12th International Symposium on Fireworks
Porto/Gaia, Portugal
October 11-15, 2010
Program
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Complete visual simulation and choreography system for designing and shooting world class displays with manual firing or computer firing.
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* To provide the best service we only accept a limited number of clients.

Above: Example page from a site layout report printed by Finale Business Edition ($299). If you’ve ever had inexperienced volunteers on your crew, you know what it takes to bring them up to speed. Can you imagine how much time it would save if you could email them a report that gave them instructions and showed them visual diagrams of everything they had to set up?
Welcome all to the 12th International Symposium on Fireworks in Porto/Gaia! Here we are once again meeting in a locale where society is infused with a distinct culture of fireworks. You can feel it! The road began with the Portuguese pyrotechnicians attending the ISF in the late nineties and then every following ISF. Always there, not necessarily in large numbers, but making presentations or taking part in the Moderated Sessions and of course the festivities. Who can forget the impromptu Portuguese evening in the Trade Show area in Berlin? Who knew that so many goodies could have been brought over from Portugal for this evening celebration? It was great!

There never seemed to be much pressure for a Symposium in Portugal, but the ISF Directors were surprised that when the call went out for the 12th ISF, a proposal was received from Portugal. It was the very best proposal among those submitted. As a result, the ISF directors unanimously voted for Portugal as the site for the 12th International Symposium on Fireworks.

Great effort has gone into making sure that the Portuguese fireworks community is well represented in the Program and I hope that all the ISF attendees will acquire a much better appreciation for fireworks, traditions, and the Portuguese struggle to adapt to global demands and regulations.

Over the last year or so, the economic downturn has caused many individuals and businesses to reduce their travels. In fact some conferences offered web-conferencing as an alternative to in-person attendance. Some conferences cancelled their event altogether. This was a concern for the ISF since it functions solely on the registration fees collected and sponsorship from supporters. The ISF cannot afford a low attendance and for this reason, takes in consideration the attractiveness of the site to our regular and new registrants, amongst other factors. As bad as the economic situation seemed in Europe, the numerous submissions of abstracts for presentations, the quick sale of the trade show booths and the many inquiries regarding the 12th ISF encouraged us to proceed. But most of all, the light that shone the way came from the Portugal Host Committee. Not only did its members achieve what was expected by the ISFS, but they went beyond to prepare for their guests. The Portugal ISF Host Committee has made many arrangements for an enjoyable stay in Porto/Gaia. So, as you will undoubtedly enjoy the week, give a word of thanks to our Host Committee members. They deserve it.

I hope that everyone will enjoy the ISF Program and all the evening events organized for you; all with the goal of continuing to ΕΞΕΥΡΙΣΚΕΤΕ ΤΟ ΠΥΡ.

Message from the ISF Society Chairman
Ettoire Contestabile

Bem-Vindos, Welcome!

First, I would like to thank the International Symposium on Fireworks Society for choosing Portugal as the place of the 12th International Symposium of Fireworks (ISF). The North of Portugal is well known for its hospitality and friendly people. This place (Porto/Gaia), where you can tour and have some leisure time, was, in our opinion, the best option for the 12th Symposium.

I remember my first Symposium in Orlando (USA) in 1996, and, since then, I have been waiting for the chance of hosting the ISF in Portugal. Now my wish is fulfilled! Portuguese Fireworks, already known among many countries, will certainly improve, because of the sharing of new experiences and knowledge of all of you and we thank every attendee for that too. During the Symposium, we’ll try to show you the best of our culture and traditions concerning Portuguese Fireworks, as well as the evolution of techniques that has occurred in the last years. For a whole week, you will watch different firework displays, from the most traditional (as the big rockets) to the most developed technique according to the Portuguese pyrotechnics art and knowledge. You will also have the chance to see some amazing international displays.

And on your free time try to enjoy the superb view, the gastronomy, the wine, and get to know a little more about Portuguese culture and traditions. The views of Porto and Gaia are magnificent: You can see from both sides the most historic parts that have been preserved. And…sitting on a terrace, sipping a wine, you can see the lights twinkle on the Douro River as the sun sets. I’m sure you will return to Porto/Gaia, and we will be glad for your visit.

Once again, in my name and on the behalf of the members of A.N.E.P.E - Associação Nacional de Empresas de Produtos Explosivos (National Association of Explosives Products Enterprises), I thank you for the deserving confidence on us, for this 12th ISF in Porto/Gaia.

A toast with “Port Wine”! Have a good Symposium and enjoy the stay!

Message from the ISF Co-Chairman
António Rodrigues, President of A.N.E.P.E.
fogos de artifício portugueses, que já são conhecidos em diversos países, irão certamente melhorar com a troca de novas experiências e conhecimentos com todos vis, pelo que também agradeço por isso a vossa participação. Durante o simpósio, iremos tentar mostrar o melhor da cultura e tradições dos fogos de artifício Portugueses, bem como a sua evolução técnica dos últimos anos. Por toda a semana, poderão ser observados diferentes demonstrações e espectáculos de fogo de artifício, desde o mais tradicional (como os foguetes de grandes dimensões) até ao mais tecnicamente desenvolvido segundo a arte e conhecimento da pirotecnia Portuguesa. Também teremos a oportunidade de ver algumas demonstrações espectaculares de cariz internacional.

No vosso tempo livre não deixem de gozar a estupenda paisagem, a gastronomia, o vinho e conhecer um pouco mais sobre a cultura e tradições Portuguesas. As vistas do Porto e Gaia são magníficas; podem verificar que dois lados foi preservado o património histórico mais importante. E... sentados numa esplanada, saboreando um vinho, observem o cíntaro das luzes no rio Douro imitando um pôr-do-sol. Tenho a certeza que regressarão dois lados foi preservado o património histórico mais importante. E... sentados numa esplanada, saboreando um vinho, observem o cíntaro das luzes no rio Douro imitando um pôr-do-sol. Tenho a certeza que regressarão do dois lados foi preservado o património histórico mais importante. E... sentados numa esplanada, saboreando um vinho, observem o cíntaro das luzes no rio Douro imitando um pôr-do-sol. Tenho a certeza que regressarão do dois lados foi preservado o património histórico mais importante. E... sentados numa esplanada, saboreando um vinho, observem o cíntaro das luzes no rio Douro imitando um pôr-do-sol. Tenho a certeza que regressarão do dois lados foi preservado o património histórico mais importante. E... sentados numa esplanada, saboreando um vinho, observem o cíntaro das luzes no rio Douro imitando um pôr-do-sol. Tenho a certeza que regressarão do...


Finalmente, quero propor um brinde com “Vinho do Porto”! Tenham um bom simpósio e apreciem a estadia! Viva!

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**The 2010 ISF Honorary Chairman**

Jacinto Caetano Martins

Jacinto Caetano Matins was born on the 29th April 1928, in Moita do Norte – Barquinha – Santarém. He completed the 3rd year of High School Education in 1940, in Moita do Norte – Barquinha – Santarém, concluded the 3.° Ano do Liceu and the Curso Comercial de Contabilidade and received a diploma of Técnico de Pólvoras Rastilhos emitido por autoridade competente.

Desde os 12 anos de idade que trabalha na indústria de Protecção, Pólvoras e Rastilhos, primeiro na empresa do avô e depois do pai. Em 1964, devido à saída do pai, assumiu a gerência da empresa que entretanto se dedicou unicamente ao fabrico de pólvoras e rastilhos para a indústria pirotécnica e explosivos.

Foi o responsável pela introdução de algumas inovações no fabrico de rastilho, nomeadamente a cobertura em plástico e do rastilho com a espessura de 10 mm, na década de 80 iniciou a exportação de rastilho para países europeus e outros países fora da Europa. Foi dos primeiros pirotécnicos portugueses a participar em congressos e reuniões do sector da pirotecnia a nível europeu.

Foi um dos grandes impulsionadores para a criação de uma associação de empresas pirotécnicas e de explosivos em Portugal.

É dos pirotécnicos Portugueses mais conhecido, conceituado e respeitado no sector da pirotecnia Portuguesa ainda no activo.

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**Registration**

Registration to the 12th International Symposium on Fireworks includes entry to receptions, meals and refreshment breaks, all technical sessions, workshops, site visits, evening fireworks displays and demonstrations, and to the Trade Show. Registrants will receive a printed copy of the 12th ISF Proceedings as well as a copy on DVD, which is a compilation of the scientific and technical papers presented and any other promotional material supplied by sponsors.

Registration will be at the Porto Palacio Hotel on Sunday from 13:00 to 17:00 and on Monday from 9:00 to 17:00.

The registration cost is $750 USD per person.

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**Trade Show**

Exhibits will open each day at 9:00 Monday to Friday, and will close at the same time as the technical sessions. Attendees are strongly encouraged to visit our exhibitors and discuss their topics and services. The exhibitors’ participation is a welcome and necessary part of the Symposium.

**Sponsorship of Symposium Activities**

The Symposia are funded exclusively by attendees’ registration fees and sponsorship. As the Symposia are conducted on a non-profit basis, corporate and government sponsorships are absolutely necessary to ensure a high quality event while maintaining registration fees at a modest level. Please consider now and at future Symposia sponsoring an item on the list of Sponsorship Opportunities. Sponsors are acknowledged in the Symposium program guide and at any specific activity supported. The Symposia Society would be receptive to your suggestions of financial support, and Sponsorship packages of various donation levels can be customized. Consider also donating your company’s promotional items for the attendee registration bags.
Doing Business at the Symposium
This international gathering is an excellent opportunity for manufacturers and suppliers to engage in business on a direct basis with key decision-makers from companies around the world. Manufacturers and suppliers are encouraged to promote their goods and services in several ways;
• Symposium Trade Show
• Advertisement in the Symposium program
• Inserts in the attendees registration bags

Currency Exchange
Banks are located near to the Symposium hotels, and Automated Banking Machines are common. The local currency is the Euro. US dollars are accepted virtually everywhere as are credit cards.

Weather Conditions in October
October can be warm and nice and a little summery but also cold and rainy as autumn. Average daily temperatures during October are a daytime high 21°C and an evening low of 11°C.
Most of the shows and evening presentations will take place near the sea, therefore it is recommended to bring a jacket or warm sweater just in case.
Porto is an old “Bourgeois” city, comfortable shoes are necessary as the hills can be hazardous for high heels.
An umbrella or rain jacket is recommended as well.

Social Activities
One of the greatest benefits to attending the Symposium is meeting and talking with people involved in every aspect of the fireworks/pyrotechnic industry. Starting with the welcome reception on Sunday evening, meals and coffee breaks, after hours activities in the hotel lounge or in the vicinity, and the Portuguese culture and many sites of interest while visiting Porto, there is a wealth of things to see and do.

One of the greatest benefits to attending the Symposium is viewing fireworks demonstrations, there is a wealth of interest in the pyrotechnic industry. Starting with the Symposium Chairman,
• Inserts in the attendees registration bags
• Advertisement in the Symposium program
• Product demonstrations

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Tuesday, October 12

Session 4
Session Chairperson: Rachel Robbins - Senior Inspector, Pyrotechnics/Fireworks, Explosives Regulatory Division, Canada
8:30 Multiple Firing Systems Usage on a Display - Vitor Machado and Carlos Pereira, Grupo Luso Pirotecnia, Portugal
9:00 Eliminating Ignition Timing Latencies with UltraFire - Dan Barker, Pyrotechnics Management, Inc, FireOne, USA
9:30 New Design Methodologies to Ensure Safety and Robustness for Programmable Firing Systems - Francesco M. Franzellini Socini Guelfi and Daniele Lenzì, ArSilići s.r.l., Italy, Luigi L. Monetti and Carlo Monetti, Monetti s.r.l., Italy
10:00 BREAK

Session 5
Session Chairperson: José Carlos Góis – President da Direcção da AP3E – Associação Portuguesa de Estudos e Engenharia de Explosivos
10:30 Computer Choreography for Electrically Fired Shows - Will Harvey, Finale Fireworks, USA
11:00 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
11:30 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
12:00 LUNCH

Session 6
Session Chairperson: António Neves Ferreira – Sub-Director da ACT – Autoridade para as Condições do Trabalho
13:30 Risk Analysis of Fireworks Transport in Cargo Container Ships - Ruddy Branka, Guy Maïlar, Brigitte Nedelec, Institut National de l’Environnement Industriel et des Risques (INERIS), France
14:00 Are Risk Assessments Necessary in Order to Review Existing and to Sanction the Building of New Fireworks Plants? - Joseph Theuma, Maltese Pyrotechnics Society, Managing Director 19th March Fireworks, Rabat, Malta
14:30 Safety Zone for Pyrotechnics Establishments in Portugal - Manuel Rodrigues, APIPE – Associação Portuguesa dos Industriais de Pirotecnia e Explosivos (Portuguese Association of Pyrotechnic and Explosives Industry), Portugal
15:00 BREAK

Wednesday, October 13

Session 8
Session Chairperson: Ruddy Branka – Institut National de l’Environnement Industriel et des Risques (INERIS), France
8:30 European Qualification Framework in the Explosives Sector - José Góis, Laboratory of Energetics and Detonics, University of Coimbra, Portugal
9:00 Standardisation of Fireworks - Quo Vadis? - Christian Lohrer, BAM Federal Institute for Materials Research and Testing
9:30 The Outline of the Regulation of Explosives in Japan – Takayuki Kawamura, Ministry of Economy, Trade and Industry, Japan
10:00 BREAK
Thursday, October 14

Session 10
Session Chairperson: Francisco A. C. Bagina – Director do DAE – Departamento de Armas e Explosivos da Direcção-Nacional da Polícia de Segurança Pública

8:30 Analysis on Strong Burst in Display Shells and Frequent Problems - Zhaohui Shoujink, Liu Guoping, China Liuyang New-Art Pyrotechnics Co., Ltd., China

9:00 A Study on the Bursting Phenomenon of a Japanese Shell (Warimono) - Shuji Hatanaka, Northide Suruga, Ikumi Matsui, Bureau of Pyrotechnics Inspection (BPI), Japan Pyrotechnics Association (IPA), Japan

9:30 Collision Hazard of Falling Shell-Case Fragments - Shuji Hatanaka, Northide Suruga, Ikumi Matsui, Bureau of Pyrotechnics Inspection (BPI), Japan Pyrotechnics Association (IPA), Japan

10:00 BREAK

Session 11
Session Chairperson: Trevor Vella – Malta Tourism Authority (MTA), Malta


11:00 Experiences with Netherlands Consumer Fireworks Tested According to the New European Standard EN 13947 - 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

11:30 The Flying Fireworks Squad (VbV) Enforcement on Fireworks in The Netherlands - Arno van Dop, Ministry of VROM, VROM Inspectorate, The Netherlands

12:00 LUNCH

12:00 CLOSE

Friday, October 15

Session 14
Session Chairperson: Melanie Cagnon – International Business Manager, Grupo LUSO PIROTECNIA, Portugal

8:30 Evaluation of the Safety Properties of Igniters - Kazuori Otsuka, Kayaku Japan Co., Ltd., Japan

9:00 Solar Flare Igniters an Alternative to Pyrotechnic Electric Igniters - Fred Wade, Fireworks FX Inc., Canada

9:30 The New "European Manufacturer" off Pyrotechnic Articles - Carlos Fernandez, Pyrotechnic Articles, Laboratorio Oficial J. M. Madariaga (LOM), Spain

10:00 BREAK

Session 15
Session Chairperson: Alexander von Oertzen – Leiter der Arbeitsgruppe Spreng- und Treibmittel, BAM Bundesanstalt für Materialforschung und –prüfung, Germany


11:00 The Wonderful World of Girondolas - Joseph A. Domanico, Crackerjacks Fireworks Club, East Coast Regional USA, USA

11:30 Pyromusicals in Malta - Nick Speriti, Fireone Malta, Malta

12:00 CLOSE

Closing remarks - António Rodrigues and Etore Contestabile
Schedule of Entertainment

Wednesday
17:00 A Portuguese Fest
Starting at 5PM, this special evening will take you into the atmosphere of a traditional Portuguese “festa”. Recreating the typical festivities organized in Portuguese villages, this night will be full of entertainment, music, typical food stands, drinks and of course, Portuguese traditional fireworks including the famous skyrocket launching and handcrafted set pieces. Among the fireworks animation, don’t miss the launching of the LARGEST ROCKET; A 12-kg Rocket, 550 mm in diameter and with tail, is 6 m tall. It will be a special night to remember as the ISF attendees are guests of the cities of Porto/Gaia. Other surprises are of course to be expected!

Tickets are required for this event at a cost of $20 USD. The price of admission includes all you can eat and drink, and transportation to and from the Porto Palacio Hotel.

Friday
18:00 – Closing Gala Dinner – “Under the Stars”
To bring a fantastic week in Portugal to a close, the ISF and Portugal Host committee invite you to join your friends and colleagues to a magical night, “Under the Stars”. Throughout the evening guests will be treated as Hollywood stars with a red carpet, welcome photographer, cocktail reception, dinner entertainment with traditional Fado singer and many other surprises. It all takes place in the historic Ferreira Wine Cave where, after a visit of the Cave, dinner will be served. Following dinner the 12th ISF will close with a fireworks display presented by ANEPE and the cities of Porto/Gaia.

Dress code: Cocktail or Business attire.
$50 USD per person
Sponsored by the Maltese Tourism Authority

Saturday, October 16
Douro River Tour
A wonderful way to finish off a very busy week. Join new and old friends from around the world on a relaxing tour of the Douro River, cruising through locks, beautiful scenery, lunch and an open bar — fantastic!
Price is $70 per person.

Schedule
08:30 Passengers meet at the Quay of Vila Nova de Gaia and board the ship
10:00 Ship sails through the Crestuma-Lever Dam - Difference in water level: 14 meters
12:30 Ship sails through the Carrapatelo Dam - Difference in water level: 35 meters
13:00 Lunch served on board
15:30 Passengers disembark at the Régua Quay
17:00 Train leaves Régua Railway Station
19:00 Arrival at São Bento Railway Station, in Porto

Important Note: You Must Wear Your Name Badges during all Symposium Activities (Indoor and Outdoor)
Sponsors
It would not be possible to maintain the high calibre of the Symposium that we have come to expect without the support and generosity of our sponsors. A warm thank you from all of us, the ISF committee and all attendees. Thank you for your support!

Canadian Explosives Research Laboratory (CERL)
Printing of Proceedings
www.nrcan.gc.ca/mms-smm/expl-expl/sci-sci-eng.htm

Fireone
Sunday Welcome Reception
www.Fireone.com

Hansa- Express Logistcs
Transport Logistics
www.hansallogistics.com
Coffee break

Maltese Tourism Authority
Friday Closing Gala Dinner
www.mta.com.mt

Monetti S.R.L
ISF Room Keys
www.monetti.net

Pirotecnia Caballer
ISF Shirts
www.pirotecniacaballer.es

Pyrospectaculars
Attendee Bag
www.pyrospectaculars.com
Sunny
Coffee Break
www.sunnyusa.wcbs.us

Porto City Council / Porto Lazer
Various

Vila Nova de Gaia City Council / Gaianima
Various

Fireworks presentations organized by Host Committee

Monday:  Pirotecnia Eurolpa and iFire – Spain
22h
Propyro Lda (firing system by PyroDigiT)
– Portugal
Pirotecnia Morsani – Italy

Wednesday: Portuguese national fireworks: contribution of all the Portuguese Fireworks Industry
17h

Thursday:  Grupo Luso Pirotecnia and Galaxis – Portugal
22h
Vaccalluzzo (firing system by Pyroleda) – Italy
Pirotecnia Caballer – Spain

Friday:  Closing show offered by ANEPE and its members
23h30
A Associação Nacional de Empresas de Produtos Explosivos foi criada em 2006 e tem como objectivo representar e defender os interesses comuns dos seus associados.

The National Association of Companies of Explosives was established in 2006 and aims to represent and defend the common interests of its members.

A ANEPE tem por objectivo a promoção da regulamentação responsável do sector e da utilização segura de todo o tipo de produtos explosivos.

The purpose of ANEPE are promoting responsible regulation of the industry and the safe use of all types of explosive products.

Após o Jantar de Gala, assista ao Espectáculo de Encerramento uma oferta da ANEPE

After the Gala Dinner, attending the closing show an offer from ANEPE
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hansa-express is specialised in worldwide shipping of dangerous cargo IMO class 1.1 to 1.6.

We offer all necessary services for door to door transportation of IMO especially class 1 and class 7 cargo.

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- Door to door service for fireworks China - Europe
- Custom bonded warehouses for explosives with a capacity of 1600 metric tons net explosive 1.1
- Ocean vessel with a capacity of 500 metric tons net explosive 1.1
- Seaworthy stuffing of IMO class 1 containers.
- Stripping of IMO containers
- Airfreight & airccharting IMO class 1

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