

**DIETER ECKSTEIN, 1939-2021
AND HIS RICH LEGACY OF DENDROCHRONOLOGY IN SLOVENIA AND THE WORLD****DIETER ECKSTEIN, 1939-2021
IN NJEGOVA BOGATA ZAPUŠČINA ZA DENDROKRONOLOGIJO V SLOVENIJI IN PO SVETU**Katarina Čufar^{1*}**Abstract / Izvleček**

Abstract: Prof. Dr. Dieter Eckstein (1939-2021) was a leading scientist, teacher, mentor, leader, promoter and motivator in the field of dendrochronology and wood biology. After graduating in wood science and receiving a PhD in dendrochronology, he was professor of wood biology at the University of Hamburg. From 1995-2004, he was Director of the Department of Wood Biology, University of Hamburg, and of the Institute of Wood Biology and Wood Protection at the Federal Research Centre for Forestry and Forest Products in Hamburg, Germany. His work had a decisive influence on the development of wood anatomy, wood biology and dendrochronology and his laboratory was a reference point for dendrochronology worldwide. He supported dendrochronologists throughout Europe and around the world in their pioneering work to establish dendrochronology laboratories and develop dendrochronology in numerous countries, including Slovenia.

Keywords: dendrochronology, wood biology, wood anatomy, tree-ring chronologies, dendrochronology community

Izvleček: Prof. dr. Dieter Eckstein (1939-2021) je bil vodilni znanstvenik, učitelj, mentor, vodja in motivator na področju dendrokronologije in biologije lesa. Po diplomu iz lesarstva in doktoratu iz dendrokronologije je deloval kot univerzitetni profesor za biologijo lesa na Univerzi Hamburg. Med leti 1995-2004 je bil vodja Ordinariata za biologijo lesa, Univerze Hamburg in direktor Inštituta za biologijo in zaščito lesa pri Zveznem raziskovalnem centru za gozdarstvo in lesarstvo v Hamburgu. Njegovo delo je imelo ključen vpliv na razvoj anatomije in biologije lesa ter dendrokronologije, njegov laboratorij pa je bil referenčna točka za dendrokronologijo v svetovnem merilu. V svoji karieri je podpiral ustanavljanje novih dendrokronoloških laboratorijev in promocijo dendrokronologije v številnih državah po Evropi in svetu, tudi v Sloveniji.

Ključne besede: dendrokronologija, biologija lesa, anatomija lesa, kronologije širin branik, dendrokronološka skupnost

**1 DIETER ECKSTEIN A SCIENTIST,
TEACHER AND LEADER****1 DIETER ECKSTEIN ZNANSTVENIK,
UČITELJ IN VODJA**

The worldwide dendrochronology community mourns the loss of Prof. Dr. Dieter Eckstein (March 15, 1939 - November 10, 2021), our teacher, professor, leader, mentor, supporter, outstanding scientist and motivator, colleague, and above all, a good friend. The community extends its deepest condolences to his wife Ursula Eckstein, his son Prof. Dr. Lutz Eckstein and family, as well as to all

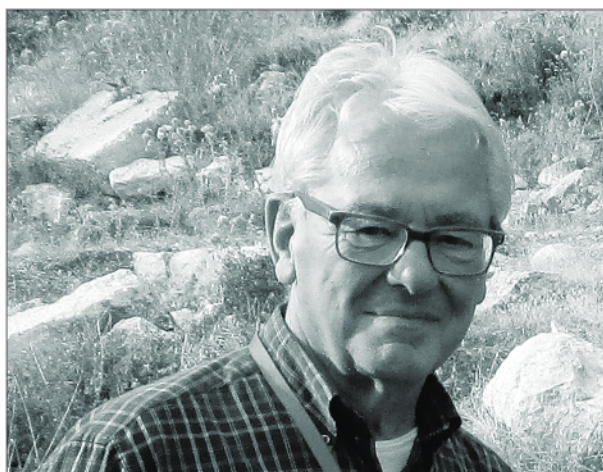


Figure 1. Dieter Eckstein,
Eurodendro 2015, Antalya, Turkey.

**Slika 1. Dieter Eckstein,
Eurodendro 2015, Antalya, Turčija.**

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other relatives and friends around the world.

Because of Dieter's leading role in dendrochronology and wood biology, several articles in memoriam are in preparation. This is just an attempt to remember him as a person, and to report on his immense support of dendrochronology in Slovenia.

Dieter was born into a family of foresters in Glashütten in Germany (Sass-Klaassen, 2005). He graduated in wood science at the University of Hamburg and did his thesis in the field of wood pathology in the laboratories at Reinbek Castle, Germany, at that time.

Early in his career, Dieter Eckstein, in collaboration with Prof. Dr. Josef Bauch and Prof. Dr. Walter Liese, began to work on crucial issues in dendrochronology and wood biology, such as the dating of oak wood from Northern Germany and of panels used by Dutch painters (Bauch et al., 1967; Bauch & Eckstein, 1970). His dissertation "Development and application of dendrochronology for the age determination of the Viking settlement of Hedeby (Haithabu) in Schleswig, Northern Germany" (Eck-

stein, 1969), supervised by Walter Liese, led to the absolute dating of Haithabu (Eckstein, 1976) and resulted in the development and wide application of dendrochronology in Northern Germany and the wider region as well as invention and wide application of dendroprovenancing (e.g. Wazny & Eckstein, 1987, 1991).

Dieter was one of the inventors of digital techniques in dendrochronology (Eckstein & Bauch, 1969) and contributed to early application of histometric techniques for quantitative wood anatomy (Liese et al., 1975). This pioneering work had a decisive influence on the development of our current understanding of wood biology, particularly quantitative wood anatomy (e.g., Sass & Eckstein, 1994, 1995; Sander et al., 1996; Garcia Gonzalez & Eckstein, 2003) and dendrochronology. The early work was just the prelude to many years of Dieter's successful scientific career, which produced around 300 publications (Wazny, 2021; Bibliography of dendrochronology WSL, 2021; Scopus, 2021; Thuenen, 2021).



Figure 2. Dieter Eckstein with colleagues dendrochronologists 1983, Athens, Greece.

Slika 2. Dieter Eckstein z dendrokronologinjami in dendrokronologi, 1983, Atene, Grčija.

In the 1970s, the Institute of Wood Biology under the direction of Walter Liese and the auspices of the University of Hamburg and the Federal Research Centre for Forestry and Forest Products (BFH), became one of the world's leading centres for wood biology. Within the Institute was the Dendrochronological Laboratory under Dieter's direction. This laboratory became a popular meeting place for many young scientists engaged in pioneering dendrochronology throughout Europe and worldwide. Between 1993 and 2004 Dieter Eckstein served as Director of the Department of Wood Biology (University of Hamburg), and Director of the Institute of Wood Biology and Wood Conservation (Federal Research Institute for Forestry and Forest Products). From 2000 to 2003 he was also Director General of the Forest Research Centre in Hamburg. Despite the burden of administrative work, he remained a scientist, professor and mentor to his growing dendro family.

Dieter was a teacher, supervisor of numerous doctoral students from Germany and around the world, served as a sought-after reviewer and member of doctoral dissertation committees. He also did tremendous work as an editor and reviewer. He contributed to the development of the scientific journals, especially *Dendrochronologia* (c.f. Eckstein & Wobel, 1983), *Tree-Ring Bulletin* (now *Tree-Ring Research*), and the *IAWA Journal*.

Dieter was involved with the worldwide dendro community and served the Tree Ring Society (TRS) and supported World Dendro Conferences. Of note here is the 1994 International Conference on Tree Rings, Environment and Humanity in Tucson, Arizona, which brought together the worldwide dendro community (Dean et al., 1996). At the 7th International Conference on Dendrochronology - Cultural Diversity, Environmental Variability in Beijing, China (Zhang & Shao, 2007), Dieter Eckstein received a lifetime achievement award for tree ring research. In China, he had a particularly fruitful collaboration with Eryuan Liang, addressing many original questions and applications of dendrochronology (e.g. Liang and Eckstein, 2006; Liang et al., 2014).

Dieter also attended the 8th International Conference on Dendrochronology - WorldDendro 2010 in Rovaniemi, Finland (Eckstein & Cherubini, 2012), the area where he supported extensive re-

search on trees from boreal environments together with Risto Jalkanen, Jeong Wook Seo and Uwe Schmitt (e.g. Seo et al., 2013 and the references therein).

Dieter also met with colleagues and an ever-expanding network of students and investigators at Eurodendro conferences (Figures 1, 5, 8), established as a common platform for the diverse community of tree-ring researchers in Europe and beyond (Čufar, 2007). Dieter and Sigrid Wrobel were the motivating spirits of the Eurodendro conferences, twenty of which were organized between 1989 and 2018. In almost all of them he was a member of the scientific, advisory or the organizing committee and provided a great deal of support to the local organizers (e.g., Eckstein, 2006). Dieter, Sigrid, and colleagues organized two Eurodendro conferences in Northern Germany: in Travemünde (1994) and Rendsburg (2004), the latter to celebrate Dieter's retirement which was attended by his numerous friends from all over the world (Sass-Klaassen, 2005).

Dieter officially retired in 2004, but he remained active and his laboratory continued to be open to guests from all over the world. Dieter's extensive bibliography shows that despite "official retirement", he continued his personal and collaborative research with 53 wide-ranging articles and book chapters published from 2005-2020 (Wazny, 2021; Scopus, 2021). In addition, he continued to supervise doctoral students, serving as a sought-after editor, reviewer and member of doctoral dissertation committees and he continued to attend other events like World Dendro and Eurodendro conferences (Figure 8).

2 DIETER ECKSTEIN AND DENDROCHRONOLOGY IN SLOVENIA

2 DIETER ECKSTEIN IN DENDROKRONOLOGIJA V SLOVENIJI

My first encounter with Dieter Eckstein took place in 1985 during my stay as a PhD student in the group of Josef Bauch at the Institute of Wood Biology headed by Walter Liese. When studying silver fir dieback we came across the problem of missing and disappearing tree-rings, and it was clear that the problem could not be solved without dendrochronology and Dieter Eckstein.

After we examined the tree-ring series printed on rolls of paper on a light table, he confirmed that our trees had numerous missing rings. This changed the research plan of my dissertation, shifting the methodology of stem analysis (Čufar, 1990). The encounter with dendrochronology was both difficult and exciting because the work in Slovenia had to be done without any specialized hardware and software, at a time when personal computers and user-friendly dendrochronology programs were not widely available. The missing rings therefore helped me to get to know Dieter and his group, as well as his PhD students and numerous guests from all over the world, many of whom became leading scientists.

In 1993, when researchers of Slovene cultural heritage, forest restoration, and archaeology realized that Slovenia needed dendrochronology, we started to set up the dendrochronology laboratory at the Department of Wood Science and Technology, Biotechnical Faculty, University of Ljubljana. Dieter helped us a lot with advice and action. In 1994 he visited the emerging dendro-lab in Ljubljana, which in the meantime had gained a new PhD student, Tom Levanič.

With Tom Levanič, we will never forget the Eurodendro 1994 in Travemünde, Germany, organized by Dieter Eckstein and Sigrid Wrobel. We met a community there that was dealing with similar issues and frustrations and, most importantly, enthusiasm for dendrochronology. After the conference, many participants visited Dieter's laboratory in Hamburg and many of them stayed in the house of Dieter and Ursula Eckstein (Figure 4). In this way we became members of the dendro family with Dieter and Ursula as dendro father and dendro mother. Many of us became regular guests in Dieter's laboratory and often guests in their home. In the laboratory we got to know PhD students, including Ute Sass, Constantin Sander, Nathsuda Pumijumnong, and many others from Germany and all over the world (Figure 3).

Most of us regularly attended Eurodendro conferences in the following years and many of us also organized them so they took place in a different country each time. Our team organized Eurodendro 2001 in Gozd Martuljek, Slovenia (Figure 5).

With Dieter, we established a collaboration that included student and professional exchanges



Figure 3. Dieter and Ursula Eckstein with guests in front of their house on Husumerstrasse 63 in Reinbek, November 2006.

Slika 3. Dieter in Ursula Eckstein z gosti, pred njuno hišo, Husumerstrasse 63, Reinbek, Nemčija, novembra 2006.

(Figures 6). The Institute of Wood Biology hosted many PhD and graduate students from Slovenia. Dieter was a member of doctoral disputation committees of Tom Levanič and Jožica Gričar in Ljubljana (Figure 7) and our team had the opportunity to meet and co-supervise Dieter's students, especially Birgit Schichler (Schichler et al., 1997) and be part of doctoral committees of Micha Beuting, Jeong Wook Seo and Claus Frankenstein.

To serve the needs of environmental and archaeological research, the initial primary goal of Slovene dendrochronology was to develop a long reference chronology for oak. Initial attempts to build a chronology were not encouraging. The obstacles, including a unique dendrochronological signal and the lack of teleconnection, were similar to those Dieter had encountered during his pioneering work in Northern Germany. In Slovenia, it took us almost 15 years to establish a 548-year tree-ring chronology of oak, which was reported in articles (Čufar et al., 2008a, b) we wrote during my extended stay in Hamburg in 2006. The chronology was useful for reconstructing climate and especially

Čufar, K.: Dieter Eckstein, 1939-2021
and his rich legacy of dendrochronology in Slovenia and the world

for dating buildings (Čufar et al., 2009). It took us another seven years to establish a chronology for prehistoric pile dwellings and to date them using a long-distance link with the combined Swiss-South

German chronology (Čufar et al., 2015), and there is still a lot to be done in future.

A similar background in wood science with roots in wood anatomy and wood biology also



Figure 4. Coffee in the lab with guests, December 2006.

Slika 4. Pri jutranji kavi v laboratoriju z gosti, december 2006.



Figure 5. Dieter Eckstein and participants of Eurodendro 2001 in Ljubljana.

Slika 5. Dieter Eckstein in udeleženci Eurodendro 2001 v Ljubljani.



Figure 6. Dieter Eckstein with colleagues from the University of Hamburg and Tom Levanič and Katarina Čufar from the University of Ljubljana (left) and with his students (right) in Piran during the field trip in Slovenia in 1998.

Slika 6. Dieter Eckstein s kolegoma z Univerze Hamburg ter Tomom Levaničem in Katarino Čufar z Univerze v Ljubljani (levo) ter s svojimi študenti (desno) v Piranu, na strokovni ekskurziji v Sloveniji 1998.



Figure 7. Dieter Eckstein with the committee and the new doctor Jožica Gričar after the defence of her doctoral thesis in Ljubljana 2006.

Slika 7. Dieter Eckstein s komisijo in novo doktorico znanosti Jožico Gričar po zagovoru njenega doktorata v Ljubljani 2006.



Figure 8. On a field trip during World Dendro 2010, Rovaniemi, Finland (left), and Eurodendro 2015, Turkey (right).
Slika 8. Na ekskurziji v okviru konference World Dendro 2010, Rovaniemi, Finska (levo) in Eurodendro 2015, Turčija (desno).

connected us to Dieter through the development of the wood formation process as a basis to calibrate and interpret the information stored in tree rings. Our PhD students Jožica Gričar and Peter Prislan had the opportunity to develop this area with Dieter's colleagues Uwe Schmitt and Gerald Koch and their teams in Hamburg (e.g. Schmitt et al., 2016 and the literature therein). However, everything reported here is only a small part of Dieter's scientific output and contribution to the development of dendrochronology and wood biology in our country.

Dieter Eckstein was a great scientist and a great personality. Together with his colleagues Walter Liese, Josef Bauch, and others who shared the same values, he helped bring down the Iron Curtain and other barriers so that scientists from around the world could form a true community. Everyone who met Dieter considered him one of the best teachers and scientists. He was a wonderful person with no airs and graces. He lived for science and most of all for people who shared the same values and passions. All of us who were fortunate enough to be his students and colleagues will try to keep his spirit alive in our communities. Dieter's passing has brought his community together and this report has been written based on communication with many who have shared their warm memories of Dieter. We will miss him greatly.

3 SUMMARY

3 POVZETEK

Svetovna dendrokronološka skupnost žaluje, ker nas je zapustil prof. dr. Dieter Eckstein (15. marec 1939 - 10. november 2021), naš učitelj, profesor, mentor, vodja, podpornik, izjemni znanstvenik, motivator, kolega in prijatelj. Skupnost izreka najgloblje sožalje njegovi ženi Ursuli Eckstein, sinu prof. dr. Lutzu Ecksteinu in družini ter vsem drugim sorodnikom in prijateljem.

V tem prispevku se ga želimo spomniti predvsem kot vodilnega znanstvenika, učitelja in vodje ter podpornika dendrokronologije v Sloveniji.

Dieter Eckstein se je rodil v družini, kjer je bil oče gozdar, v kraju Glashütten v Nemčiji (Sass-Klaassen, 2005). Na Univerzi v Hamburgu je diplomiral iz lesarstva. Na začetku svoje kariere se je skupaj s prof. dr. Josefom Bauchom in prof. dr. Walterjem Liesejem ukvarjal s ključnimi vprašanji dendrokronologije in biologije lesa (Bauch et al., 1967; Bauch & Eckstein, 1970). Delo v okviru njegove disertacije "Razvoj in uporaba dendrokronologije za določitev starosti vikinške naselbine Haithabu v Schleswigu v severni Nemčiji" (Eckstein, 1969), kjer je bil njegov mentor Walter Liese, je privedlo do absolutne datacije naselbine Haithabu (Eckstein, 1976) ter do razvoja in široke uporabe dendrokronologije v severni Nemčiji in širši regiji ter kasneje do izuma in široke uporabe metode dendroprovenience.

Dieter je pripomogel k uvedbi digitalnih tehnik v dendrokronologiji (Eckstein & Bauch, 1969) in prispeval k zgodnji uporabi histometričnih tehnik v anatomiji lesa (Liese et al., 1975). To pionirsko delo je bilo le uvod v dolgoletno uspešno znanstveno kariero, v kateri je objavil približno 300 publikacij (Wazny, 2021; Bibliography of dendrochronology, 2021; Scopus, 2021) kar je vplivalo na vsesplošni razvoj anatomije lesa, biologije lesa in dendrokronologije v naslednjih desetletjih.

V sedemdesetih letih prejšnjega stoletja je Inštitut za biologijo lesa na Univerzi v Hamburgu in Zvezni raziskovalni inštitut za gozdarstvo in gozdne proizvode (Bundesforschungsanstalt für Forst- und Holzwirtschaft - BFH) pod vodstvom Walterja Lieseja postal eden vodilnih svetovnih centrov za biologijo lesa. Del te zgodbe je bil tudi dendrokronološki laboratorij, ki ga je vodil Dieter Eckstein. Njegov laboratorij je postal priljubljeno zbirališče številnih mladih znanstvenikov, ki so bili pionirji pri uvajanju dendrokronologije v svojih državah po Evropi in po svetu. Med leti 1994 in 2004 je bil vodja Oddelka za biologijo lesa na Univerzi v Hamburgu, direktor Inštituta za biologijo in zaščito lesa pri Zveznem raziskovalnem centru za gozdarstvo in lesarstvo ter generalni direktor Gozdarskega raziskovalnega centra v Hamburgu. Tudi kot vodja je, kljub bremenu administrativnega dela, ostal znanstvenik, profesor in mentor široki dendrokronološki skupnosti.

Dieter je bil učitelj, mentor številnim doktorskim študentom doma in po svetu. Bil je iskan recenzent in član komisij za doktorske disertacije. Veliko delo je opravil tudi kot urednik in recenzent. Prispeval je k razvoju znanstvenih revij *Dendrochronologia*, *Tree-Ring Bulletin* (zdaj *Tree-Ring Research*) in *IAWA Journal*.

Dieter Eckstein je sodeloval s svetovno dendrokronološko skupnostjo tudi kot dejaven član društva *Tree Ring Society*. Podpiral je svetovne dendrokronološke konference, kjer velja omeniti konferenco v Tucsonu v Arizoni leta 1994 (Dean et al., 1996), v Pekingu na Kitajskem leta 2006 (Zhang & Shao, 2007) in leta 2010 v Rovaniemiju na Finskem (Eckstein & Cherubini, 2012).

Dieter Eckstein in Sigrid Wrobel sta bila glavna pobudnika in podpornika konferenc Eurodendro, na katerih se skupnost praviloma zbere vsako leto v drugi državi (npr. Čufar, 2007). Med leti 1989 in 2018 je bilo organiziranih dvajset konferenc Euro-

dendro. Dieter, Sigrid in sodelavci so v severni Nemčiji organizirali dve konferenci: v kraju Travemünde (1994) in Rendsburg (2004), slednjo ob Dieterjevi upokojitvi, ki so se je udeležili njegovi številni prijatelji in učenci z vsega sveta (Sass-Klaassen, 2005).

Dieter se je uradno upokojil leta 2004, vendar je ostal dejaven in njegov laboratorij je bil še naprej odprt za goste z vsega sveta. Obsežna bibliografija kaže, da je kljub uradni upokojitvi nadaljeval z raziskovalnim delom in samo v obdobju 2005-2020 objavil več kot 53 člankov in poglavij v knjigah (Wazny, 2021; Scopus, 2021). Poleg tega je še naprej vodil doktorske študente, bil iskan urednik, recenzent in član komisij za doktorske disertacije ter pobudnik drugih dogodkov.

Dieterja Ecksteina sem (avtorica tega prispevka) spoznala leta 1985, ko sem bila na izpopolnjevanju v skupini Josefa Baucha na Inštitutu za biologijo lesa v Hamburgu, ki ga je takrat vodil Walter Liese. Pri preučevanju umiranja jelke sem se srečala s pojavom manjkajočih in nepopolnih branik, problemom, ki ga je mogoče rešiti samo s pomočjo dendrokronologije. Ko je Dieter Eckstein na svetlobni mizi pregledal grafe zaporedij širin branik, ki smo jih takrat morali natisniti na dolge zvitke papirja, je potrdil, da imajo naša drevesa številne manjkajoče branike. To je preusmerilo metodologijo dela pri pripravi debelnih analiz za mojo doktorsko disertacijo (Čufar, 1990). Prvo srečanje z dendrokronologijo je bilo težavno in vznemirljivo, saj je bilo treba delo v Sloveniji opraviti brez specializirane strojne in programske opreme, kakršna je bila takrat že na voljo v Dieterjevem laboratoriju. Osebni računalniki in uporabnikom prijazni dendrokronološki programi takrat namreč še niso bili splošno dostopni. Manjkajoče branike so mi omogočile vstop v Dieterjevo skupino z zanimivimi sodelavkami in sodelavci, doktorskimi študentkami in študenti ter številnimi gostjami in gosti iz vsega sveta, od katerih so mnogi postali vodilni na področju lesarstva in dendrokronologije.

Leta 1993, ko so slovenski strokovnjaki s področja arheologije, restavracije in kulturne dediščine spoznali, da Slovenija potrebuje dendrokronologijo tudi za raziskave na področju kulturne dediščine, sem bila kot mlada doktorica znanosti povabljena k ustanovitvi dendrokronološkega laboratorija na Oddelku za lesarstvo Biotehniške fakultete Univerze v Ljubljani. Pri reševanju osnovnih

vpripravi ob uvajanju dendrokronologije v Sloveniji je Dieter Eckstein nudil vsestransko pomoč. Leta 1994 je obiskal nastajajoči dendrokronološki laboratorij v Ljubljani, ki je medtem pridobil novega mladega raziskovalca Toma Levaniča.

S Tomom Levaničem ne bova nikoli pozabila prve udeležbe na konferenci Eurodendro 1994 v kraju Travemünde v Nemčiji, ki sta jo organizirala Dieter Eckstein in Sigrid Wrobel. Tam sva spoznala skupnost, ki se je ukvarjala s podobnimi vprašanji, reševala podobne težave in si delila navdušenje nad dendrokronologijo. Po konferenci je veliko udeležencev želelo obiskati laboratorij v Hamburgu in mnogi izmed njih so bili povabljeni, da so se za nekaj dni nastanili v hiši Dieterja in Ursule Eckstein ter tako postali člani dendrokronološke družine. Večina od nas se je v naslednjih letih redno udeleževala Eurodendro konferenc, mnogi pa smo jih tudi organizirali.

Mnogi med nami smo postali tudi redni gostje v Dieterjevem laboratoriju in pogosto tudi v družini Dieterja in Ursule v legendarni hiši na Husumerstrasse v Reinbeku. Spoznali smo Dieterjeve doktorske študentke in študente, kot so Ute Sass, Constantin Sander, Nathsuda Pumijumnong, in številne goste z vsega sveta.

Z Dieterjem in Univerzo v Hamburgu smo vzpostavili pedagoško sodelovanje in izmenjave študentk in študentov. Na Inštitutu za biologijo lesa v Hamburgu so se izobraževali naši Tom Levanič, Franc Ferlin, Primož Oven, Jožica Gričar, Peter Prislán in številne ERASMUS študentke in študenti. Dieter je bil član doktorskih komisij Toma Levaniča in Jožice Gričar v Ljubljani, sama pa sem imela možnost sodelovati pri diplomah Birgit Schichler (Schichler et al., 1997) in v komisijah doktorskih disertacij, ki so jih pripravili Micha Beuting, Jeong Wook Seo in Claus Frankenstein, če naštejemo samo nekaj skupnih aktivnosti.

Eden glavnih ciljev slovenske dendrokronologije je bil razviti dolgo referenčno kronologijo širin branik hrasta. Prvi poskusi sestave kronologije niso bili spodbudni. Ovire, kot je poseben dendrokronološki signal in pomanjkanje telekonekcije, so bile podobne tistim, na katere je Dieter naletel med svojim pionirskim delom v severni Nemčiji. V Sloveniji smo potrebovali skoraj 15 let, da smo iz kronologij dreves in zgodovinskih objektov sestavili 548-letno kronologijo širin branik hrasta, članki o tem pa so bili pripravljeni med mojim zadnjim daljšim biva-

njem v Hamburgu leta 2006 (Čufar et al., 2008a, b, 2009). Za vzpostavitev kronologije za prazgodovinske koliščarske naselbine in njihovo datiranje s pomočjo telekonekcije s kombinirano švicarsko-južnonemško kronologijo pa smo potrebovali še dodatnih 7 let (Čufar et al., 2015). Ob vsem tem nam veliko izzivov ostaja tudi za prihodnost.

Z Dieterjem Ecksteinom nas je povezovala skupna temeljna izobrazba, lesarstvo, s koreninami v anatomiji in biologiji lesa, zato smo sodelovali tudi pri proučevanju nastajanja lesa kot osnove za kalibracijo in interpretacijo informacij, shranjenih v branikah. Jožica Gričar in Peter Prislán sta kot doktorska študentka in študent imela priložnost razvijati to področje z Dieterjevima kolegoma Uwejem Schmittom in Geraldom Kochom ter njunimi ekipami v Hamburgu (npr. Schmitt et al., 2016 in tam navedena literatura). Vse to pa je le majhen del Dieterjevega znanstvenega dela in prispevka k razvoju dendrokronologije in biologije lesa v Sloveniji.

Dieter Eckstein je bil velik znanstvenik in velika osebnost. Skupaj s kolegi Walterjem Liesejem, Josefom Bauchom in drugimi raziskovalci iz Hamburga, ki so delili iste vrednote, je pripomogel, da je padla železna zavesa in druge ovire, tako da so znanstveniki z vsega sveta lahko zgradili pravo skupnost. Vsi, ki so Dieterja spoznali, so ga imeli za enega najboljših učiteljev in znanstvenikov. Bil je čudovit človek, ki je bil izredno skromen in preprost in se ni nikoli boril za lastno slavo in interese. Živel je za znanost in predvsem za ljudi, ki so delili iste vrednote in predanost znanosti. Vsi, ki smo imeli to srečo, da smo bili njegove učenke in učenci ter sodelavke in sodelavci, skušamo ohranjati in širiti to, kar nas je s svojim zgledom naučil. Novica, da se je Dieter Eckstein od nas za vedno poslovil, je ponovno povezala njegovo skupnost, to poročilo pa je nastalo ob pomoči številnih kolegic in kolegov, s katerimi delimo skupne spomine nanj. Zelo ga bomo pogrešali.

ACKNOWLEDGEMENTS

ZAHVALA

This report has been written based on communication with many who have shared their memories of Dieter. Many thanks to Sigrid Wrobel, Gerald Koch, Ute Sass Klaassen, Tomasz Wazny, Constantin Sander, Eryuan Liang, and Kevin Smith, who also helped with editing of the English text.

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