

## **Ob 40-letnici Inštituta za raziskovanje krasa Znanstvenoraziskovalnega centra Slovenske akademije znanosti in umetnosti**

Prizadevanja za ustanovitev speleološkega inštituta v kraju s svetovno znano Postojnsko jamo in z bogato speleološko tradicijo je prekinila prva svetovna vojna. Po njej je bila speleološka dejavnost na območju Postojne in Slovenskega Primorja, ki je po mirovni pogodbi leta 1920 pripadlo Italiji, organizirana v italijanskem državnem speleološkem inštitutu, ustanovljenem leta 1929 v Postojni. S priključitvijo Slovenskega Primorja leta 1947 Jugoslaviji so bili dani pogoji za ustanovitev slovenskega speleološkega inštituta in s tem za razvoj znanstvenoraziskovalnega dela na področju krasoslovja v okviru Slovenske akademije znanosti in umetnosti.

Prvi upravnik inštituta je bil dr. Alfred Šerko (1910—1948), ki je hkrati upravljal turistični zavod Kraške jame Slovenije. Po njegovi tragični smrti je bil 24 let upravnik prof. dr. Srečko Brodar. Za njim je prevzel upravnništvo leta 1971 prof. dr. Maks Wraber, po njegovi smrti leta 1972 pa prof. dr. Svetozar Ilešič. Za njim je bil upravnik od leta 1976 do 1987 dr. Peter Habič, od 1987 dalje pa vodi delo inštituta dr. France Šušteršič. Vršilec dolžnosti upravnika v Postojni je bil od leta 1951 do 1962 dr. Roman Savnik, od 1964 do 1974 je bil pomočnik upravnika dr. Peter Habič, od 1974 do 1987 dr. Rado Gospodarič, od začetka 1987 dalje pa dr. Andrej Kranjc.

Letna poročila o delovanju inštituta so objavljena v letopisih Slovenske akademije znanosti in umetnosti, večina raziskovalnih dosežkov pa je zajeta v 15 številkah Krasoslovnega zbornika *Acta carsologica* in v drugih strokovnih revijah. V njih so sodelavci inštituta objavili skupno 1018 člankov in samostojnih znanstvenih del.

V prvem desetletju (1947—1957) je bila po začetnih težavah in smrti prvega upravnika dr. A. Šerka preseljena zapuščina italijanskega speleološkega inštituta iz sedanje občinske zgradbe v staro graščino sredi Postojne. Prvi trije sodelavci dr. Roman Savnik, Egon Pretner in France Hribar so raziskovali kras v okolici Postojne, Idrije, Hotedršice, Divače in Sežane. Uredili so speleološko zbirko in kataster kraških pojavov. Organizirali so 1. jugoslovanski speleološki kongres in sodelovali na mednarodnih speleoloških zborovanjih. Pripravili so prvo številko zbornika *Acta carsologica*.

V drugem desetletju (1957—1967) se je inštitut številčno okrepil z novimi sodelavci, kar je sprožilo tudi povečano raziskovalno dejavnost. Inštitut so zapustili France Hribar (1961), dr. Roman Savnik (1962) in France Leben (1963), kot novi raziskovalci pa so se zaposlili Rado Gospodarič (1959), dr. Ivan Gams in Peter Habič (1962) ter France Habe (1965). Kadrovski obnovi je sledila nujna obnova delovnih prostorov. Razstavni prostori so bili preurejeni v kabinete in

laboratorij, zbirke pa po dogovoru s Postojnsko jamo vskladiščene čakajo na nove muzejske prostore pri Jami. Novi sodelavci so izmerili in raziskali poglavitne vodne jame v predelu med Postojno, Planino in Cerknico. Organizirali so IV. mednarodni speleološki kongres, ki je zasedal v Postojni, Ljubljani in Dubrovniku. Tedaj je bila pri nas ustanovljena mednarodna speleološka zveza, ki pomeni novo vzpodbudo razvoju speleologije, ne le pri nas, temveč tudi v svetu. Objavljene so tri številke zbornika *Acta carsologica* in obsežno kongresno gradivo v petih zvezkih.

V tretjem desetletju (1967—1977) je bilo raziskovalno delo povezano s poglobljanjem teoretskega znanja in neposrednim prenosom spoznanj o naravi našega krasa v prakso. Opravljene so pomembne raziskave vodnih virov na Notranjskem in Primorskem. Izvedene so speleološke raziskave krasa za potrebe projektiranja in izgradnje avto ceste čez kras od Vrhnike do Postojne in Sežane. Pomembne so tudi speleološke in hidrološke raziskave Cerkniškega jezera v zvezi s poskusom trajne ojezeritve. V mednarodnem okviru odmevajo hidrološke raziskave in kombiniran sledilni poskus v porečju kraške Ljubljane ob 3. mednarodnem simpoziju o sledenju podzemeljskih voda, ki ga je inštitut v sodelovanju s Hidrometeorološkim zavodom in Zvezo vodnih skupnosti organiziral leta 1976. V tem obdobju se prične izdelava osnovne speleološke karte Slovenije. Razširjene naloge zahtevajo tudi več sodelavcev; v delovno razmerje sta stopila asistenta Andrej Kranjc in France Šušteršič. Značilna pa je tudi štirikratna menjava v vodstvu inštituta. Po preselitvi speleobiološkega oddelka v Ljubljano se je število sodelavcev nekoliko zmanjšalo. Odšli so: Božo Drovenik, Tone Novak in Valika Kuštor, upokojil pa se je Egon Pretner. S priključitvijo Notranjskega muzeja in ustanovitvijo Kraške muzejske zbirke pa se je število sodelavcev spet povečalo. Izšle so tri številke zbornika *Acta carsologica*. Razširjeno pa je bilo tudi mednarodno sodelovanje.

V četrtem desetletju (1977—1987) je bila dokončana osnovna speleološka karta Slovenije. Zasnovane so nove študijske obravnave kraškega površja, voda in podzemlja na Notranjskem, Primorskem in Dolenjskem krasu, ki so izvajane s pomočjo novih sodelavcev Jožeta Čara (zaposlen 2 leti), Janje Kogovšek, Andreja Mihevca in Tadeja Slabeta. Izvedene so sistematične meritve prenikanja vode ter raztapljanja in odlaganja apnenca v Planinski, Postojnski in Škocjanskih jamah. Odprti so novi pogledi na oblikovanje kraškega reliefa, v katerem se poleg zunanjih, klimatsko pogojenih procesov pomembno odraža tudi zgradba in mlada tektonika. Ta spoznanja so oprta na podrobno geološko kartiranje ozemlja med Postojno, Planino in Cerknico. Sistematska preučevanja sedimentov v podzemlju pripomorejo k časovni opredelitvi nastajanja in razpadanja kraških votlin in njihovega kapniškega bogastva. Razčlenjeni so procesi izvotljevanja, zasipanja in podiranja jam pod vplivom klimatskih sprememb in tektonskih premikanj v mlajši geološki preteklosti, v ledenih in medledenih dobah in v obdobju vse pomembnejših človekovih posegov v kras. Vedno bolj je v ospredju skrb za ohranitev čistega krasa in kraških voda, ki pomenijo poglavitni vir pitne vode za oskrbo južne in zahodne Slovenije.

Izsledki sodelavcev inštituta vzbujajo vse večje zanimanje domače in tuje javnosti, vse številnejši so obiski tujih strokovnjakov pri nas, pa tudi med-

narodno sodelovanje se v tem obdobju še krepi, zlasti z Italijo, Francijo, Nemčijo, Romunijo, Poljsko, Grčijo in Kitajsko. Izšlo je 8 številčk zbornika Acta carsologica. V okviru Kraške muzejske zbirke je bilo pripravljenih več samostojnih razstav o krasu, ki so bile prikazane v raznih krajih Slovenije, pa tudi v sosednji Italiji. Z inštitutom se Postojna vse bolj uveljavlja kot pomemben mednarodni speleološki center, kar se kaže tudi v povečanem zanimanju tujih raziskovalcev za študijsko izpopolnjevanje pri nas.

Ob raziskovalnem delu so sodelavci inštituta pridobili 3 magistrske in 4 doktorske naslove.

In kakšna je naloga inštituta v prihodnje? Glavne smernice daje raziskovalni program ZRC SAZU, Naravna in kulturna dediščina slovenskega naroda. Trajne in dolgoročne naloge inštituta so tako zbiranje podatkov in urejanje katastra kraških pojavov Slovenije, proučevanje nastanka in razvoja kraškega površja in podzemlja ter študij zakonitosti pretakanja kraških voda in preučevanje geografskih funkcij krasa. Tako zastavljeno raziskovalno področje je seveda izredno obsežno in daleč presega zmožnosti inštituta, če bi ga hoteli pokrivati v celoti. Z mislijo, da bo nekoč postopoma pokrita celota, se bomo morali, kot doslej, posvečati posameznim podrobnostim, ki so v določenem trenutku najbolj aktualne.

Čeprav je zbranih že precej podatkov o kraških pojavih Slovenije, saj obsega kataster že prek 5800 jam, lahko pričakujemo še številna nova odkritja. Vsi kraški predeli še niso enako intenzivno raziskani. Marsikaj novega bodo prinesla razna tehnična dela in organizirane speleološke, še posebej potapljaške raziskave. Novo znanje bo treba urediti in predstaviti javnosti v pregledni, poljudni in monografski obliki. Ko bo zgrajen nov speleološki muzejski center pri Postojnski jami, ne bo težko napolniti razstavnih prostorov s sodobno krasoslovno vsebino. Bodoče raziskave pa bodo nedvomno usmerjene v nadaljnje spoznavanje krasa, v odkrivanje podzemeljskih vodnih poti in v varovanje vodnih virov, pa tudi v razvijanje novih raziskovalnih postopkov ter poglobljanje teoretskega znanja, ki ga bo treba preveriti z različnimi poskusi in modeli. Vse to naj bi prispevalo k reševanju in usklajevanju aktualnih življenjskih problemov na krasu, ki jih narekuje svojevrstno naravno okolje.

Peter Habič

Delavci IZRK, dne 1. 6. 1987 (letnica zaposlitve)

- Leon D r a m e — višji tehnični delavec (1982)  
Franjo D r o l e — tehnični delavec (1986)  
dr. Rado G o s p o d a r i č, dipl. ing. geol. — znanstveni svetnik (1958)  
dr. Peter H a b i č, dipl. geogr. — znanstveni svetnik (1962)  
Jurij H a j n a — samostojni tehnični delavec (1975)  
mgr. Janja K o g o v š e k, dipl. ing. chem. — višja raziskovalna sodelavka (1975)  
dr. Andrej K r a n j c, dipl. geogr. — znanstveni sodelavec (1967)  
Maja K r a n j c — višja strokovna delavka (1969)  
Marjan L u z a r — višji tehnični delavec (1978)  
Franci M a l e č k a r — strokovni delavec (1980)  
Andrej M i h e v c, dipl. geogr. — raziskovalni asistent (1980)  
Samo M o r e l — tehnični delavec (1983)  
Tadej S l a b e, dipl. geogr. — raziskovalni asistent (1986)  
Slavuljka Š u š a k — čistilka (1983)  
dr. France Š u š t e r š i č, dipl. ing. geol. — znanstveni sodelavec (1974)  
Stanka T o m š i č — tajnica (1985)  
Mehtilda U r l e b, dipl. arheolog — strokovna svetnica (1974)  
Alojz V a d n j a l — jamski vodnik (1963)  
Milena Z l o k o l i c a, dipl. ing. geol. — raziskovalni asistent (1987)

## **At 40-anniversary of the Institute for karst research of the Scientific-research Center of the Slovene Academy of Arts and Sciences**

The efforts for the foundation of the speleological institute in the place with world famous Postojnska jama and with rich speleological tradition were cut by the First world war. After it the speleological activity in the region of Postojna and in the slovene Littoral, belonging to Italy according to treaty of piece from 1920, was organized in italian national speleological institute, founded in 1929 in Postojna. In 1947 the Slovene Littoral was annexed to Yugoslavia thus the conditions for the foundation of the slovene speleological institute and the possibilities for the development of scientific research work in the sphere of karstology within the frame of Slovene Academy of Arts and Sciences have arisen.

The first director of the Institute was dr. Alfred Šerko (1910—1948) who managed the tourist organisation Karst caves of Slovenia at the same time. After his tragical death prof. dr. Srečko Brodar was director for 24 years. In 1971 the director was prof. dr. Maks Wraber, after his death in 1972 prof. dr. Svetozar Ilešič. After him director was from 1976 to 1987 dr. Peter Habič, from 1987 onwards on the head of the Institute is dr. France Šušteršič. Acting manager in Postojna was from 1951 to 1962 dr. Roman Savnik, from 1964 to 1974 the director assistant was dr. Peter Habič, from 1974 to 1987 dr. Rado Gospodarič and from the beginning of 1987 dr. Andrej Kranjc.

The annual reports on the Institute work were published in annals of the Slovene Academy of Arts and Sciences, the majority of research results are included into 15 volumes of karstological miscellany *Acta carsologica* and in other professional serials. 1018 articles and autonomous scientific works in total were published by the Institute's collaborators.

In first decade (1947—1957) after the initial troubles and death of the first director dr. Alfred Šerko the legacy of Italian speleological institute was moved from actual community building into old manor-house in the center of Postojna. The first three collaborators dr. Roman Savnik, Egon Pretner and France Hribar explored the karst near Postojna, Idrija, Hotedršica, Divača and Sežana. They arranged the speleological collection and karst phenomena register. They have organized the first yugoslav speleological congress and have participated on international speleological meetings. They have prepared the first volume of *Acta carsologica*.

In the second decade (1957—1967) the Institute augmented by new collaborators as research activity increased. France Hribar (1961), dr. Roman Savnik (1962) and France Leben (1963) left the Institute and new researchers Rado Gospodarič (1959), dr. Ivan Gams and Peter Habič (1962) and France Habe (1965) were employed. Because of staff membres increase the restoration of working

places was necessary. Exhibition spaces were transformed into cabinets and laboratory, while the collections, according to agreement with Postojnska jama, wait stored to new museum building near the Cave. New collaborators have surveyed and explored the main water caves in the region among Postojna, Planina and Cerknica. They have organized the 4th International Congress of Speleology, having its sessions in Postojna, Ljubljana and Dubrovnik. In this time the International Speleological Union was founded at us, meaning new impulse for the speleology development, not at us only but in the whole world. Three volumes of *Acta carsologica* and huge congress material in five volumes were published.

In third decade (1967—1977) the research work was connected to engaged theoretical knowledge and direct putting of research achievements about nature of our karst into practice. Important investigations of water sources in Notranjsko and Primorsko were achieved. Speleological karst investigations for the needs of projects and motor-way construction across the karst from Vrhnika to Postojna and Sežana were done. Important were speleological and hydrological investigations of Cerknica polje connected to the experiment of making a permanent lake. Within the international frame hydrological investigations and combined water tracing test in the river basin of karst Ljubljaničica at the occasion of 3rd International Symposium on Underground Water Tracing, organized in the collaboration with Hydrometeorological Institution and Union of water communities in 1976 found a deep resounding. In the same period the elaboration of the Basic speleological map of Slovenia started. Widened tasks demanded more collaborators: the assistants Andrej Kranjc and France Šušteršič stepped into labour relations. Characteristical is four times change in the head of the Institute. After removal of speleobiological department into Ljubljana the number of collaborators diminished a little. Božo Drovenik, Tone Novak, Valika Kuštor went off and Egon Pretner retired. By annex of Notranjski museum and foundation of Karst museum collection the number of collaborators increased again. Three volumes of *Acta carsologica* were published. The international collaboration was widened.

In fourth decade (1977—1987) the Basic speleological map of Slovenia was achieved. New study researches of the karst surface, water and underground on Notranjsko, Primorsko and Dolenjsko were planned and performed by the help of new collaborators Jože Čar (employed 2 years), Janja Kogovšek, Andrej Mihevc and Tadej Slabe. Systematical measurements of water percolation and dissolution and deposition of limestone in Planinska jama, Postojnska jama, and Škocjanske jame were achieved. New views to the formation of karst relief, where beside outer, climatically conditioned processes the lithology and neotectonics play an important role were presented. This knowledge was based on detailed geological mapping of the region among Postojna, Planina and Cerknica. Systematical studies of sediments in the underground contribute to temporal definition of origin and degradation of karst caverns and their speleothem richness. The processes of excavation, filling up and caves collapse under the influence of climatic changes and tectonic movements in younger geological past, in glacial and interglacial periods and in the period of more and more important human impact on karst were defined. More and more is accentuated the need

for preservation of pure karst and karst waters, meaning the main source for drinking water supply in southern and western Slovenia.

The results of the Institute collaborators arouse great interest of our and foreign public, the visits of foreign experts at us are more and more frequent and the international collaboration in this period is in increase, with Italy, France, Germany, Romania, Poland, Greece and China in particular. Eight volumes of *Acta carsologica* were published. Within the frame of Karst Museum collection several independent exhibitions on karst were prepared and presented in different places in Slovenia and in near Italy. Because of the Institute Postojna is more and more valued as an important speleological center, shown in increased interest of foreign researchers for study improvement at us.

During the research work the Institute collaborators have obtained 3 PhD and 4 DSc degrees.

And what are the Institute's tasks in future? The main directions are given by the research program of Scientific-research Center of the Slovene Academy, Natural and cultural legacy of the Slovene people. Permanent and long-term tasks of the Institute are to gather and arrange the data of Karst phenomena register, study of origin and development of karst surface and underground, study of lawfulness of karst waters flow and study of geographical karst functions. Thus defined research sphere is very huge and exceeds the possibilities of the Institute if it should be covered entirely. Hoping to cover the total in future, we have to, as so far, devote our attention to particular details which are the most actual in a defined moment.

Although a lot data on karst phenomena of Slovenia are gathered, as the cave register includes more than 5800 caves, numerous new discoveries can be expected. All the karst regions are not equally intensively investigated yet. Different technical works, speleological expeditons, diving in particular, will bring a lot of new. New recongnitions have to be arranged and presented to public in clear, popular and monographic form. When new speleological museum center at Postojnska jama will be constructed it will not be difficult to fill the exhibition spaces with actual karstological content. Without doubt the further investigations will be directed into further karst recognition, in discovery of underground water courses and protection of water sources as well into development of new research methods and deepening of theoretical knowledge which has to be checked by different models and tests. All this will contribute to the solution and harmony of actual living problems on karst dictated by peculiar natural environment.

Peter Habič