

# Call for Papers/Call for Participation in the Conference Programme

PRO TORPEDO Rijeka, Croatia  
7<sup>th</sup> International Industrial  
Heritage Conference

## Conference main topic TORPEDO HISTORY AND HERITAGE

150<sup>th</sup> Anniversary of the Invention of  
the "Luppis-Whitehead" Torpedo

Rijeka, Croatia, 19<sup>th</sup> - 21<sup>st</sup> of May, 2016



The conference will be organized under the high  
patronage of the President of the Republic of Croatia,  
**H.E. Kolinda Grabar Kitarović**

Organized by:  
**PRO TORPEDO Rijeka**  
*Society for Promotion and Protection of Rijeka's Industrial Heritage  
and  
University of Rijeka, Faculty of Engineering*

In cooperation and with the support of:  
*Ministry of Culture of the Republic of Croatia, Ministry of Defence of  
the Republic of Croatia, Primorsko-Goranska County, City of Rijeka,  
Port of Rijeka Authority, Croatian Academy of Sciences and Art,  
Croatian Academy of Engineering, Croatian Chamber of Economy -  
Rijeka County Chamber, Kvarner Region Tourism Office, Rijeka  
Tourist Board, Maritime and History Museum of Croatian Littoral  
Rijeka, City Museum of Rijeka, Österreichischer Marineverband  
(Ö.M.V) Austria*

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primorja Rijeka  
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United Kingdom

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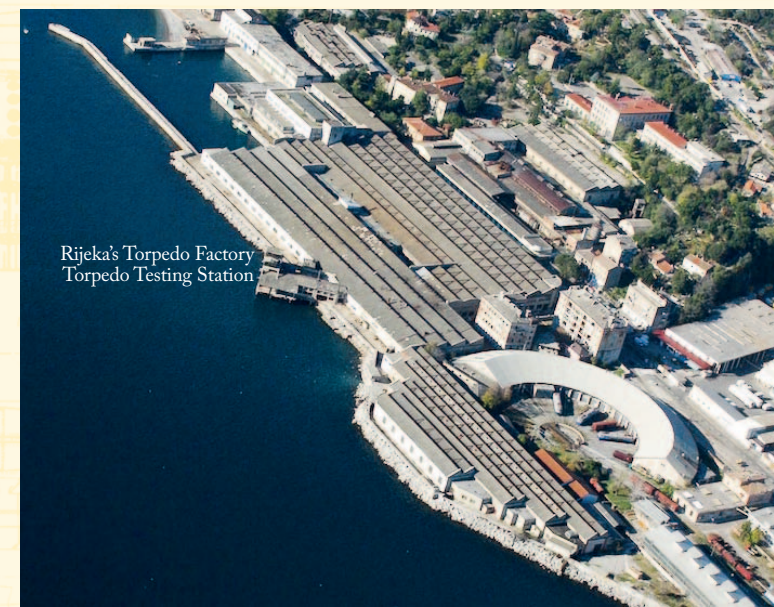
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## WORDS OF WELCOME

Welcome to Rijeka to the 7<sup>th</sup> International Conference on Industrial Heritage. This conference topic will be dedicated to 150 years since the invention of the “Luppis-Whitehead” torpedo in Rijeka. In 2003, we started here in Rijeka, with the heritage conference, of which the main topic was 150 years of the first torpedo factory in the world, which started in Rijeka in 1853 as a modern foundry and shipyard, where in December 1866 the world's first successful torpedo was tested.

Robert Whitehead, technical director of the factory, after two years of painstaking work and experimentation, succeeded in acquiring the prototype of the new underwater autonomous naval weapon, the first “Fish Torpedo”. The idea for this new weapon came from the naval officer, G. B. Luppis, ... *more on web site [torpedo150rijeka.org](http://torpedo150rijeka.org).*

**Miljenko Smokvina**

President of the Conference Organizing Committee

Dear participants of the conference, dear friends,

I believe that we share our joy in attending the seventh Conference of Industrial Heritage in Rijeka. It speaks convincingly about its good results so far, about the acceptance of the Conference among the scientific community, as well as about its positive reputation in the wider community of people who respect industrial heritage and culture in general. I also believe that we share our pleasure in the fact that the 2016 Conference is devoted to the invention of the torpedo, which started its world journey from Rijeka and became established on the list of the top engineering inventions of mankind, inspiring the appearance of multiple technical solutions which have found their application not only in the military field, but also for the much more desirable peacetime purposes. Yesterday the torpedo, today the Internet. ... *more on web site.*

**Velid Đekić**

President of Pro Torpedo Rijeka

### **Torpedo – New technologies based upon the structure and innovations of this warfare device**

In Rijeka next year is the celebration of the 150<sup>th</sup> year since the first successful launching of the torpedo, to be commemorated with the organizing of an international scientific and professional conference. At the time of the launching of the first torpedo it was a sophisticated battle

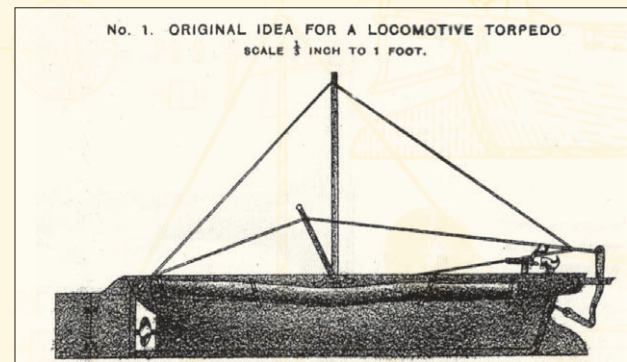
system – an underwater missile and one of the greatest technical achievements of the second half of the nineteenth century.

The first torpedo produced was the result of the application of a series of scientific technical disciplines in one device: mechanics, hydromechanics, and thermodynamics – and even during this time of modern industrial management. For example, the gyroscope, a device of controlled underwater linear movement of the torpedo, was first successfully installed and used in this missile.

We expect scientific and professional contributions to the international conference dedicated to the 150<sup>th</sup> anniversary of the first successful launching of the torpedo, especially those contributions that deal with the result of the first construction and the subsequent development of torpedoes. ... *more on web site.*

**Bernard Franković**

For the Scientific Committee



## CONFERENCE TOPICS

### **150 Years of the Torpedo: It's Story and Significance in Technological Development**

**Torpedo technology heritage as part of world industrial heritage** and naval/marine heritage. Preserving the abandoned torpedo factory and torpedo launching and testing stations premises – new uses of these spaces. Possibilities of connecting torpedo heritage sites in Europe/World in its routes and networks. Torpedoes in museums and in other public or private collections. Relevance of preserving torpedo heritage as an important part of many different technological inventions. (gyroscopes, servo systems, high pressure systems).

**Scientific and technological basis of the torpedo** – its origins and the various concepts. History of fixed mines/torpedoes versus mobile torpedoes. Towing torpedoes and spar torpedoes.

**The Whitehead Fish-Torpedo and its development:** facilities, manufacture, testing, quality- assurance, and industrial spin-offs. Export of Whitehead torpedo licence and right to its use worldwide. Development of the first original types of torpedoes in England, Germany and USA, Russia and in other naval states.

**Inventors and their inventions** of different types of torpedoes through time, such as; L Schwartzkopff, I.F. Aleksandrovski, J. Ericsson, P. Cunningham, F. Leawitt, W. E. Hall, C. Davis, R. Paulson, Sims-Edison, J. Howell, L.P. Brennan, J.L. Lay, C. Parson, and many others. Torpedo acceptance in world-wide Navies, in the Austro-Hungarian, German, French, English, Norwegian/Swedish, Russian, Turkish, Danish, Japanese, and all other main navies around the world.

**Development of different torpedo systems.** Propulsion systems, the compressed air and pneumatic engine, and high-pressure air chamber and its development. Development of the torpedo engine. Other propulsion systems (electric, rocket, chemical etc.) Development of torpedo propellers. Steering systems, for depth and azimuth. Development and use of servo systems in torpedoes. Explosive head, type of explosive used in torpedoes, evolution of fuses. Thermodynamics of torpedo propulsion, cold, hot and wet/steam torpedo propulsion. Torpedo hydrodynamics, evolution of the torpedo shape.

**Development of supplementary systems** related to the torpedo; surface launching tubes, underwater launching tubes. Development of high-pressure air compressors for torpedoes. Applications of torpedoes on different carriers; on a special type of torpedo boat, torpedoes on other types of war ships. Torpedoes on submarines, development of submarines concerning the use of torpedoes. Launching of torpedoes from airplanes. The sub-aquatic explosion.

**Existence and accessibility of relevant historic sources** in the National Archives and Collections around world, in the successor states of the Austro-Hungarian Monarchy, in the United Kingdom, Germany, the USA, and other countries.

**Effects on Sea Warfare** and Deterrence in Geopolitics: During the 19<sup>th</sup>, 20<sup>th</sup> and 21<sup>st</sup> Centuries, Future Trends/Visions. Conflict with International Law?



## PRELIMINARY CONFERENCE PROGRAMME

### Wednesday, May 18<sup>th</sup>, 2016

Arrival of conference participants and registration.  
Registration desk at the Info-Center, City of Rijeka  
(Korzo 18b) and Faculty of Engineering (Vukovarska 58)

7.00 – 10.00 p.m.

**Welcome drink**, “Marina” ship-hotel-restaurant,  
port of Rijeka (TBC)

### Thursday, May 19<sup>th</sup>, 2016

7.00 – 9.00 a.m.

Arrival of conference participants at the Faculty of  
Engineering (Vukovarska 58). Registration, reception of  
conference work's materials.

9.00 – 9.30 a.m.

Beginning of conference. **Welcoming addresses**.

9.30 – 11.30 a.m.

Papers related to the main conference topic,  
Torpedo history and Heritage. **Plenary session**.

11.30 – 11.45 a.m.

Coffee break

11.45 a.m. – 1.30 p.m.

Continuation of the papers related to the conference  
topics, **separate sessions**

1.30 – 3.00 p.m.

Lunch break in the Faculty Restaurant

3.00 – 6.00 p.m.

Continuation with the papers related to the specific  
conference topic, **separate sessions**

### Friday, May 20<sup>th</sup>, 2016

8.30 – 11.30 a.m.

Papers related to the specific conference topics in the  
**plenary session**

11.30 – 11.45 a.m. Coffee break

11.45 a.m. – 1.30 p.m.

Continuation of papers related to the specific conference  
topics, **separate sessions**

1.30 – 3.00 p.m.

Lunch break in the Faculty Restaurant

3.00 – 6.00 p.m.

Continuation with the papers related to the specific  
conference topics, **separate sessions**

### Saturday, May 21<sup>st</sup>, 2016

8.30 – 11.30 a.m.

Papers related to the main and specific conference topic,  
**separate sessions**

11.30 – 11.45 a.m. Coffee break

11.45 a.m. – 1.30 p.m.

Continuation with the papers related to the main  
conference topic. **Final plenary session**.

1.30 – 3.00 p.m.

Lunch break in the Faculty Restaurant

3.00 – 6.00 p.m.

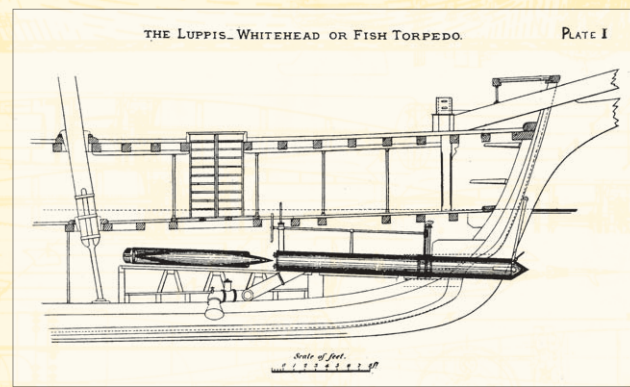
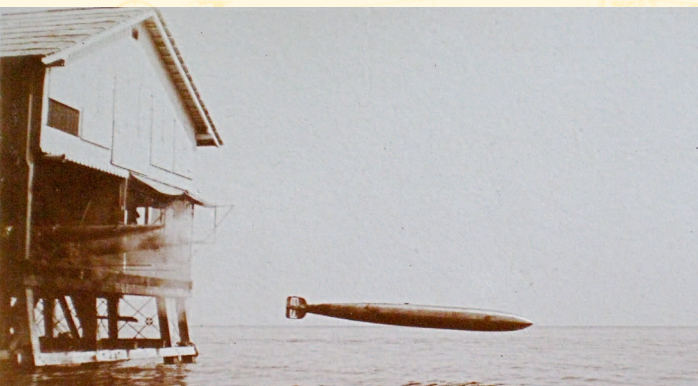
Free afternoon and **bus tour around Rijeka's industrial  
heritage sites**. Visit of heritage site at Torpedo testing  
station in the ex-Torpedo factory in Rijeka and other  
locations of Rijeka's industrial heritage.

7.30 – 11.00 p.m.

**Farewell party**

### Sunday, May 22<sup>nd</sup>, 2016

Organized tourist tours around Rijeka / Tour around the  
Istrian peninsula / Tour around the Island Krk / Plitvice  
Lakes tour. Participation in tours available upon  
registration only. Organizer of tours: RB Travel tourist  
agency Rijeka.



## CONFERENCE VENUE



University of Rijeka,  
Faculty of Engineering,  
Vukovarska 58, Rijeka

### Language:

Conference language: English

Summaries and papers language: English

### Summaries instructions:

Summary of up to 300 words, and up to 6 key words.

Summary of paper should include: authors name, title of summary,  
organization/affiliation, authors e-mail address.

Deadline for submitting summary, not later than: **January 1<sup>st</sup>, 2016**

Organizer notification of acceptance of summary up to: **March 1<sup>st</sup>, 2016**

### Information on papers and posters:

Authors with an accepted summary should submit a paper in  
length of up to 10.000 words, with up to 10 illustrations, photos,  
tables, drawings, etc.

The deadline for submitting papers to the conference organizer is  
**May 1<sup>st</sup>, 2016**. Papers should be sent to the conference organizer in  
digital form (MS Word) addressed to conference mail addresses.

The deadline for submitting the poster proposal is **May 1<sup>st</sup>, 2016**.  
Authors of accepted posters may bring their posters with them to  
the conference on **May 18<sup>th</sup>, 2016**. The format for posters is  
70x100 cm (portrait format).

### Presentation:

Oral presentation with Power Point, 15 minutes maximum.

### Registration fee for all conference participants:

**Until January 1<sup>st</sup>, 2016**, 200 Euros, **Until May 1<sup>st</sup>, 2016**, 250 Euros,  
**At the conference, May 18-21<sup>st</sup>, 2016**, 300 Euros.

Payable to account Pro Torpedo Rijeka at  
Erstestiermärkische bank, Rijeka no: 26403000-01790145, IBAN  
HR3924020061100407193, SW IFT ESBCHR 22

The conference organizer will reduce, upon request, the conference  
fee for students, who will submit their paper on any torpedo  
heritage topic. After the conference, the conference organizer will  
publish, in paper or CD/DVD form, the Conference Proceedings  
with all presented papers and posters, and the most distinguished  
selection will be published on its web site.

### Hotel booking and tourist information:

RB TRAVEL d.o.o., A. Medulića 8/I, 51000 Rijeka  
phone: +385(0)51-316-010, fax: +385(0)51-316-011  
e-mail: info@rb-travel.hr

### Conference information and registration:

Miljenko Smokvina, president of the organizing committee  
[miljenko.smokvina@ri.t-com.hr](mailto:miljenko.smokvina@ri.t-com.hr)

Maja Ogrizović, secretary of the organizing committee  
[secretary@torpedo150rijeka.org](mailto:secretary@torpedo150rijeka.org)

Conference web site: [torpedo150rijeka.org](http://torpedo150rijeka.org)

Sponsor: *Multilink Rijeka*