

12th ISF Proceedings, Porto, 2010

History of Portuguese Fireworks - António Rodrigues, President of A.N.E.P.E. – Associação Nacional de Empresas de Produtos Explosivos (National Association of Explosives Products Enterprises), Portugal

Breaking a World Record – 125,801 Rockets in under 30 Seconds - *Brian Benjamin Andrade Lim*, Pyroworks International Inc., Philippines

Pyrotechnics and Prevention – Two Worlds Connected - *Cristina M.A Moutinho Pinheiro*, Safety Consultant, Portugal

The Effects of the New European Directive on Pyrotechnics Rules in Spain - *Jordi Bertran*, Fundació Fira Mediterrània, Spain

The Outline of the Regulation of Explosives in Japan - *Takayuki Kawamura*, Ministry of Economy, Trade and Industry, Japan

Two Tests Demonstrating the Effects of Small Blasts inside Explosives Storage Magazines - *Jason Ollerenshaw and Bert Von Rosen*, Canadian Explosives Research Laboratory (CERL), Canada

Fire Tests on Pyrotechnic Articles that are Sold Over the Counter in Argentina - *Griselda Montero*, Cienfuegos S.A., Argentina

Consumer Fireworks Testing – The Effect of Automatic Fire Sprinklers on Fire Behavior - *Julie L. Heckman and John A. Conkling*, American Pyrotechnics Association (APA), USA

Fireworks Shells, Mortars, and the ‘Q-Ratio’ - *Ettore Contestabile*, International Symposium on Fireworks Society (ISFS), Halifax, Canada

Experimental Study on Time/Pressure Test for Pyrotechnics - *Zhang Guanghui, Tan Aixi, Jiang Zicheng, Qiu Zhaoshu, Qiu Lina*, Fireworks and Firecracker Inspection Centre of Hunan Entry-Exit Inspection Quarantine and Bureau Liuyang, China, *Y.S. Chua*, International Quality Assurance B.V., China

Comparative Investigation on the Thermal Flux Test for Fireworks Transport Hazard Classification - *Liu Xiangyang*, Yancheng Entry-Exit Inspection and Quarantine Bureau, China

Multiple Firing Systems Usage on a Display - *Vitor Machado and Carlos Pereira*, Grupo Luso Pirotecnia, Portugal

Eliminating Ignition Timing Latencies with UltraFire - *Dan Barker*, Pyrotechnics Management, Inc, FireOne, USA

Computer Choreography for Electrically Fired Shows - *Will Harvey*, Finale Fireworks, USA

New Design Methodologies to Ensure Safety and Robustness for Programmable Firing Systems - *Francesco M. Franzinelli Socini Guelfi and Daniele Lenzi*, ArSilicii s.r.l., Italy, *Luigi L. Monetti and Carlo Monetti*, Monetti s.r.l., Italy

Quality Control Testing of Pyrotechnic Articles for Beijing 2008 Olympic Games - *Andrew Tang*, Tian Cheng Pyrotechnics Laboratory, China, *Rongqiu Lu*, Hunan Fireworks Safety Quality Supervision & Inspection Center, China

International Standardization of Fireworks Proposal by the National Fireworks & Firecrackers Standard Technical Commission of PRC - *Heming Li*, Hunan Liuyang Quality and Technical Supervision Bureau, *Rongqiu Lu*, Hunan Liuyang Fireworks Safety Quality Supervision & Inspection Center, *Chaxiang Huang*, China National Fireworks & Firecrackers Standard Technical Commission, China

Risk Analysis of Fireworks Transport in Cargo Container Ships - *Ruddy Branka*, *Guy Marlair*, *Brigitte Nedelec*, Institut National de l'Environnement Industriel et des Risques (INERIS), Accidental Risk Division/Units PYRO, SUPG and DIAG, France

Are Risk Assessments Necessary in Order to Review Existing and to Sanction the Building of New Fireworks Plants? - *Joseph Theuma*, Maltese Pyrotechnic Society, Managing Director 19th March Fireworks, Rabat, Malta

Safety Zone for Pyrotechnics Establishments in Portugal - *Manuel Rodrigues*, APIPE – Associação Portuguesa dos Industriais de Pirotecnicia e Explosivos (Portuguese Association of Pyrotechnic and Explosives Industry), Portugal

Mutually Hazardous Sites – *Ettore Contestabile*, ec Blast Consulting, Ottawa, Canada

Analysis of Explosives Accidents in Portugal over the Period 2005–2007 - *José Góis*, Laboratory of Energetics and Detonics, University of Coimbra, Portugal

Classification of Causes of Fireworks Accidents in Japan - *Yusuke Wada*, *Shoko Abe*, *Kaori Owa Heisig*, *Saki Uchimura*, *Nobuo Nakajima*, *Masahide Wakakura*, and *Yuji Wada*, National Institute of Advanced Industrial Science and Technology (AIST), Japan, *Katsumi Katoh*, Fukuoka University, Japan, *Mitsuru Arai*, University of Tokyo, Japan

European Qualification Framework in the Explosives Sector - *José Góis*, Laboratory of Energetics and Detonics, University of Coimbra, Portugal

Standardisation of Fireworks - Quo Vadis? - *Christian Lohrer*, BAM Federal Institute for Materials Research and Testing, Division II.3 "Explosives", Germany

Analysis on Strong Burst in Display Shells and Frequent Problems - *Zhang Shoujin*, *Liu Guoping*, China Liuyang New-Art Pyrotechnics Co., Ltd., China

Pyromusicals in Malta - *Nick Spiteri*, FireOne Malta, Malta

A Study on the Bursting Phenomena of a Japanese Shell (Warimono) - *Shuji Hatanaka*, *Norihide Suruga*, *Ikumi Matsui*, Bureau of Pyrotechnics Inspection (BPI), Japan Pyrotechnics Association (JPA), Japan

Collision Hazard of Falling Shell-Case Fragments - *Shuji Hatanaka*, *Norihide Suruga*, *Ikumi Matsui*, Bureau of Pyrotechnics Inspection (BPI), Japan Pyrotechnics Association (JPA), Japan

Impacts of Various Conditionings on Performance Parameters of Category 4 Fireworks Shells - *Kim Stattaus, Lutz Kurth, Andreas Dutschke, Nadine Kästorf, Christian Lohrer*, BAM Federal Institute for Materials Research and Testing, Division II.3 "Explosives", Germany

Experiences with Netherlands Consumer Fireworks Tested According to the New European Standard EN 15947 - *E.G. de Jong*, Netherlands Organization for Applied Scientific Research (TNO) Defence, Security and Safety, The Netherlands and *D. Wong*, International Technical and Quality Services (ITQS), Hong Kong

The Flying Fireworks Squad (VbV) Enforcement on Fireworks in The Netherlands - *Arno van Dop*, Ministry of VROM, VROM Inspectorate, The Netherlands

Predicting Combustion Properties of Pyrotechnic Compositions Using Thermodynamic Code Thor – Pollutants and Radiation Evaluation - *José Campos, Luisa Durães, A Andrade-Campos and António Portugal*, LEDAP - Laboratory of Energetics and Detonics, Portugal

Measurement of the Burn Rate of Black Match as a Function of Moisture Content - *Susan C. Schneider*, Department of Electrical and Computer Engineering, Marquette University, and *Roger L. Schneider*, Rho Sigma Associates, Inc., USA

Chemical Exposures from Consumer Pyrotechnics - *Gerry Croteau, Russel Dills, and Marc Beaudreau*, Department of Environmental and Occupational Health Sciences, University of Washington, *Mac Davis*, Washington Department of Labor and Industries Division of Occupational Safety and Health (DOSH), USA

Fluidised Bed Incineration of Pyrotechnic Compositions - *J. Campos, L. Serrano, J. Gois, L. Duraes, and A. Portugal*, Laboratory of Energetics and Detonics, University of Coimbra, Portugal

Emission Studies of Theatrical Pyrotechnic Articles under Defined Boundary Conditions - *Romy Lutze, Andreas Dutschke, Christian Lohrer, Lutz Kurth*, BAM Federal Institute for Materials Research and Testing, Division II.3 "Explosives", Germany

Pyrotechnics Disposal, Recycling and Recovery - *Teresa Muñoz de la Torre*, EXPAL (MAXAM Group), Spain

Evaluation of the Safety Properties of Igniters - *Kazunori Otsuka*, Kayaku Japan Co., Ltd., Japan

Solar Flare Igniters an Alternative to Pyrotechnic Electric Igniters - *Fred Wade*, Fireworks FX Inc., Canada

The New “European Manufacturer” off Pyrotechnic Articles - *Carlos Fernández*, Laboratorio Oficial J. M. Madariaga (LOM), Spain

New Insight into Strobe Reactions - *J.M.L. Corbel, J.N.J. van Lingen, J.F. Zevenbergen, A. Meijerink, O. L. J. Gijzeman*, TNO Security and Safety, The Netherlands

Understanding Colored Smokes - *Joseph A. Domanico*, Aberdeen Proving Ground, Edgewood Chemical Biological Center, USA