

# Contents of INDUSTRIAL HEALTH

Volume 56, 2018

## No. 1

### Editorial

Non-work periods for a better working life

Masaya TAKAHASHI..... 1

### Original Articles

The effect of long-term sickness absence on coworkers in the same work unit

Yuichi FUKUDA, Shinichi IWASAKI, Yasuhiko DEGUCHI, Koichiro OGAWA,  
Tomoko NITTA and Koki INOUE.....2

Altered immune responses in broiler chicken husbandry workers and their association  
with endotoxin exposure

Ravi GAUTAM, Yong HEO, GyeongDong LIM, EunSeob SONG, Katharine ROQUE,  
JaeHee LEE, YeonGyeong KIM, AhRang CHO, SoJung SHIN, ChangYul KIM,  
GiHwan BANG, JiYun BAHNG and HyoungAh KIM.....10

Verification of effect of sleep health education program in workplace:  
a quasi-randomized controlled trial

Yukari NAKADA, Aya SUGIMOTO, Hiroshi KADOTANI and Naoto YAMADA.....20

Basic study of intratracheal instillation study of nanomaterials for the estimation of  
the hazards of nanomaterials

Yasuo MORIMOTO, Hiroto IZUMI, Yukiko YOSHIURA, Yuri FUJISAWA,  
Kazuhiro YATERA, Katsuhide FUJITA, Junko MARU, Shigehisa ENDOH and  
Kazumasa HONDA .....30

Association between rotating night shift work and metabolic syndrome in Korean workers:  
differences between 8-hour and 12-hour rotating shift work

Jae-II OH and Hyeon Woo YIM .....40

### Short Communication

Prevalence of lung function impairment among Greek cement production workers:  
a cross-sectional study

George RACHIOTIS, Konstantinos KOSTIKAS, Dimitra PINOTSI,  
Christos HADJICHRISTODOULOU and Spyros DRIVAS .....49

### Field Reports

Teacher's sleep quality: linked to social job characteristics?

Maria U. KOTTWITZ, Christin GERHARDT, Diana PEREIRA, Lionel ISELI and  
Achim ELFERING .....53

Assessment of thermal environments: working conditions in the portuguese glass industry

A. Virgilio M. OLIVEIRA, Adélio R. GASPAR, António M. RAIMUNDO and  
Divo A. QUINTELA.....62

## Case Report

- Effect of the tight fitting net on fit performance in single-use filtering facepieces for Koreans  
Don-Hee HAN, Yesol PARK and Jae-Jong WOO.....78

## Country Report

- Cerebrovascular/cardiovascular diseases and mental disorders due to overwork and work-related stress among local public employees in Japan  
Takashi YAMAUCHI, Toru YOSHIKAWA, Takeshi SASAKI, Shun MATSUMOTO,  
Masaya TAKAHASHI, Machi SUKA and Hiroyuki YANAGISAWA.....85

## No. 2

### Editorial

- ISO standards on physical environments for worker performance and productivity  
Ken PARSONS.....93

### Review Article

- Occupational exposure to electromagnetic fields from medical sources  
Rianne STAM and Sachiko YAMAGUCHI-SEKINO .....96

### Original Articles

- Exploring how a traditional diluted yoghurt drink may mitigate heat strain during medium-intensity intermittent work: a multidisciplinary study of occupational heat strain  
Karin LUNDGREN-KOWNACKI, Mats DAHL, Chuansi GAO, Kristina JAKOBSSON,  
Caroline LINNINGE, Danping SONG and Kalev KUKLANE .....106
- Fluctuations in heart rate variability of health care workers during four consecutive extended work shifts and recovery during rest and sleep  
Elisabeth M. GOFFENG, Karl-Christian NORDBY, Mika P. TARVAINEN,  
Susanna JÄRVELIN-PASANEN, Anthony WAGSTAFF, Lars Ole GOFFENG,  
Merete BUGGE, Øivind SKARE and Jenny-Anne SIGSTAD LIE .....122
- Genotoxic effects of occupational exposure to benzene in gasoline station workers  
Eman SALEM, Islam EL-GARAWANI, Heba ALLAM, Bahiga Abd EL-AAL and  
Mofrih HEGAZY .....132
- Examination of validity of a conditioned odor aversion (COA) procedure using low-dose of organic solvent as an applied procedure of the conditioned taste aversion  
Rieko HOJO, Mitsutoshi TAKAYA, Akinori YASUDA, Masao TSUCHIYA and  
Yasutaka OGAWA.....141

### Short Communications

- Exposure to airborne endotoxin in Italian greenhouses: environmental analyses  
Angela GIOFFRÈ, Antonella MARRAMAIO, Ignazio DI GESU, Pasquale SAMELE,  
Emilia PABA, Anna MARCELLONI, Alessandra CHIOMINTO and Sergio IAVICOLI.....150
- Factors associated with adherence to recommendations to visit a physician after annual health checkups among Japanese employees: a cross-sectional observational study  
Eiko GOTO, Hirono ISHIKAWA, Tsuyoshi OKUHARA, Mio KATO, Masafumi OKADA  
and Takahiro KIUCHI.....155

Burnout syndrome as an occupational disease in the European Union: an exploratory study Andrea LASTOVKOVA, Melanie CARDER, Hans Martin RASMUSSEN, Lars SJOBERG, Gerda J. de GROENE, Riitta SAUNI, Jiri VEVODA, Sarka VEVODOVA, Gerard LASFARGUES, Magnus SVARTENGREN, Marek VARGA, Claudio COLOSIO and Daniela PELCLOVA.....	160
Organophosphorus pesticide exposure in agriculture: effects of temperature, ultraviolet light and abrasion on PVC gloves Ismaniza ISMAIL, Sharyn GASKIN, Dino PISANIELLO and John W. EDWARDS .....	166
<b>Field Report</b>	
Heat stress assessment in artistic glass units Francesca Romana d'AMBROSIO ALFANO, Boris Igor PALELLA, Giuseppe RICCIO, Massimo BARTALINI, Fabio STRAMBI and Jacques MALCHAIRE.....	171
<b>No. 3</b>	
<b>Editorial</b>	
The mission of the National Institute of Occupational Safety and Health, Japan (JNIOSH) Yasuo TOYOSAWA .....	185
<b>Original Articles</b>	
Depressive symptoms and risk of absence among workers in a manufacturing company: a 12-month follow-up study Dirga Kumar LAMICHHANE, Yong Seok HEO and Hwan Cheol KIM.....	187
Evaluation of operational parameters role on the emission of fumes Javad SAJEDIFAR, Amir Hossein KOKABI, Somayeh Farhang DEHGHAN, Ahmad MEHRI, Kamal AZAM and Farideh GOLBABAIE .....	198
Association between long work hours and depressive state: a pilot study of propensity score matched Japanese white-collar workers Mitsuo UCHIDA and Hiroshi MORITA.....	207
Investigation of the key determinants of Asian nurses' quality of life Sachiko MAKABE, Yanika KOWITLAWAKUL, Mohd Said NURUMAL, Junko TAKAGAI, Orn-Anong WICHAIKHUM, Neyzang WANGMO, Suk Foon YAP, Wipada KUNAVIKTIKUL, Junko KOMATSU, Hideko SHIRAKAWA, Yutaka KIMURA and Yoshihiro ASANUMA .....	212
Using relaxation techniques to improve sleep during naps Eden DEBELLEMANIERE, Danielle GOMEZ-MERINO, Mégane ERBLANG, Rodolphe DOREY, Michel GENOT, Edith PERREAUT-PIERRE, André PISANI, Laurent ROCCO, Fabien SAUVET, Damien LÉGER, Arnaud RABAT and Mounir CHENNAOUI .....	227
Towards a wearable sensor system for continuous occupational cold stress assessment Hanne AUSTAD, Øystein WIGGEN, Hilde FÆREVIK and Trine M. SEEBERG.....	228
Risk factors for musculoskeletal disorders in manual harvesting farmers of Rajasthan Rahul JAIN, Makkhan Lal MEENA, Govind Sharan DANGAYACH and Awadhesh Kumar BHARDWAJ.....	241

Asbestos exposure biomarkers in the follow-up of asbestos-exposed workers Valentina PAOLUCCI, Riccardo ROMEO, Antonietta Gerardina SISINNI, Giuseppina SCANCARELLO, Luca VOLTERRANI, Maria Antonietta MAZZEI, Lucio BARABESI and Pietro SARTORELLI.....	249
--	-----

## Country Reports

Determination of crystalline silica in respirable dust upon occupational exposure for Egyptian workers Sabrein H. MOHAMED, Aida L. EL-ANSARY and Eman M. Abd EL-AZIZ .....	255
Prevalence, source and severity of work-related injuries among “foreign” construction workers in a large Malaysian organisation: a cross-sectional study Haroun ZERGUINE, Shamsul Bahri Mohd TAMRIN, Juliana JALALUDIN.....	264

## No. 4

### Editorial

Meeting the challenge of climatic heat stress in construction Li BAIZHAN and Andrew BALDWIN .....	275
--	-----

### Original Articles

Research on the axial velocity change rule of desktop slot exhaust hood Jianwu CHEN .....	278
Survey of awareness about hazardous chemicals of residents living near chemical plants in South Korea Don-Hee HAN and Min Soo PARK .....	285
Standing balance on inclined surfaces with different friction Ingrid SVENSSON, Chuansi GAO, Amitava HALDER, Gunvor GARD and Måns MAGNUSSON .....	292
Exposure reconstruction of trichloroethylene among patients with occupational trichloroethylene hypersensitivity syndrome Tamie NAKAJIMA, Hailan WANG, Yuki ITO, Hisao NAITO, Dong WANG, Na ZHAO, Hongling LI, Xinxiang QIU, Lihua XIA, Jiabin CHEN, Qifeng WU, Laiyu LI, Hanlin HUANG and Michihiro KAMIJIMA .....	300
Individual, physical, and organizational risk factors for musculoskeletal disorders among municipality solid waste collectors in Shiraz, Iran Mansour ZIAEI, Alireza CHOOBINEH, Mohammad ABDOLI-ERAMAKI and Haleh GHAEM .....	308
Development and validation of a work-related low back pain risk-assessment tool for sugarcane farmers Kessarawan NILVARANGKUL, Teerasak PHAJAN, WONGSA LAOHASIRIWONG, John F SMITH and Dariwan SETTHEETHAM .....	320
Assessment of low back disorders risk based on allowable weight limits for manual lifting in Iran Davood AFSHARI, Seyed Mahmood LATIFI, Samira KORD and Maryam NOUROLLAHI-DARABAD .....	327

Associations of non-standard employment with cardiovascular risk factors: findings from nationwide cross-sectional studies in Japan Emiko ANDO, Yuko KACHI, Norito KAWAKAMI, Yoshiharu FUKUDA and Tomoyuki KAWADA .....	336
--	-----

Comparison of personal air benzene and urine <i>t,t</i> -muconic acid as a benzene exposure surrogate during turnaround maintenance in petrochemical plants Dong-Hee KOH, Mi-Young LEE, Eun-Kyo CHUNG, Jae-Kil JANG and Dong-Uk PARK .....	346
--	-----

## Case Report

Mass-size distribution and concentration of metals from personal exposure to arc welding fume in pipeline construction: a case report Show-Yi YANG, Jia-Ming LIN, Li-Hao YOUNG and Ching-Wen CHANG .....	356
--	-----

## No. 5

### Editorial

Reaching the unreached Tsuyoshi KAWAKAMI .....	365
---	-----

### Original Articles

Relationship between concealment of emotions at work and musculoskeletal symptoms: results from the third Korean working conditions survey Kyungyong JUNG, Dae Hwan KIM and Ji Young RYU .....	367
--	-----

Workaholism and negative work-related incidents among nurses Cecilie Schou ANDREASSEN, Ståle PALLESEN, Bente E. MOEN, Bjørn BJORVATN, Siri WAAGE and Wilmar B. SCHAUFELI .....	373
--	-----

Assessment of physicians' proficiency in reading chest radiographs for pneumoconiosis, based on a 60-film examination set with two factors constituting eight indices Taro TAMURA, Yukinori KUSAKA, Narufumi SUGANUMA, Kazuhiro SUZUKI, Ponglada SUBHANNACHART, Somkiat SIRIRUTTANAPRUK, Narongpon DUMAVIBHAT, Xing ZHANG, Prahalad K. SISHODIYA, Tran Anh THANH, Kurt G. HERING, John E. PARKER, Eduardo ALGRANTI, Francisco Santos-O'CONNOR, Hisao SHIDA and Masanori AKIRA .....	382
---	-----

Work-related injuries and fatalities in the geotechnical site works Özge AKBOĞA KALE and Tugba ESKISAR .....	394
---	-----

Prevalence and factors associated with poor sleep quality among secondary school teachers in a developing country Nor Asma MUSA, Foong Ming MOY and Li Ping WONG .....	407
--	-----

Effectiveness of re-education based on appropriate care methods using welfare equipment on the prevention of low back pain among care workers: a 1.5 year follow-up study Kazuyuki IWAKIRI, Midori SOTOYAMA, Masaya TAKAHASHI, Xinxin LIU, Shigeki KODA and Kiyoshi ICHIKAWA .....	419
---	-----

Ventilatory disorders associated with occupational inhalation exposure to nitrogen trihydride (ammonia) Masoud NEGHAB, Ahmad MIRZAEI, Fatemeh KARGAR SHOUROKI, Mehdi JAHANGIRI, Maryam ZARE and Saeed YOUSEFINEJAD .....	427
--	-----

### Short Communication

Health, education and employment status of Europeans aged 60 to 69 years: results from SHARE Survey Christoph AUGNER .....	436
---	-----

### Case Report

The framework of clinical occupational medicine to provide new insight for workaholism Quentin DURAND-MOREAU, Clarisse LE DEUN, Brice LODDE and Jean-Dominique DEWITTE .....	441
--	-----

### Country Report

Exploring the public-private and company size differences in employees' work characteristics and burnout: data analysis of a nationwide survey in Taiwan Wan-Yu YEH, Ching-Ying YEH and Chiou-Jong CHEN .....	452
--	-----

## No. 6

### SPECIAL ISSUE:

#### SELECTED PAPERS FROM ASIA PACIFIC SYMPOSIUM ON SAFETY 2017

### Editorial

APSS 2017 special issue Mizuki YAMAGUMA.....	465
---	-----

### Original Articles

Improvement of inspection system for reduction of small-scale construction site accident in Korea Sejong LIM, Ah-ra OH, Jeong-hun WON and Jae-joon CHON .....	466
Unstable behavior of segmental ring under various pressures and its discrete element simulation Naotaka KIKKAWA, Nobutaka HIRAOKA, Kazuya ITOH and Rolando P. ORENSE .....	475
Charge elimination method for a charged roll using a passive type ionizer with an air assist Yuki WAKATSUKI and Toshiyuki SUGIMOTO .....	485
The impact of work rest scheduling for prolonged standing activity Ismail Abdul RAHMAN, Norlizaa MOHAMAD, Jafri Mohd ROHANI and Raemy Md ZEIN .....	492

### REGULAR ISSUE

### Review Articles

Heart rate variability and occupational stress—systematic review Susanna JÄRVELIN-PASANEN, Sanna SINIKALLIO and Mika P. TARVAINEN.....	500
---	-----

Identifying shift worker chronotype: implications for health Beverly M. HITTLE and Gordon L. GILLESPIE .....	512
<b>Original Articles</b>	
Emotional exhaustion and innovation in the workplace—A longitudinal study Anna K. KOCH and Mareike ADLER.....	524
Gender-dependent associations between occupational status and untreated caries in Japanese adults Yuriko HARADA, Kenji TAKEUCHI, Michiko FURUTA, Akihiko TANAKA, Shunichi TANAKA, Naohisa WADA and Yoshihisa YAMASHITA.....	539
Skin temperature responses to hand-arm vibration in cold and thermoneutral ambient temperatures Hans PETTERSSON, Sirkka RISSANEN, Jens WAHLSTRÖM and Hannu RINTAMÄKI .....	545
Quantitative assessment of occupational exposure to total indium dust in Japanese indium plants Ichiro HIGASHIKUBO, Heihachiro ARITO, Yoko EITAKI, Akihiro ARAKI, Kenji ANDO, Hidesuke SHIMIZU and Haruhiko SAKURAI.....	553
<b>Case Report</b>	
Acute toxic encephalopathy induced by occupational exposure to 1,2-dichloropropane Kyeong Min KWAK, Kyoung Sook JEONG, Dong Hoon SHIN, Won-Jun CHOI, Hyun Soo KIM and Seong-Kyu KANG .....	561
<b>Country Report</b>	
Workplace fatalities in Brunei Darussalam Kyaw Naing WIN, Ashish TRIVEDI and Alice SC LAI.....	566
<b>Author Index to Volume 56 (2018)</b> .....	572
<b>Subject Index to Volume 56 (2018)</b> .....	576
<b>Acknowledgements</b> .....	580