

Cijenjeni čitatelji,

dobro nam je svima poznato da zadnjih desetljeća zakonodavci Europske unije, Sjedinjenih Američkih Država i Brazila prednjače u svijetu po poticanju i obveznoj uporabi biogoriva za vozila. Pri tome, u Brazilu i SAD-u glavno biogorivo je etanol dobiven iz šećerne trske ili kukuruza, a u EU takozvani FAME biodizel (metilni esteri višemasnih kiselina) dobiven iz biljnih ulja (pretežito repice i palmi), i zatim etanol, također dijelom i kao etil-terc. butil eter (ETBE) zbog primjenskih prednosti. Iako proizvođači konvencionalnih motora s unutanjim izgaranjem i automobila iznose mnoge nedostatke primjene mješavina motornih benzina i dizelskih goriva s biogorivima, obvezni udjeli biogoriva u fosilnim gorivima zadnjih godina rastu. Kao obrazloženje uobičajeno se navodi zaštita okoliša (često i osobito u prvim studijama neodgovarajuće i lažno prikazana), upotreba obnovljivih izvora energije (biomase), kao i pojedini strateški razlozi (manja ovisnost o uvozu sirovina, zapošljavanje, razvoj zapuštenih područja i drugo). Ipak, kako bi se izbjegli negativni utjecaji proizvodnje goriva iz prehrambenih sirovina, politika poticaja polako se mijenja prema tehnologijama proizvodnje goriva iz otpadne biomase, pretežito na temelju Fischer-Tropschove sinteze. Također je sve prisutnija i proizvodnja ugljikovodičnog biodizela, koji se dobiva hidroobradom biljnih ulja i koji s gledišta primjene u sadašnjim vozilima pokazuje znatne prednosti u odnosu na FAME biodizel. Osim navedenog, sve više se nameće i istražuje proizvodnja biomase iz algi, što rješava i prije spomenuta etička pitanja, a daje i mnoge druge prednosti, poput izvanredno velike količine proizvedene biomase. U ovom broju dva su rada posvećena upravo toj temi – proizvodnji biomase iz algi gdje bi se za njihovu prihranu i rast upotrebljavao CO<sub>2</sub> iz rafinerija nafte (potrebno ga je očistiti i filtrirati od spojeva koji su štetni za alge). Time se smanjuje emisija CO<sub>2</sub> pa se plaća i manja ekološka naknada, a istodobno preradom algi se dobiva ulje za proizvodnju biogoriva. Za kontrolirani uzgoj algi korišteni su fotobioreaktori koji znatno poskupljuju proizvodnju. Stoga je današnji istraživački trend proizvodnja sojeva algi koje ne zahtijevaju svjetlost u takozvanim dubokim mračnim spremnicima poput napuštenih rudnika, što je znatno ekonomičnije. Kao poseban prilog u ovome broju možete pročitati izješće o uspješno odraženom 46. simpoziju *Goriva i maziva 2013*, sa kojega donosimo i sadržajan prikaz ključnih trendova i utjecaja na razvoj kvalitete maziva i djelatnost maziva u svijetu kojega je vrlo stručno i s velikim trudom priredio naš stalni suradnik, kolega R. Mandaković. Posebno Vam preporučam i rad kolegice Benko, koji se bavi za sve nas najvažnijom temom – sigurnošću i zdravljem.

U ovo doba godine vrlo je lako završavati bilo kakve govore, obraćanja, pa tako i uvodnike – u ime uredništva i u vlastito ime, svima Vam želim

***Sretnu i uspješnu 2014. godinu!***

Ante Jukić  
glavni urednik

Dear readers,

It is well known that in recent decades, the legislators of the EU, the USA and Brazil are world leaders regarding the promotion and mandatory use of biofuels for vehicles. Thus, the main biofuel in Brazil and the USA is ethanol derived from sugar cane or corn, while in the EU there are so-called FAME biodiesel (Fatty Acid Methyl Ester), derived from vegetable oils (mainly rapeseed and palm trees), and ethanol, partly in a form of the ethyl tert-butyl ether (ETBE) due to its application advantages. Although the manufacturers of the conventional internal combustion engines and cars emphasize many disadvantages of using a mixture of gasoline and diesel fuels with biofuels, a mandatory share of biofuels in fossil fuels grows recently. Usually, the environmental protection is given as an explanation (often misinterpreted), together with the use of the renewable energy sources (biomass), as well as some strategic reasons (development of undeveloped areas, the dependence reduction on imported raw materials, employment, etc.). However, in order to avoid negative impacts of fuel production from edible raw materials, the policy of incentives is slowly changing in favor of technologies for fuels production from waste biomass, mainly in the Fischer-Tropsch synthesis. Also, production of hydrocarbon biodiesel obtained by hydrotreating vegetable oils increases and from the viewpoint of the application in the current car it shows considerable advantages over FAME biodiesel. Also, production of hydrocarbon biodiesel obtained by hydrotreating vegetable oils, which shows considerable advantages over FAME biodiesel regarding the application in the cars is increasing continuously. In addition, interest in production of biomass from algae increases largely as an answer to previously mentioned ethical issues and furthermore, brings various other advantages such as enormous volumes of biomass. Two articles in this journal issue are addressing that topic – production of biomass from algae whereat CO<sub>2</sub> from oil refineries is anticipated to be used as a nutrient (it is necessary to clean and filter all compounds harmful to algae previously). This reduces CO<sub>2</sub> emissions which further leads to smaller environmental penalties which are going to be paid, while simultaneously the algae processing gives oil for the biofuels production. For the controlled algae cultivation photobioreactors were used, which significantly increase the cost of production. Therefore, the current research trend is production of strains of algae that do not require light in the so-called deep dark basins such as abandoned mines, which is much more economical. As a special supplement in this issue you can read the Report on the successful Symposium Fuels and Lubricants 2013, where a comprehensive representation of the key trends and impact on the development of quality lubricants and the lubricants business in the world which is prepared very professionally and with great effort by our regular collaborator, a colleague R. Mandaković. I recommend specially the work of colleague Benko, who deals with the most important topic for all of us - safety and health.

As the closure of any talk, speech, including editorials at this time of year - on behalf of the Editorial Board and myself, I wish you a **Happy and successful year 2014!**

Ante Jukić, Editor-in-chief