

Invitation from T. Nejat Veziroğlu



Welcome to the 23rd World Hydrogen Energy Conference (WHEC2020) held from 5-9 July 2020 in Istanbul, Turkey.

Fossil fuels (i.e., petroleum, natural gas and coal), which meet most of the world's energy demand today, are being depleted fast. Also, their combustion products are causing global problems, such as global warming, climate change, ozone layer depletion, acid rain, oxygen depletion and pollution, which pose a great danger for our environment and, eventually, for life on our planet. Many engineers and scientists agree that the solution to these global problems would be to replace the existing fossil fuel system with the Hydrogen Energy System. Hydrogen is the lightest, most efficient and cleanest fuel. Its use will produce no greenhouse gases, no ozone layer depleting chemicals, no acid rain ingredients, no oxygen depletion and no pollution.

Around the world, there is extensive Research and Development work on Hydrogen Energy. Internal combustion engines are being modified for hydrogen fuel. Many types of fuel cells – to convert hydrogen efficiently to electricity – are being developed. Hyundai, Toyota, Honda and Mercedes started selling hydrogen fueled cars. Many bus companies are selling hydrogen fueled buses. Siemens is selling hydrogen fuel cell powered submarines. Hydrogen fueled appliances based on catalytic combustion have been built. There is research and development work on hydrogen hydride refrigeration and air conditioning systems. Aircraft manufacturers are working on hydrogen fueled subsonic and supersonic transport planes.

Scientists and Engineers from many countries of the world will gather at the 23rd WHEC-2020 Conference to present their papers covering the recent advances in hydrogen energy and technologies. All these will no doubt speed up the conversion to a hydrogen economy eliminate global environmental problems, and provide the humankind with higher living standards. I congratulate the organizers of this conference and wish all the participants a very fruitful meeting and pleasant days in the historic capital of two world empires, Istanbul, Turkey.

T. Nejat Veziroğlu

Honorary Chair, 23rd WHEC-2020

Founding President, International Association for Hydrogen Energy

Message from the Chairman



As the conference chairman of the 23rd World Hydrogen Energy Conference (WHEC-2020), it is my great pleasure to cordially invite you to Istanbul to attend this prestigious conference. WHEC is a unique event for all researchers, scientists, academicians, and professionals working in the field of hydrogen energy systems; from production to storage and to end use options such as fuel cells. This conference will provide an effective platform for contributions to the development and enhancement of hydrogen energy systems as well as a place to interact with researchers from all around the world to gain a better understanding of the use of hydrogen energy systems for a sustainable future. Much like past WHECs, WHEC-2020 will not only provide an outlook on the current research activities, but it will also shape the future of hydrogen energy systems. As a city that connects two continents, Istanbul has always been strategically important and hosting the 23rd WHEC in Istanbul will bring researchers from different continents together to promote hydrogen energy systems and share their innovative ideas. Turkey is dedicated to increasing the share of renewables in its energy supply and hydrogen energy systems are promising candidates. Therefore, Turkey has increased its research, innovation and technology development activities to produce, store, and use hydrogen in an affordable, reliable, safe, clean, and sustainable manner. Given these activities as well as the financial investment and dedication to hydrogen energy systems in Turkey, Istanbul is clearly the perfect host city for this event. Given the influence of the prestigious International Association of Hydrogen Energy (IAHE), the support of the Turkish National Hydrogen Association, the International Energy Agency (IEA), the International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE), the reputation of the WHECs, the launch of the Hydrogen Council, and the historic and strategic importance of the beautiful host city, Istanbul, it is expected that WHEC-2020 will turn out to be a success story with strong participation and global influence.

I look forward to welcoming you to Istanbul on July 5, 2020.

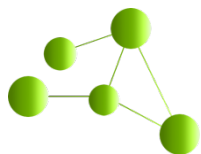
Prof. Dr. Ibrahim Dincer

Chairman of WHEC-2020

Vice President for Strategy, International Association for Hydrogen Energy

Vice President, World Society of Sustainable Energy Technologies

President, National Hydrogen Association



**Международная научно-практическая молодежная конференция
«Перспективные материалы конструкционного и функционального назначения»**

21–25 сентября, 2020

Томск

Организатор: Томский политехнический университет

Участникам Международной научно-практической конференции

Цель конференции: Обмен научными знаниями и компетенциями в области науки о материалах и новых технологиях производства изделий машиностроительного и функционального назначения, обсуждение и поиск решений проблем интеграции молодых специалистов в научную и производственную среду.

К участию приглашаются школьники, студенты, магистранты, аспиранты, молодые ученые, преподаватели и специалисты в возрасте до 35 лет, получившие новые научные результаты индивидуально или в соавторстве.

Секции:

Проблемы надёжности конструкционных материалов

- Прочность, пластичность и усталостная долговечность материалов
- Методы исследований, диагностики и ресурсных испытаний материалов
- Проблемы эксплуатации материалов в экстремальных условиях
- Структурные исследования конструкционных материалов

Функциональные материалы

- Материалы для возобновляемых источников энергии
- Термостойкие и хладостойкие материалы
- Наноматериалы и технологии получения изделий из них
- Композиционные материалы на металлической, керамической и полимерной основе
- Биоматериалы

