

FRANC VODOPIVEC – OSEMDESETLETNIK

LAUDATION IN HONOUR OF FRANC VODOPIVEC ON THE OCCASION OF HIS 80th BIRTHDAY



Franc Vodopivec, profesor, doktor metalurških znanosti, znanstveni svetnik, bivši direktor Inštituta za kovinske materiale in tehnologije (1990–1996), bivši član Državnega sveta Republike Slovenije (1992–2002), glavni urednik slovenske znanstvene revije *Materiali in tehnologije* (od 1996 dalje) praznuje 80. rojstni dan.

Spoštljiva obletnica je priložnost, da osvetlimo ozadje in razvoj tega pomembnega raziskovalca in vpliv njegovega raziskovalnega dela na področju izdelave, predelave in uporabe kovin in zlitin v slovenskem prostoru in v tujini.

Franc Vodopivec je bil rojen v Rakitniku 8. oktobra 1931 leta. Po končani gimnaziji je študiral metalurgijo na Univerzi v Ljubljani. Leta 1956 se je pridružil Metalurškemu inštitutu, sedaj Inštitut za kovinske materiale in tehnologije, kateremu je takrat direktoroval njegov ustanovitelj Ciril Rekar. F. Vodopivec je leta 1959 prejel od mednarodne agencije za atomsko energijo z Dunaja štipendijo francoske vlade, ki mu je omogočila delo na Institute de Recherché de la Siderurgie v St. Germain en Laye v Franciji. V letih od 1960 do 1962 je pripravljal svojo doktorsko nalogo z naslovom *Study of the behavior of arsenic and phosphorous by selective oxidation of iron alloys with low contents of both elements* in jo uspešno zagovarjal leta 1962 na Univerzi v Parizu.

F. Vodopivec se je leta 1962 vrnil na Metalurški inštitut, kjer je ustanovil Laboratorij za metalografijo, 1972 je postal vodja oddelka za tehnologijo, pomočnik direktorja leta 1978 in bil direktor Inštituta za kovinske materiale in tehnologije od 1990 do 1996 leta, ko se je upokojil. Leta 1992 je bil izvoljen za člana Državnega sveta Republike Slovenije za področje znanosti, leta 1997 je bil ponovno izvoljen.

Franc Vodopivec, professor, doctor of metallurgical science, scientific councilor, former director of Institute of Metals and Technology (1990–1996) and former member of the State Council of Republic Slovenia (1992–2002), editor in chief of Slovenian scientific journal *Materials and Technology* (since 1996) is celebrating his 80th birthday.

The respectful anniversary is the occasion to look at the background and the development of this well known researcher and at the influence which his research work has in the field of elaboration, transformation and use of metals and alloys in Slovenia and abroad.

Franc Vodopivec was born in Rakitnik, on 8th October 1931. After finishing with distinction the secondary school education, he studied Metallurgy at the University of Ljubljana. In 1956 he joined Metallurgical Institute, now Institute of Metals and Technology in Ljubljana directed by founder Ciril Rekar. In 1959 Franc Vodopivec received through the International Agency of Atomic Energy in Vienna a scholarship from the French Government. Working in the Institute de Recherché de la Siderurgie, in St. Germain en Laye, France from 1960 to 1962 he prepared his doctor thesis and graduated in 1962 at the University of Paris, Paris, France with the thesis *Study of the behavior of arsenic and phosphorous by selective oxidation of iron alloys with low contents of both elements*.

F. Vodopivec returned back in 1962 to the Metallurgical Institute and founded the Laboratory for metallography, 1972 he became head of Technology Department to 1978, assistant director to 1990 and director from 1990 to April 1996 when he retired. In 1992, Professor Vodopivec was elected for the first time in the Council State of Republic

Franc Vodopivec je nenadomestljiv glavni in odgovorni urednik slovenske znanstvene revije *Materiali in tehnologije* (od leta 1996).

Franc Vodopivec je kljub svojim letom še vedno poln kreativnih idej in razvojnega duha ter aktivno sodeluje tako z mladimi kot starejšimi raziskovalci IMT. Raziskoval je oksidacijo kovin, uvedel je karakterizacijo mikrostrukture na znanstveni ravni in že pred več kot 40 leti uvedel elektronsko mikroanalizo v slovenski in takratni jugoslovanski prostor. Ukvarjal se je tudi z mehanskim preizkušanjem kovin in zlitin, predvsem pa je študiral vedenje kovin pri visokih temperaturah, pri hladni in vroči predelavi, popravi, rekristalizaciji in rasti zrn duktilnih permanentnih magnetnih zlitin, pri neorientirani elektropločevini, rasti zrn, inducirani s selektivno površinsko segregacijo, študiral je tudi topologijo mikrostrukture in vedenje materialov pri uporabi pri visoki temperaturi, termično utrujanje in lezenje materialov.

F. Vodopivec je objavil več kot 300 člankov v mednarodnih revijah in na konferencah ter 320 člankov v slovenskih revijah in na konferencah s področja znanosti, tehnologije in uporabe kovin in zlitin.

F. Vodopivec je bil mentor več doktorandom in magistrandom na univerzah v Ljubljani, Mariboru, Beogradu in Zagrebu. Bil je zelo aktiven na mednarodnem akademskem področju. Bil je predsedujoči na mednarodnih znanstvenih konferencah, recenzent mednarodnih projektov EU in COST.

F. Vodopivec je še vedno predsednik Slovenskega društva za materiale, član Društva za vakuumsko tehniko Slovenije, Slovenskega kemijskega društva, Inženirske akademije Slovenije, Društva zgodovine Ljubljane itd. Bil je predsedujoči letni konferenci o materialih in tehnologijah v Portorožu (1990–1996), bil član znanstvene sekcije Vakuumska metalurgija pri IUVSTA (1992–1995). Leta 1978 je dobil nagrado Kidričevega sklada in 1984 Kidričevo nagrado za znanost.

Mnoge njegove projekte so podprla industrijska podjetja s področja metalurgije v Sloveniji in bivši Jugoslaviji, termoelektrarne in tudi slovenska in jugoslovanska vlada.

Franc Vodopivec je 2003 leta dobil državno Zoisovo nagrado Republike Slovenije za življenjsko delo.

Kolegi in sodelavci upamo, da bo tudi naprej še vedno aktivno sodeloval v razpravah in diskusijah, pri predavanjih in publikacijah.

Francu Vodopivcu želimo še mnogo zdravih let v okviru njegove družine in prijateljev.

Ljubljana, oktober 2011

Monika Jenko

Slovenia by the community of researchers and engineers and in 1997 for the second time.

Franc Vodopivec is indispensable editor in chief of Slovenian scientific journal *Materials and Technology* since 1996.

F. Vodopivec is still full of development spirit and creative ideas. He has been doing research work on the behaviour of metals in oxidative atmosphere, microstructure characterization of metals by optical and electron microscopy, electron probe analysis, mechanical testing; behavior of material in use at medium and high temperature, hot and cold working of metals, recovery, recrystallization and grain growth, ductile permanent magnet alloys, non oriented electrical steel sheets, grain growth induced by selective surface segregation, topology of microstructure and behavior of metals in use, creep and thermal fatigue.

F. Vodopivec has published over 250 papers in international journals and conferences and 320 papers in Slovenian journals and conferences on topics of science, technology and use of metals and alloys.

Franc Vodopivec has been supervisor to several Ph.D. and Master Degree students at the Universities of Ljubljana, Maribor, Belgrade and Zagreb. He is also very active in the international academic field. He was a chairman of international scientific conferences and project evaluator in EU actions of COST.

He is still president of Slovenian Society of Materials, member of Slovenian Vacuum Society, member of Slovenian Microscopy Society, Slovenian Society of Chemistry, Historical Society of Ljubljana, chairman of the R&D group of the Slovenian Association of Engineers, chairman of annual Conferences on Materials and Technologies (1990 to 1996) and was member of Vacuum Metallurgy scientific division of International Union for Vacuum Science, Technique and Applications – IUVSTA (1992–1995). He is one of the founders of Slovenian Academy of Engineering Sciences.

He wrote in Slovenian newspapers several tens of articles of industrial and research policy.

In 1978 he received the Boris Kidrič Foundation Award and in 1984 the Boris Kidrič Award for science.

His many projects were supported by 21 industrial societies and associations in Slovenia and the former Yugoslavia from Metallurgy over mechanical energy to power stations as well as the Slovenian and the Yugoslav governments.

Vodopivec prepared forensic analysis of several industrial failures which qualified Slovenian societies to win arbitration for retributions of damages from foreign companies suppliers of industrial equipment.

Franc Vodopivec received in year 2003 state award – ZOIS award for his life work from the Republic of Slovenia.

His colleagues hope very much that he will still take part in discussions, lectures and publications. Most of all we would like to wish him and his family many years to come in good health.

Ljubljana, October 2011

Monika Jenko