Using the Taguchi Experimental Design". Cheng Hsing Medical Research and Teaching Foundation, June 18, 2010.
17. Best Paper Award (First prize) in 2010 Industrial Hygiene and Occupational Medicine Conference, "Gene-Environmental Interaction in Noise–induced Permanent Threshold Shift", Taipei, Taiwan, Mar., 2010.
18. Best Paper Award (Third prize) in 2009 Industrial Safety and Health Technology Best Paper Competition, "Analysis of Current Installation Condition, Energy Consumption and Effectiveness of Local Exhaust Ventilation System Used in Industries in Taiwan", Council of Labor Affairs, Executive Yuan, July, 2009.
19. Distinguished Professor, National Cheng Kung University, 2009-2012.
20. Best Paper Award (First prize) in 2008 Chinese Environmental Engineering Association Conference, "Determining Optimal Operation Parameters for Reducing PCDD/F Emissions (I-TEQ values) from the Iron Ore Sintering Process by Using the Taguchi Experimental Design", Taipei, Taiwan, Nov., 2008.
21. Best Paper Award in International Occupational Hygiene Association (IOHA) 7$^{th}$ International Scientific Conference, "Anti-oxidation Capability and Environmental Factors for Noise Induced Permanent Hearing Loss", Taipei, Taiwan, Feb., 2008.
22. Best Paper Award (Fifth Prize) in *2005 Occupational Health Conference*, "Characteristics and Control of Free Silica Emissions from Maintenance Works in Construction Industry", Tainan, Taiwan, April, 2005.
23. Best Paper Award (First Prize) in *2004 Occupational Health Conference*, "Emissions of VOCs from Motor Vehicle Engines under Various Driving Conditions", Kaohsiung, Taiwan, April, 2004.
24. Best Paper Award in *2004 Occupational Health Conference*, "Characteristics of PAH Emissions from Aircraft Engines", Kaohsiung, Taiwan, April, 2004.
25. Best Paper Award in *2004 Occupational Health Conference*, "Characteristics of Free Silica Exposures to Workers in Casting Industries", Kaohsiung, Taiwan, April, 2004.
26. Best Paper Award in *2004 Occupational Health Conference*, "Exposure and Health Risk Assessment for PAH Exposures to Steel Industry Workers", Kaohsiung, Taiwan, April, 2004.

- **Awards and Honors from Supervised Students**

1. Best Paper Award in Industrial Safety and Health Techniques (First prize) for 2nd Workplace Safety and Health Forum, "Developing Heath-risk assessment and alarm techniques for workers exposed to multiple chemical agents" (Student: Tseng, G.-R.), Taichung, Taiwan, June 13rd, 2013.
2. Best Paper Award in Industrial Safety and Health Technique Category in 2012 Industrial Safety and Health Technology Best Paper Competition, "Assessing Long-term Oil Mist Exposures to Workers in a Fastener Manufacturing Industry Using the Bayesian Decision Analysis Technique" (Student: Hsu, H.-I., Chen, M.-R., Wang, Y.-F.), Council of Labor Affairs, Executive Yuan, July 4, 2012.

3. Best Paper Award in Industrial Safety and Health Techniques (First prize) for 1st Workplace Safety and Health Forum, "Developing Techniques for Control Banding and Health Risk Assessment for Workplace Chemical exposures" (Student: Wang, S.-M.), Taichung, Taiwan, May 31st, 2012.
4. Outstanding Research Award, "Correcting the Gas and Particle Partitioning of PCDD/F Congeners in the Flue Gas of an Iron Ore Sinter Plant" (Student: Kuo, Y.-J.), College of Medicine, National Cheng Kung University, May 31, 2012.
5. Outstanding Research Award, "Effects of Uniformities of Deposition of Respirable Particles on Filters on Determining Their Quartz Contents by Using the Direct on-Filter Z-ray Diffraction (DOF XRD) method" (Student: Chen, C.-H.), College of Medicine, National Cheng Kung University, May 31, 2012.
6. Best Paper Award in Industrial Hygiene (First prize) in 2012 International Occupational Hygiene Conference, "Effects of exposure to combustion products of scented candle on social stress-induced cardiopulmonary injury in mice". (Student: Tseng, T.-H.), Taiwan Occupational Hygiene Association. Apr. 27, 2012.
7. Best Paper Award in Industrial Safety Technique Category (Second prize) in 2011 Industrial Safety and Health Technology Best Paper Competition, "Acid Gas, Acid Aerosol and Chlorine Emissions from Trichlorosilane Burning Processes" (Student: Soo, J.-C.), Council of Labor Affairs, Executive Yuan, July 5, 2011.
8. Best Paper Award in Industrial Safety and Health Management Technique Category (Second prize) in 2011 Industrial Safety and Health Technology Best Paper Competition, "Implementing a National Occupational Health Control Strategy by Combining a Semi-quantitative Risk Assessment Model and Bayesian Decision Analysis Technique" (Student: Wang, S.-M.), Council of Labor Affairs, Executive Yuan, July 5, 2011.
9. Best Paper Award in Industrial Health Technique Category in 2011 Industrial Safety and Health Technology Best Paper Competition, "Developing a New Technique for Free Silica Exposure Assessment" (Student: Chen, C.-H.), Council of Labor Affairs, Executive Yuan, July 5, 2011.
10. Best Paper Award in Industrial Hygiene (First prize) in 2011 International Industrial Hygiene and Occupational Medicine Conference, "Can Acid Values of Cooking Oil be Used as an Index for Assessing Workers' Exposures to PAHs emitted from Cooking Process". (Student: Chou, Y.-J.), Taichung, Taiwan, Apr., 2011.
11. Best Paper Award (First prize) in 2010 Industrial Hygiene and Occupational Medicine Conference, "Gene-Environmental Interaction in Noise–induced Permanent Threshold Shift". (Student: Lin, C.-Y.), Taipei, Taiwan, Mar., 2010.
12. Best Paper Award (Third prize) in 2009 Industrial Safety and Health Technology Best Paper Competition, "Analysis of Current Installation Condition, Energy Consumption and Effectiveness of Local Exhaust Ventilation System Used in Industries in Taiwan". (Student: Lai, Y.-H.), Council of Labor Affairs, Executive Yuan, July, 2009.
13. Best Paper Award (First prize) in 2008 Chinese Environmental Engineering Association Conference, "Determining Optimal Operation Parameters for Reducing PCDD/F Emissions (I-TEQ values) from the Iron Ore Sintering Process by Using the Taguchi Experimental Design". (Student: Chen, Y.-C.), Taipei, Taiwan, Nov., 2008.
14. Best Paper Award in International Occupational Hygiene Association (IOHA) 7$^{th}$ International Scientific Conference, "Anti-oxidation Capability and Environmental Factors for Noise Induced Permanent Hearing Loss". (Student: Lin, C.-Y.), Taipei, Taiwan, Feb., 2008.
15. Best Paper Award (Fifth Prize) in *2005 Occupational Health Conference*, "Characteristics and Control of Free Silica Emissions from Maintenance Works in Construction Industry". (Student: Soo J.-C.), Tainan, Taiwan, April, 2005.
16. Best Paper Award (First Prize) in *2004 Occupational Health Conference*, "Emissions of VOCs from Motor Vehicle Engines under Various Driving Conditions". (Student: Chiu Y.-C.), Kaohsiung, Taiwan, April, 2004.

17. Best Paper Award in *2004 Occupational Health Conference*, "Characteristics of PAH Emissions from Aircraft Engines". (Student: Chen Y.-C.), Kaohsiung, Taiwan, April, 2004.
18. Best Paper Award in *2004 Occupational Health Conference*, "Characteristics of Free Silica Exposures to Workers in Casting Industries". (Student: Chen C.-H.), Kaohsiung, Taiwan, April, 2004.
19. Best Paper Award in *2004 Occupational Health Conference*, "Exposure and Health Risk Assessment for PAH Exposures to Steel Industry Workers". (Student: Wong G.-C.), Kaohsiung, Taiwan, April, 2004.

## 5. Invited presentations

1. "Using a surrogate method for assessing workers' STEL and ceiling exposures to organic solvents during the PM process in a hightech industry" in Special Session of the "Occupational Exposure Limits and Sampling Strategy for Irregular & Intermittent Tasks" (Special Session Speaker), The 31st International Congress on Occupational Health (ICOH), Seoul, May 31-June, 5, 2015.
2. "Current Achievements and Challenges on Occupational Health in Taiwan" (Keynote Speaker)., 2014 Korean Industrial Health Association Conference, Busan, Korea, Oct. 23-24, 2014.
3. "Workplace exposure and health-risk assessment techniques" (Plenary lecture), 2014 Occupational Health Forum, Taichung, Taiwan, Sept. 11, 2014.
4. "Developing a semi-quantitative occupational risk predicting model for chemical exposures and its application to a national chemical exposure databank ". (Keynote Speaker). 2nd International Conference and Exhibition on Occupational Health & Safety, Beijing, China, May 21-22, 2013.
5. "Techniques for Assessing Workers' Nanoparticle Exposures" (Plenary lecture). 27th Environmental Analytical Chemistry Conference, Taoyung, Taiwan. May 3-4, 2013.
6. "Techniques for Assessing Nanoparticle Exposures to Different Regions of the Respiratory Tract" (Invited Speaker). Taiwan-India workshop on Nanotechnology: Environmental, Health and Safety, Taipei, Taiwan. Dec. 13-15, 2012.
7. "Using Bayesian Statistics to Initiate Taiwan Occupational Health Exposure Prevention Strategies" (Keynote Speaker). 2012 International Symposium on Safety Science and Engineering, Beijing, China. Nov. 7-9, 2012.
8. "Techniques for Aerosol Measurement" (Invited Speaker). Occupational Health Risk Control Forum, Beijing Labor Protection Science Research Institute, Beijing, China. Nov. 6-7, 2012.
9. "Occupational Health (OH) Practice and Research in Taiwan" (Invited Speaker). The Capital University of Economics and Business (CUEB), Beijing, China. Nov. 5, 2012.
10. "Initiating a national occupational health exposure prevention strategy through the use of the Bayesian Statistics" (Keynote Speaker). 2012 International Occupational Hygiene Conference, Taiwan Occupational Hygiene Association (TOHA), Kaohsiung, Taiwan. Apr. 27-28, 2012.
11. "New Techniques for Assessing Nanoparticle Exposures to Workers" (Plenary lecture). 2011 Korean Environmental Health Association Conference, Seoul, Oct.14-15, 2011.
12. "An integrated approach for assessing workers' exposures to semi-volatile organic compounds." (Keynote Speaker). 2011 Symposium on Exposure Biology. Seoul, Oct.12-13, 2011.
13. "Development of New Approaches for Assessing and Control the Emissions of PCDD/Fs from the iron ore sintering plant" (Keynote Speaker). 2011 International Industrial Hygiene and

Occupational Medicine Conference, Taichung, Taiwan, Apr. 23-24, 2011.

14. "Techniques for Assessing Workers' Exposures to Nanoparticles" (Invited Speaker). School of Public Health, Sichuan University. Chengdu, China. Mar. 29, 2011.
15. "Exposure Assessment and Control Strategy for Dioxin Emissions from Sintering process" (Invited Speaker). School of Public Health, Peking University. Beijing, China. Mar. 22, 2011.
16. "Can Biological Monitoring Results Be Used for the Identification of Pollutant Sources?" (Invited Speaker). School of Public Health, Fudan University. Shanghai, China. Dec. 10, 2010.
17. "Exposure Assessment and Control Strategy for small- and Median-Sized Enterprises." (Plenary Presentation) 2010 Chinese Labor Health and Occupational Disease Conference, Branch of Labor Health and Occupational Disease, Chinese Preventive Medicine Association. Shanghai, China. Dec. 7-10, 2010.
18. "Promoting Occupational Health in Taiwan." (Keynote Speaker). 2010 Health, Work, and Well-being Conference, Hong Kong Occupational Safety and Health Council. Hong Kong. Nov. 11-12, 2010.
19. "Health-related Exposure Assessment for workers exposed to Semi-volatile Organic Compounds." (Plenary Presentation). 2010 International Conference on Aerosol Science and Technology, Taiwan Association for Aerosol Research (TAAR). Taipei, Taiwan. Sep. 24-25, 2010.
20. "Overview of Nanoparticle Health Hazard Assessment." (Keynote Speaker). 2008 APEC Nanoscale Measurement Technology Forum. Tainan, Taiwan. Oct. 3-7, 2008.

## 6. International conference activities

1. *1st Asian Network of Occupational Health (ANOH) Organizing Board Member Meeting, ,Gaungzhou, China, May 22, 2014),*
2. *2nd Asian Network of Occupational Health (ANOH) Organizing Board Member Meeting, , Fukuoka, Japan, Sept. 2, 2014.*
3. *Scientific Committee,* 23rd Conference on Epidemiology in Occupational Health (EPICOH ), Utrecht, The Netherlands. June 18-21, 2013.
4. *Organizing Committe*e, 2nd International Conference and Exhibition on Occupational Health & Safety, Beijing, China, May 21-22, 2013.
5. *International Scientific Committee*, 7th International Conference on the Science of Exposure Assessment (X2012) in Edinburgh, Scotland, July 2-5, 2012.
6. *Conference Chairperson*, 2008 International Occupational Health Association (IOHA) Conference. Taipei, Taiwan.

## 7. Professional Activities

Editor-in-Chief

*Journal of Occupational Safety and Health*, 2011 to present

Editor/Editorial board member

Journal of Safety Research, 2007 to present **(SCI Journal)**

Aerosol and Air Quality Research, 2011 to present **(SCI Journal)**

TheScientificWorldJournal (Atmospheric Sciences Domain), 2011 to present **(SCI Journal)**
Frontiers in Oncology (Cancer Epidemiology and Prevention Section), 2011 to present **(SCI Journal)**
Safety and Health at Work (SH@W), 2010 to present
Industrial Safety Quarterly Journal, 2002 to present
Journal of Occupational Safety and Health, 2001 to 2010

Member, Recommended Exposure Limits for Chemical Substance, Institute of Occupational Safety and Health (IOSH), 2003 to present

Member, Occupational Disease Reviewing Board, Council of Labor Affairs, Executive Yuan, Taiwan. 2003 to present.

Consultant, Environmental Protection Unit, Ministry of Education, Taiwan, 2002 to present

Committee Member, Air Pollution Protection Committee, Tainan County, Chia-Yi City, and Tainan City, 2002 to present

## 8. Professional Association Service Activities

Taiwan Occupational Health Association (TOHA)
President Emeritus, 2008-
President, 2005-2008
Member, 1996-present

Taiwan Occupational Safety Association (TOSA)
Member, 2009 to present

Industrial Safety & Health Association, ROC
Member, 2006-present

Chinese Association for Aerosol Research in Taiwan (CAART)
Member, 1998-present

Taiwan Indoor Air Quality Association
Member, 2007-present

Taiwan Occupational Safety Association
Member, 2008-present