

društvene vijesti



Predstavljamo Vam ...
Međunarodni izdavački savjet

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Životopis

Viktor Grilc rođen je 1949. godine u Ljubljani. Diplomirao je i magistrirao na području kemijske tehnologije na Sveučilištu u Ljubljani. Prvi radovi bili su mu povezani s istraživanjem novog programa za obradu uranove rudače na Žirovskom vrhu u Sloveniji, ekstrakcijom iz karbonatnih minerala pomoću kiselog ispiranja i ekstrakcije otapalom, pod nadzorom Romana Modica. Studij je nastavio u Engleskoj, na Sveučilištu u Bradfordu na Fakultetu kemijskog inženjerstva, pod nadzorom profesora Carla Hansona. Doktorska disertacija o miješanju sustava tekuće-tekuće u spremnicima četverokutnog presjeka bila je predana i obranjena 1977. U razdoblju od 1973. do 1982. bio je zaposlen kao asistent istraživač, a kasnije i kao asistent predavač na Odjelu za kemijsko inženjerstvo spomenutog Fakulteta u Ljubljani. Zatim prelazi u Nacionalni institut za kemiju, ispočetka kao istraživač, a od 1984. kao ravnatelj Nacionalnog instituta za kemijsko inženjerstvo, koje mjesto još uvijek zauzima.

Njegovo glavno područje zanimanja u Institutu je istraživanje i razvoj komercijalno potencijalnih proizvodnih procesa, procjena i vođenje prema industrijskoj primjeni. Uvodni procesi su, naravno, otkriveni u raznim laboratorijima Instituta, zatim drugih institucija (npr. fakultetskih) ili u laboratorijima poduzeća. Pilot laboratorij koji on vodi organiziran je kao javni tehnološki centar. Opskrbljen je raznovrsnom modularnom opremom (reaktori, separatori, mješalice i potrebna infrastruktura), tako da pilot-testovi mogu biti izvedeni u geometrijama i materijalima koji su vrlo slični predviđenim optimalnim industrijskim uvjetima. Postoji velik broj proizvoda za koje su procesi bili razvijeni, optimizirani i preneseni na industrijsku razinu, za koje je bio značajan njegov osobni doprinos:

- metalni sapuni i ostala sredstva za izvlačenje žica i zavarivanje; patentirani pronalazak; industrijska proizvodnja organizirana je u Cinkarna Celje
- istaloženi silikati, silica i alumosilikati (uključujući i neke zeolite); sada proizvodi Silkem u Kidričevo
- kalcijev klorid osušen raspršivanjem, sada proizvodi CPC, u Celju
- stočna i prehrambena fosforna kiselina i njoj slični čisti fosfati (natrijev, kalcijev, kalijev, amonijev); patentirani izum; sada se proizvodi u TKI u Hrastniku
- razvoj, oblikovanje i realizacija integralnog reciklirajućeg sustava za regeneraciju određenih visokočistih organskih otapala iz medicinskog otpada; tehnička inovacija.

Od 1991., kao odgovor na povećani pritisak na kemijsku i procesnu industriju da smanje svoja zagađivanja okoliša, on je inicirao neke važne razvojne i istraživačke aktivnosti u Institutu:

- integriranje mjera za zaštitu okoliša u nove i već postojeće industrijske procese; recikliranje uhvaćenih otapala iz otpadnih strujanja, regenerativna predobrada loših otpadnih voda i iscj-

Curriculum Vitae

Viktor Grilc was born in the year 1949 in Ljubljana. He graduated and obtained MSc degree in Chemical Technology at the University of Ljubljana, Faculty of Chemistry and Chemical Technology. The first works were related to exploration of the new uranium ore treatment plant at Žirovski vrh in Slovenia, especially of uranium extraction from carbonate minerals by means of acidic leaching and solvent extraction, under supervision of prof. Roman Modic. He continued studies in England, University of Bradford, Schools of Chemical Engineering, under supervision of prof. Carl Hanson. The PhD thesis on liquid-liquid mixing in square cross-section tanks was submitted and examined 1977.

Between 1973–1982 he was employed as a research assistant and later as an assistant lecturer at the Chair for chemical engineering at the noted faculty in Ljubljana. Then he moved to the National Institute of Chemistry, firstly as a research fellow and since 1984 as the leader of the Laboratory for Chemical Process Engineering, the post he still holds.

His main professional occupation at the Institute is research and development of new, commercially potential production processes, scale-up and piloting towards an industrial implementation. The input processes are normally invented in various research laboratories of the Institute, of other institutions (e.g. faculties), or of companies. The pilot plant laboratory that he leads, is organised as a public technological centre; it is equipped with versatile modular equipment (reactors, separators, mixers and the necessary infrastructure), so that pilot tests can be made in geometries and materials which closely resemble the anticipated optimal industrial arrangement. There have been quite a few products for which the production processes have been developed, optimized and transferred to industrial scale and for which his personal contribution was significant:

- metallic soaps and other preparations for wire-drawing and welding; patented invention; industrial production was organized in Cinkarna Celje;
- precipitated silicates, silica and alumo-silicates (including some zeolites); now produced by Silkem, Kidričevo
- spray-dried calcium chloride, now produced in CPC, Celje;
- feed- and food-grade phosphoric acid and related pure phosphates (sodium, potassium, calcium, ammonium); patented invention; now produced in TKI, Hrastnik.
- development, design and realization of an integrated recycling system for regeneration of certain high purity organic solvents from medical waste; technical innovation.

Since 1991, as a response to increased pressure on chemical and process industries to reduce their environmental impact, he has initiated some important new R&D activities on the institute:

- integration of environmental protection measures into new as well as various existing industrial processes: recycling of the recovered solvents from waste streams, regenerative pre-treatment of difficult wastewaters and effluents, processing of hazardous wastes in order to minimize their hazardous potential;

daka, procesuiranje štetnih otpada tako da se njihov štetni potencijal smanji na najmanju mjeru

- oblikovanje i uvođenje sveobuhvatnih metoda za klasifikaciju i karakterizaciju otpadnih voda, koje se sada u Sloveniji upotrebljavaju kao službene metode; oblikovanje nacionalno sveobuhvatnog sustava za rukovanje otpadom
- obrada ravnoteže okoliša i izrada inventara najkritičnijih zagađivača (npr. PCB, baterije, detergents, cjevovodni talozi, otpad od pakiranja, opasni otpadi, plinovi iz staklenika) u odnosu na visinu rizika i analizu životnog ciklusa
- izrada nacionalno relevantne liste opasnih tvari u okolišu površinskih voda te programi za smanjenje njihovog zagađivanja
- izrada mjera za približavanje slovenske legislativne za okoliš legislativi Europske unije; izrada nacionalnih kemijskih sigurnosnih programa, nacionalni plan djelovanja za zaštitu okoliša
- razvoj oruđa, indikatora i programa za održivu proizvodnju, npr. sredstava za čišćenje, Odgovorna brigada, Sustav za rukovanje okolišom i njihova primjena u industriji.

Njegova skorašnja područja istraživanja su održiv industrijski razvoj, sprječavanje zagađivanja, smanjivanje otpada na najmanju mjeru, obnova materijala i reciklaža, očuvanje izvora, identifikacija i određivanje svojstva otpada, obrada i metode rješavanja otpada (npr. stabilizacija) i utjecaja na okoliš. Autor je ili ko-autor oko 50 znanstvenih i tehničkih članaka kao i mnogih doprinosa konferencijama. Organizirao je i nadgledao mnoge nacionalne projekte te sudjelovao u mnogim međunarodnim projektima za zaštitu okoliša, sprječavanje onečišćenja i upravljanje otpadom. Trenutačno je (već treću godinu) odgovoran za primjenu projekta "Proizvodnja čistača" u slovenskoj industriji.

Kao izvanredni profesor kemijskog i okolišnog inženjerstva na Sveučilištu u Ljubljani predavao je različite predmete na diplomskom i poslijediplomskom studiju kemijskog inženjerstva i građevine: Kemijsko reakcijsko inženjerstvo, Kemijsko procesno inženjerstvo, Zaštita okoliša i inženjerstvo, Prevencija i rukovanje otpadom. Mentor je brojnim diplomandima, magistrandima i doktorandima.

Član je mnogih stručnih tijela: EFChE radne grupe za očuvanje okoliša, Savjeta za očuvanje okoliša Slovenske akademije znanosti i umjetnosti, Izvršnog odbora Slovenskog kemijskog društva, Nacionalne međuministarske komisije za kemijsku sigurnost, Savjeta za okoliš i izvore pri Nacionalnom statističkom uredu (predsjednik) itd. Viktor Grilc je također profesionalni inženjer (registriran kod Slovenske komore inženjera), registrirani revizor za EMS sustave prema ISO 14000 i registrirani stručnjak u Regionalnoj središnjici za okoliš za Srednju i Istočnu Europu i u Međunarodnoj udruzi za kruti otpad.

- design and introduction of comprehensive methods for classification and characterization of dangerous wastes, which are now used in Slovenia as official methods; design of national integrated waste management system;
- elaboration of environmental balances and inventories of most critical contaminants (e.g. PCBs, batteries, detergents, sewage sludge, packaging waste, hazardous wastes, greenhouse gases), with related risk assessment and life-cycle analysis;
- preparation of the nationally relevant list of dangerous substances in the surface water environment and their pollution reduction programs;
- elaboration of the measures for approximation of Slovenian environmental legislation to European Union legislation, of national chemical safety programs, and of national environmental protection action plan;
- development of tools, indicators and programs for sustainable production e.g. Cleaner production, Responsible care, Environmental management systems etc. and their implementation in industry.

His most recent research areas are sustainable industrial development, pollution prevention, waste minimisation, material recovery and recycling, resource conservation, waste identification and characterisation, waste treatment and disposal methods (eg. stabilisation), and environmental impact assessment.

He is author or coauthor of about 50 scientific and technical papers as well as numerous conference contributions. He organised and supervised many national and took part in some international projects in environmental protection, pollution prevention and waste management. Presently he is responsible for the implementation of »Cleaner production« project in the Slovenian industry (3rd year).

As associate professor for chemical and environmental engineering at the University of Ljubljana, he has been lecturing various subjects in graduate and postgraduate studies of chemical technology and civil engineering: Chemical reaction engineering, Chemical process engineering, Environmental protection and engineering, Waste prevention and management. He supervised a number of graduate, MSc and PhD students.

He is a member of several professional bodies: EFChE Working party for environmental protection, Council for environmental protection of the Slovenian academy of science and arts Executive committee of the Slovenian chemical society, National inter-ministry commission for chemical safety, Council for environment and resources at the National statistical office (Chairmen) etc. He is also a professional engineer (registered at Slovenian Chamber of Engineers), registered auditor for EMS systems according to ISO 14000 and registered expert at the Regional Environmental Center for Central and Eastern Europe and International Solid Waste Association.

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