

40 YEARS FACULTY OF SHIPBUILDING IN BULGARIA

In 2014 we celebrate 40 years of the establishment of a separate Faculty of Shipbuilding at the then Mechanical and Electrical Engineering Institute - Varna, now the Technical University. The ordinance of the then Committee for Science, Technological Development and Higher Education was issued on 24 July 1974. The organizational structure of the faculty was adopted at a meeting of the Academic Council held on 30 September 1974 and included five departments: Shipbuilding, Ship Energetic Machines and Mechanisms, Hydrodynamics, Technical Mechanics and Physical Education. With the exception of the Department of Hydrodynamics, this structure has been preserved to date. Professor Engineer Zamfir Aleksandrov, PhD, was unanimously elected at the Faculty Council of 17 December 1974 as the first Dean of the newly established separate faculty. Over the years, the following persons were consecutively elected deans:

- prof. eng. Zamfir Aleksandrov 1974 - 1979;
- assoc. prof. Stoyan G. Stoyanov 1979 - 1985;
- senior researcher II degree, eng. Petar Bogdanov 1985 - 1986;
- assoc. prof. eng. Lyuben Ivanov 1986 - 1991;
- prof. Petar Kolev 1991 - 1999;
- assoc. prof. eng. Ivan V. Ivanov 1999 - 2007;
- assoc. prof. eng. Nikola Petrov 2007 - 2011;
- assoc. prof. eng. Plamen Dichev 2011 - currently.

Over the years, the faculty trained hundreds of engineers in both specialties: Shipbuilding and Marine Technology and Ship machines and mechanisms, who have had successful careers in both the Bulgarian and foreign shipping industry. The faculty members are actively involved in solving a multitude of tasks and problems of the industry, as well as in scientific research under national and international projects. International projects of greater significance are:

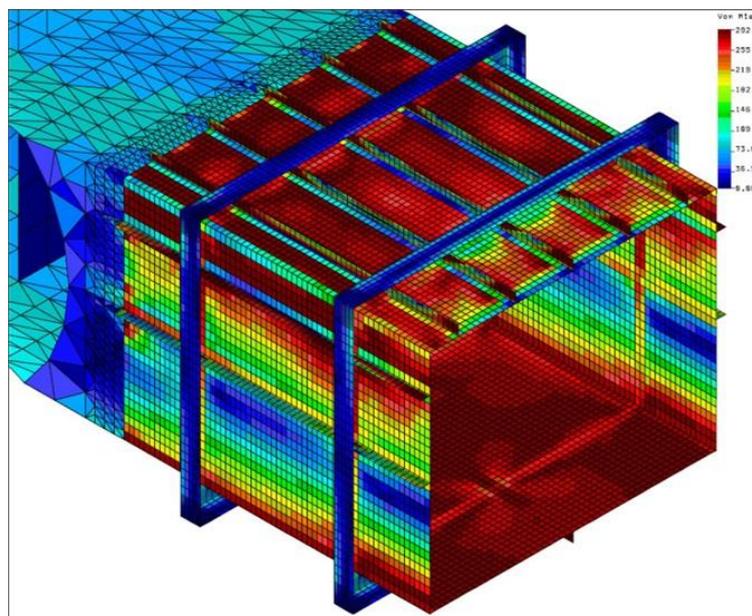
- "Basics of the development and implementation of river information systems for management of the traffic on the Danube", COMPRIS, Project manager: prof. St. Barudov, assoc. prof. Hr. Draganchev (2007);
- "Safety and reliability in the industry", SAFERELNET, FP5, Project manager prof. P. Kolev, Assoc. Prof. P. Antonov (2004-2009);
- "Network for competence in marine structures", MARSTRUCT, FP6, Project manager prof. P. Kolev (2004-2010);
- "Monitoring System for Ships Operation in Rough Weather", HANDLING WAVES, FP6, Project manager prof. P. Kolev (2007 - 2010);
- "Ships oriented innovative solutions to reduce noise and vibrations", SILENV, FP7, Project manager assoc. prof. Hr. Draganchev (2009 - 2012). Over the years, the Faculty of Shipbuilding has built a range of modern facilities, among which special attention deserve:
 - Scientific and Production Laboratory "Vibration Monitoring and Diagnostics of Machines and Equipment", where basic and applied science research has been carried out for the needs of: "NPP Kozloduy" PLs; "LUKOIL Neftochim Burgas" JSC; "Bulgartransgaz" Ltd.; "TEREM - KRZ Flotski Arsenal - Varna" Ltd.; "BULYARD - Shipbuilding Industry" EAD; "SODI" - Devnya; TPP "Maritza East - 2"; TPP "Devnya"; "Rousse Shipyard" Ltd.
 - Scientific and Production Laboratory "Thermal turbo-machines", where basic and applied science research has been carried out for the needs of: "Solvey Sodi" - Varna; TPP "Deven" - Devnya; "Neftohim" - Burgas; "Yambolen" - Yambol; "Bulgartransgaz" EAD; "Vitalact" - Varna; "Promet" - Debelt; "Stomana Pernik"; NPP "Kozloduy", Metal Processing Plant Kremikovtzi; "Polymers" - Devnya; "Agropolychim" - Devnya; KDD - Varna; Institute of Metal and Metal Technology at the Bulgarian Academy of Sciences (BAS), State Economic Association "Shipbuilding"; MNP "Investment Policy" - Sofia; The Ship Hydrodynamics Institute at BAS; Scientific and Production laboratory for Internak Combustion Engines - Varna, etc.

- Laboratory for welding and cutting of ship hull structures and marine facilities. It is equipped with: Automated system for cutting metal - Steel Cut-L; Specialized cutting table; Machine for manual plasma cutting; Caddy Arc 251; Selco Genesis 1500 welding machine; Aspiration system ULTRDLEX; Automatic system for determining the position and tracking and adjusting the distance between the nozzle and the main metal during thermal plasma cutting; Digital microscope camera. Several contracts for underwater welding and cutting of metals have been performed in connection with the repair works of the companies: "Diver-1" Ltd; "Galleon - Diving activities" Ltd.; "VVB" Ltd.; "Remtechnology" Ltd., "Marine Diving Service" Ltd., ET "Vali", etc.
- Training complex for marine engineers - it is equipped for 7 work places: six training places and one instructor place as required by Executive Agency "Maritime Administration". The complex includes two training rooms, a room with control board of a ship's engine room, including a console with telegraph machine and command screens, as well as a separate room for the instructor. The training complex is certified for class C according to DNV requirements. The training complex with a simulator of a ship's engine room allows training of students of the specialty "Ship machines and mechanisms" in a number of specialized courses in the curriculum, as well as training of active marine engineers in order to enhance their qualifications according to the models of the International Maritime Organization (IMO).

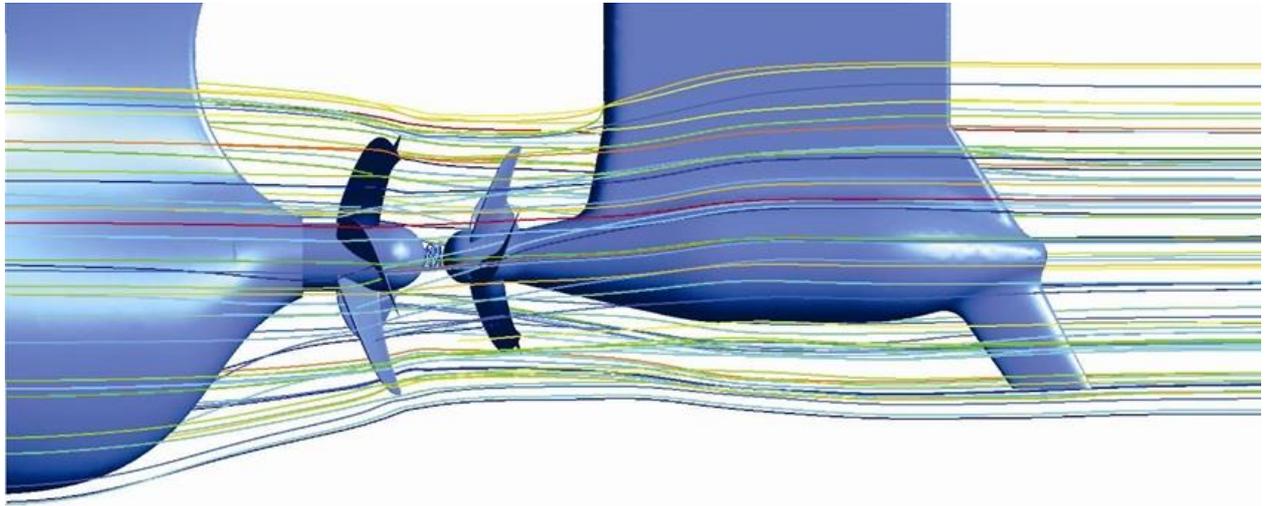


Training complex with Engine Room Simulator - work places in the training room and the control panel of a ship engine room

The departments of the faculty use advanced software products and technologies for FEM and CFD analyses.



FEM analysis of experimental bending of ship structures



CFD analysis of CRP-POD propulsion system

A good example to be followed by all faculties at the Technical University of Varna is the Council established years ago in the specialty "Shipbuilding and Marine Technology", which provides the crucial link between business and higher education.



*dipl. eng. Ivan Daskalov - a longtime Chairman of the Board of specialty "Shipbuilding and Marine Technology" ;
assoc. prof. Haralan Haralanov - Head of the Department of Shipbuilding;
dipl. eng. Lyudmil Stoev - current Chairman of the Board of specialty "Shipbuilding and Marine Technology"*

A good example of fruitful cooperation is the engineering bureau opened in the high-tech park on campus, where students perform project work with flexible working hours for the company Keppel FELS Baltesh during the academic year.