

# Prof. Emer. Nedjeljko Frančula

Awarded the Lifetime Achievement Award of the Croatian Geodetic Society



Nedjeljko Frančula was born in Zagreb on June 20, 1937. He finished high school in Zagreb in 1956. He graduated from the Department of Geodesy of the Faculty of Architecture, Civil Engineering and Geodesy in Zagreb in 1962 and received his PhD in Bonn (Landwirtschaftliche Fakultät) with the thesis *Die vorteilhaftesten Abbildungen in der Atlaskartographie*. He spent two years (1969–71) at the Institute for Cartography and Topography of the University of Bonn after receiving scholarship from *Deutsche Akademische Austauschdienst (DAAD)*, and he returned there again in 1976 for expert training in automatization in cartography. He became an assistant at the Faculty of Geodesy of the University of Zagreb in 1963, an assistant professor in 1975, an associate professor in 1980 and a full professor in 1985. He became a permanent full professor for the area of technical sciences – field geodesy in February 1996. The Senate of the University of Zagreb nominated him professor emeritus in 2007.

Prof. Frančula published about 400 scientific and expert papers. As a member of teams, he carried out about 40 expert-practical works (surveys, topographic and thematic maps), produced 10 expertises and 25 computer program packages.

His main areas of research are map projections and digital cartography. Results of his research on map projections with minimum distortions are cited in CC journals, foreign textbooks, lexicons and encyclopaedias.

Prof. Frančula received a Diploma of the Republican Community for Scientific Work of the Socialist Republic of Croatia 1975–85 in 1985. In 1996, he received an acknowledgment of the Croatian Geodetic Society on the occasion of the 50th anniversary of continuous publishing of *Geodetski list*, for an extraordinary contribution to promoting the science and profession of geodesy and perennial work on editing and publishing *Geodetski list*. He was awarded the *Power of Knowledge* lifetime achievement award of the Croatian Academy of Engineering in 2004. He became an honorary member of the Croatian Cartographic Society in 2007.

The explanation of the proposal submitted by the Faculty of Geodesy of the University of Zagreb to the Croatian Geodetic Society reads as follows:

*1. Actively involved during a long period of time in scientific and expert research and published highly professional papers which significantly contributed to the geodetic profession.*

Prof. Emer. Nedjeljko Frančula spent his entire working period actively and successfully working at the Faculty of Geodesy of the University of Zagreb. He conducted scientific and expert research and published an extraordinary number of scientific and expert papers which significantly contributed to the geodetic profession.

*2. Achieved several results of exceptional value in the geodetic profession.*

Prof. Frančula's main research areas are map projections and digital cartography. Results of his research on map projections with minimal distortions

are cited in CC journals, foreign textbooks, lexicons and encyclopaedias.

The most important work by N. Frančula within the group *design of mathematical basis of small scale maps* is his doctoral dissertation. Based on research and comparison of world map projections, he reached significant conclusions about properties of most suitable projections for world maps. Some scientists reacted to his published results. A discussion led in *Kartographische Nachrichten* demonstrated that N. Frančula is competent in this area.

Numerous papers by N. Frančula belong to the group *Gauss-Krüger and other geodetic projections*. In a 1969 monograph, B. Borčić and N. Frančula analysed old coordinate systems in Croatia and provided solutions for transforming coordinates from those systems into systems of the Gauss-Krüger projection, which is still being applied in everyday practice.

N. Frančula was one of pioneers of introducing *digital methods in geodesy and cartography* in former Yugoslavia, and in the world in the area of map projections (see Frank Canters: *Small-scale Map Projection Design*, Taylor&Francis, London and New York, 2002, pages 1, 47–48, 97, 314 and 324). One of the greatest difficulties in implementing automatization in map production is generalization automatization. N. Frančula and his associates researched automatic generalization of line cartographic elements for several years. They published their first results in 1981 and the latest ones in 2005. Application of digital methods in cartometry significantly improved cartometric work. In several papers, N. Frančula and his associates were the first (1992) to determine the area of Croatian coastal sea and the sea between the state border and the epicontinental belt border. This research proved that areas of territorial units can be highly accurately

# Prof. emer. Nedjeljko Frančula

## Dobitnik Nagrade za životno djelo Hrvatskoga geodetskog društva

Nedjeljko Frančula rođen je u Zagrebu 20. lipnja 1937. Gimnaziju je završio u Zagrebu 1956. Diplomirao je 1962. na Geodetskom odjelu Arhitektonsko-građevinsko-geodetskog fakulteta u Zagrebu, doktorirao 1971. u Bonnu (Landwirtschaftliche Fakultät) tezom *Die vorteilhaftesten Abbildungen in der Atlaskartographie*. Boravio je u Institutu za kartografiju i topografiju Sveučilišta u Bonnu dvije godine (1969–71) kao stipendist *Deutsche Akademische Austauschdienst (DAAD)*, a 1976. bio je ondje ponovno kao stipendist DAAD-a, tri mjeseca na znanstvenom usavršavanju iz područja automatizacije u kartografiji. Za asistenta na Geodetskom fakultetu Sveučilišta u Zagrebu izabran je 1963., za docenta 1975., za izvanrednog profesora 1980., a za redovitog profesora 1985. U znanstveno-nastavno zvanje redovitog profesora u trajnom zvanju za područje tehničkih znanosti – polje geodezija izabran je u veljači 1996. God. 2007. Senat Sveučilišta u Zagrebu imenovao ga je profesorom emeritusom.

Objavio je oko 400 znanstvenih i stručnih radova. Pretežno u tiskom radu izveo je četrdesetak stručno-praktičnih radova (geodetska izmjera, topografske i tematske karte), izradio deset ekspertiza i sastavio 25 računalnih programskih paketa.

Glavno su područje njegova istraživanja kartografske projekcije i digitalna kartografija. Rezultati njegovih istraživanja o kartografskim projekcijama s minimalnim deformacijama citirani su u CC-časopisima, inozemnim udžbenicima, leksikonima i enciklopedijama.

Diplomu Republičke zajednice za znanstveni rad SR Hrvatske 1975–85 primio je 1985. Priznanje Hrvatskoga geodetskog društva u povodu 50. obljetnice neprekidnog izlaženja Geodetskog lista za izvanredan doprinos na promicanju geodetske znanosti i struke te za dugogodišnji predani rad na uređivanju i izdavanju Geodetskog lista

primio je 1996. Nagrada za životno djelo *Moć znanja* Akademije tehničkih znanosti Hrvatske dodijeljena mu je 2004. godine. Počasnim članom Hrvatskoga kartografskog društva postao je 2007.

U obrazloženju prijedloga za nagradu koje je Geodetski fakultet Sveučilišta u Zagrebu uputio Hrvatskom geodetskom društvu može se pročitati sljedeće.

1. *U duljem razdoblju aktivno je radio na znanstvenim i stručnim istraživanjima, te objavio visokostručne radove koji su značajno pridonijeli geodetskoj struci.*

Prof. emer. Nedjeljko Frančula je cijeli svoj radni vijek aktivno i uspješno radio na Geodetskom fakultetu Sveučilišta u Zagrebu. Cijeli svoj radni vijek proveo je na znanstvenim i stručnim istraživanjima i objavio izuzetno velik broj znanstvenih i stručnih radova koji su značajno pridonijeli geodetskoj struci.

2. *U geodetskoj struci ostvario je više rezultata iznimne vrijednosti.*

Glavno su područje njegova istraživanja kartografske projekcije i digitalna kartografija. Rezultati njegovih istraživanja o kartografskim projekcijama s minimalnim deformacijama citirani su u CC-časopisima, inozemnim udžbenicima, leksikonima i enciklopedijama.

U skupini *oblikovanje matematičke osnove karata sitnih mjerila* najvažniji rad N. Frančule njegova je doktorska disertacija. Na temelju provedenih istraživanja i uspoređivanja projekcija za karte svijeta došao je do važnih zaključaka o svojstvima najpovoljnijih projekcija za karte svijeta. Objavljeni rezultati izazvali su i reakcije određenog broja znanstvenika. Polemika koja se vodila u časopisu *Kartographische Nachrichten* pokazala je da N. Frančula suvereno vlada tom građom.

Mnogobrojni radovi N. Frančule pripadaju u skupinu *Gauss-Krügerova i druge geodetske projekcije*. U monografiji iz 1969. B. Borčić i N. Frančula proveli su analizu starih koordinatnih sustava na



području Hrvatske i dali rješenja za transformaciju koordinata iz tih sustava u sustave Gauss-Krügerove projekcije, koja sve do danas nalaze svestranu primjenu u svakodnevnoj praksi.

N. Frančula jedan je od pionira uvođenja *digitalnih metoda u geodeziji i kartografiji* u bivšoj Jugoslaviji, a na području kartografskih projekcija i u svijetu (vidi Frank Canters: *Small-scale Map Projection Design*, Taylor&Francis, London and New York, 2002, str. 1, 47-48, 97, 314 i 324). U procesu uvođenja automatizacije u izradu karata jednu od najvećih teškoća čini automatizacija generalizacije. N. Frančula sa svojim suradnicima više godina bavio istraživanjem automatske generalizacije linijskih kartografskih elemenata. Prvi su rezultati objavljeni 1981., a najnoviji 2005. Primjena digitalnih metoda u kartometriji znatno je unaprijedila kartometrijske radove. U više radova N. Frančula je sa svojim suradnicima prvi (1992) odredio površinu hrvatskog obalnog mora i mora između državne granice i granice epikontinentalnog pojasa. Tim je radovima dokazano da se površine teritorijalnih jedinica



derived from digitalized border coordinates of those units not only from topographic large scale maps, but also from a 1:1 000 000 map. This research was a model for all other researchers in Croatia who dealt with these issues.

In recent years, N. Frančula has intensively dealt with the *future of geodesy and cartography*. In several papers and public lectures, he demonstrated that changes which occurred in geodesy and cartography in the last 40 years, especially in the last decade, can be considered revolutionary. They are related to the development of electronic, satellite and computer technology. These changes are so important and great that they changed names of geodetic associations, journals, as well as institutions and the entire profession. Therefore, he insisted on reforming the educational plan and program and introduced the geoinformatic specialization in addition to the geodetic one.

According to contracts with the Ministry of Science and Technology of the Republic of Croatia, he led the scientific task *Cartographic Research of Space* 1987–91, scientific projects *Cartography and Geoinformation Systems* 1991–96, *Croatian Cartography - Scientific Bases* 1997–2001. According to contracts with the State Geodetic Administration, he led scientific-expert projects *Croatian Cartographers* 1996–2002 and *Geodetic Dictionary* 1996–2003.

For more than 30 years, N. Frančula organized and carried out instruction

at all levels in most cartographic disciplines and was highly evaluated by other professors and pupils. In addition to Zagreb, he lectured at the undergraduate and postgraduate studies at the Faculty of Architecture, Civil Engineering and Geodesy in Ljubljana. He mentored 67 diploma theses, eight master theses and four doctoral dissertations. He was interested in application of computers in solving geodetic and cartographic tasks for more than 30 years and introduced digital cartography to education at the undergraduate and postgraduate studies at the Faculty of Geodesy in Zagreb.

N. Frančula regularly participated in the work of Institute of Cartography in solving expert-practical tasks from his graduation in 1962. During the years, he was involved in practical work from field operations to map production. He published two monographs with results of his perennial work on implementing automatization in map production. He and three other co-authors composed the first *Multilingual Cartographic Dictionary* with definitions and explanations in Croatian. Continuously following global events concerning cartography, he published 184 reviews of books, journals, maps, atlases, software and hardware.

### 3. Achieved valuable results in organization of geodetic activities.

Prof. Frančula has been a member of the Croatian Geodetic Society since its inception. From 1976 to 1986, he was the assistant editor of the *Geodetski list* journal, and its editor in chief from 1987 to 1995.

He has collaborated on the international cartographic reference publication *Bibliographia cartographica* (München – New Providence – London – Paris) since 1976. He was a corresponding member of the International Cartographic Association, Commission II: Definition, Classification and Standardization of Technical Terms in Cartography from 1975 to 1980; a member of the Master Committee for the Area of Technical Sciences – Field of Architecture and City

Planning, Civil Engineering and Geodesy from 1987 to 1993 and again since 2005. In 1997, he became the head of the *Section of Cartography* of the *Croatian Geodetic Society*. Since 1998, he has been a full member of the *Croatian Academy of Engineering* in the Department of Civil Engineering and Geodesy. Prof. Frančula has been member of the Expert Council of the State Geodetic Administration for monitoring the Official Topographic-Cartographic Information System (STOKIS) since 2000 and an alternate member of the Opinion Group Architecture and City Planning, Geodesy; Civil Engineering of the Ministry of Science, Education and Sport in 2006.

### 4. Contributed to popularization of the geodetic profession with his publications and expert papers related to geodetic practice.

Continuously following global events concerning cartography, Prof. Frančula published more than 200 reviews of books, journals, new maps, atlases, software and hardware. His 94 papers were cited 346 times (177 out of which are foreign citations) in books, journals and bibliographic databases. His 1971 doctoral dissertation was cited four times in SCI journals, as well as in 35 additional books and journals. We would like to emphasise it was cited in three places in the 1975 edition of the famous German textbook *Kartographie* by Günther Hake, as well as in the eighth, expanded edition with two new co-authors in 2002. In addition, it was cited three times in *Lexikon der Kartographie* by Werner Witt in 1979. Prof. Frančula still relentlessly writes and publishes, mostly in *Geodetski list* and *Cartography and Geoinformation*.

Based on the aforementioned information, it is clear that Prof. Emer. Nedjeljko Frančula meets all conditions from Article no. 8 of Regulations on Awarding the Lifetime Achievement Award of the Croatian Geodetic Society. Prof. Frančula especially contributed to the Croatian Geodetic Society in his 20 years of continuous and diligent work on editing *Geodetski list*. He has been

moгу odrediti s visokom točnošću iz digitaliziranih koordinata granica tih jedinica ne samo s topografskih karata krupnih mjerila nego i s karte mjerila 1:1 000 000. Ti su radovi poslužili kao uzor svim kasnijim istraživačima koji su se u Hrvatskoj bavili tom problematikom.

N. Frančula posljednjih se godina intenzivno bavi *budućnošću geodezije i kartografije*. U nekoliko radova i javnih predavanja pokazao je da se promjene koje su se dogodile u geodeziji i kartografiji u posljednjih četrdeset godina, a posebno u posljednjem desetljeću, mogu bez pretjerivanja nazvati revolucionarnima. Vezane su uz razvoj elektroničke, satelitske i računalne tehnologije. Promjene su tako važne i velike da izazivaju i promjene naziva geodetskih udruga, časopisa, ali i geodetskih učilišta pa i cijele struke. Stoga se zauzimao za to da se u reformi nastavnog plana i programa uz geodetsko usmjerenje uvede i geoinformatičko.

Prema ugovorima s Ministarstvom znanosti i tehnologije Republike Hrvatske bio je voditelj znanstvenog zadatka *Kartografska istraživanja prostora 1987–91*, znanstvenih projekata *Kartografija i geoinformacijski sustavi 1991–96*, *Hrvatska kartografija – znanstvene osnove 1997–2001*. Prema ugovorima s Državnom geodetskom upravom bio je voditelj znanstveno-stručnih projekata *Hrvatski kartografi 1996–2002*, i *Geodetski rječnik 1996–2003*.

N. Frančula više od 30 godina uzorno je organizirao i izvodio nastavu na svim stupnjevima iz većine kartografskih disciplina, pa je i od drugih nastavnika i studenata visoko ocjenjivan. Osim u Zagrebu predavao je na dodiplomskom i poslijediplomskom studiju i na Fakultetu za arhitekturu, građevinarstvo i geodeziju u Ljubljani 1974–76. Bio je mentor u izradi 67 diplomskih radova, osam magistarskih radova i četiri doktorske disertacije. Baveći se više od 30 godina primjenom računala u rješavanju geodetskih i kartografskih zadataka uveo je digitalnu kartografiju u nastavu na dodiplomskom i poslijediplomskom studiju Geodetskog fakulteta u Zagrebu.

Od diplomiranja 1962. N. Frančula redovito sudjeluje u radu Zavoda za kartografiju na rješavanju stručno-praktičnih zadataka. Tijekom godina prošao je praktični rad od terenskih operacija do izrade karata. Rezultate svog višegodišnjeg rada na uvođenju automatizacije u izradu karata N. Frančula je objavio u dvije monografije. S još trojicom koautora sastavio je prvi *Višejezični kartografski rječnik* s definicijama i objašnjenjima na hrvatskom jeziku. Stalno prateći svjetska zbivanja na području kartografije objavio je 184 prikaza knjiga, časopisa, novih karata, atlasa, softvera i hardvera.

### 3. Postigao je vrijedne rezultate u organizaciji geodetske djelatnosti.

Član je Hrvatskoga geodetskog društva od njegova osnutka. Od 1976. do 1986. bio je zamjenik glavnog i odgovornog urednika časopisa *Geodetski list*, a od 1987. do 1995. njegov glavni i odgovorni urednik.

Od 1976. stalni je suradnik međunarodne kartografske referativne publikacije *Bibliographia cartographica* (München – New Providence – London – Pariz). Dopisni član International Cartographic Association, Commission II: Definition, Classification and Standardization of Technical Terms in Cartography bio je 1975–80; član Matičnog povjerenstva (odbora) za područje tehničkih znanosti – polje arhitekture i urbanizma, građevinarstva i geodezije bio je 1987–93 te ponovno od 2005. Početkom 1997. izabran je za pročelnika *Sekcije za kartografiju Hrvatskoga geodetskog društva*. Od 1998. redoviti je član *Akademije tehničkih znanosti Hrvatske* u Odjelu za građevinarstvo i geodeziju. Član je Stručnog savjeta Državne geodetske uprave za praćenje Službenoga topografsko-kartografskog informacijskog sustava (STOKIS) od 2000; te zamjenski član Prosudbene skupine Arhitektura i urbanizam; geodezija; građevinarstvo Ministarstva znanosti, obrazovanja i športa, 2006.

4. Pridonio je popularizaciji geodetske struke vlastitim publikacijama i istakao se

objavlivanjem stručnih radova iz geodetske prakse.

Stalno prateći svjetska zbivanja na području kartografije objavio je više od 200 prikaza knjiga, časopisa, novih karata, atlasa, softvera i hardvera. U knjigama, časopisima i bibliografskim bazama podataka 94 njegova rada citirana su 346 puta, od čega je 177 inozemnih citata. Njegova doktorska disertacija iz 1971. citirana je u SCI-časopisima četiri puta, ali u još 35 inozemnih knjiga i časopisa. Posebno ističemo da je 1975. u poznatom njemačkom udžbeniku *Kartographie Günthera Hakea* citirana na tri mjesta, ali u istom opsegu i u 8., prerađenom i proširenom izdanju, uz dva nova koautora, 2002. godine. Također je tri puta citirana i u *Lexikon der Kartographie* Wernera Witta iz 1979. Prof. Frančula i dalje neumorno piše i objavljuje, najviše u *Geodetskom listu* i *Kartografiji i geoinformacijama*.

Na temelju svega navedenoga vidljivo je da je prof. emer. Nedjeljko Frančula ispunio sve uvjete iz čl. 8 Pravilnika o dodjeli priznanja Hrvatskoga geodetskog društva (HGD) za Nagradu za životno djelo. Pri tome se posebno ističe njegov izuzetan doprinos HGD-u koji se očituje u 20 godina neprekidnog, ustrajnog i samozatajnog rada na uređivanju Geodetskoga lista. U tom je časopisu jedan od najplodnijih autora, objavio velik broj znanstvenih i stručnih radova te raznih prikaza, a objavljuje i dalje.

Prof. emer. Nedjeljku Frančuli dodijeljena je Nagrada za životno djelo HGD-a kao najviše priznanje istaknutom pojedincu za njegov sveukupni stvaralački rad koji je od osobitog značenja za promicanje HGD-a, odnosno za izuzetno ostvarenje koje predstavlja značajan doprinos i od značaja je za HGD i geodetsku struku uopće. Nagrada je dodijeljena 28. lipnja 2013. na 17. susretu hrvatskih geodeta u Sv. Martinu na Muri.

Čestitamo!

Miljenko Lapaine ■

one of the most prolific authors in that journal and published a number of scientific and expert papers and various reviews, and he still publishes.

Prof. Emer. Nedjeljko Frančula was awarded the Lifetime Achievement Award of the Croatian Geodetic Society

as the highest acknowledgment to a distinguished individual for his total work, which is especially important for promoting the Croatian Geodetic Society and contribution to the Croatian Geodetic Society and the geodetic profession in general. The award ceremony

was held at the 17th Meeting of Croatian Geodesists in Sv. Martin na Muri on June 28, 2013.

Congratulations!

Miljenko Lapaine ■

## Prof. Dr. Mithad Kozličić

Member of the Academy of Sciences and Arts of Bosnia and Herzegovina

Mithad Kozličić is a historian of navigation and geography. He was born in Zenica on April 14, 1954. He finished the Military Maritime Academy in Split, nautical orientation in 1978, and received his MSc in history in Dubrovnik in 1985. He received PhD in historical sciences at the Faculty of Humanities and Social Sciences in Zagreb in 1988 with the dissertation *Historical Geography of the Eastern Adriatic in Light of Results of Researching Antique Geographic Work*. He was assistant director and custodian of the Military Maritime Museum in Split until 1991, after which he was the director of the Croatian Maritime Museum in Split. He has been a professor at the Department of History of the Faculty of Humanities and Social Sciences in Zadar and the University of Zadar. In 2005, he became a permanent full professor of humanistic sciences, scientific field of history, branch Croatian history. He lectures History of Navigation in the Croatian Adriatic, Historical Geography and History of Cartography. He initiated and led post-graduate scientific master and doctoral studies History of Croatian Navigation at the same Faculty. He led several scientific-research projects on the history of Eastern Adriatic navigation. Professor Kozličić's scientific research concerns

history of navigation and cartography and historical geography of the Eastern Adriatic. He published a dozen scientific books and more than 100 studies and articles. He participated in numerous domestic and international conferences and prepared several museum exhibitions. After a long research of map collections in Croatian and foreign archives, museums and libraries, he published *Atlas – Cartographic Monuments of the Croatian Adriatic* in 1995. It contains a concise overview of cartographic representations of the Croatian Adriatic from the antique to the end of the 17th century, with analyses of 275 maps, plans and views by 53 authors. Special attention is paid to older cartographic material and one intended for navigation, and charts by 12 cartographers produced between the beginning of the 13th century and the end of the 16th century are researched. The central chapter is dedicated to numerous cartographers and their perception of the Croatian Adriatic. The book contains basic map data, including toponymy, name of the collection and scientific and expert commentary. A list of bibliographic units and a terminology index can be found at the end. We would like to single out Professor Kozličić's monographs *Panoramas of Dalmatia* by

Giuseppe Rieger, published by the Hydrographic Institute of the Republic of Croatia, Split 2003, *Regiones Flumina Unnae et Sanae in Veteribus Tabulis Geographicis, Una-Sana Area on Old Geographic Maps*, published by the National and University Library of Bosnia and Herzegovina, Sarajevo and the Una-Sana Canton Archive, Bihać, 2003 and Eastern Adriatic in Work of Beaupré, published in 2006. Prof. Dr. Mithad Kozličić is a member of several expert societies, including the Croatian Cartographic Society, in which he was a member of the Court of Honour for several years. He received several awards and acknowledgments and this year became a member of the Academy of Sciences and Arts of Bosnia and Herzegovina ("a member outside of working team" – citizen of Bosnia and Herzegovina living abroad).

Congratulations!

You can find more data on Prof. Dr. Mithad Kozličić and a list of all his published papers at the University of Zadar website: <http://www.unizd.hr/povijest/Nastavnici/ProfdrscMithadKozli%C4%8Di%C4%87/tabid/293/Default.aspx>

Miljenko Lapaine ■