



REPORT of activities for 2012 and 2013

A. Membership

Steering committee (2012-2016):

Chair:

Dr Elena TROFIMOVA
Laboratory of Geomorphology
Institute of Geography
Russian Academy of Sciences
29, Staromonetny str.
119017 MOSCOW
RUSSIA
Tel: +7 495 238 03 60
FAX: +7 495 959 00 33
e.trofimova1@gmail.com
eltrofimova@rambler.ru

Vice Chair:

Dr Nataša RAVBAR
Karst Research Institute, ZRC SAZU
Titov trg, P.O. Box 59
Si – 6230 POSTOJNA
SLOVENIA
Tel: +386 5 700 19 31
FAX: + 386 5 700 19 99
e-mail: natasa.ravbar@zrc-sazu.si

Membership:

Prof. Michael DAY
University of Wisconsin
College of Letters and Science, Department of Geography
Bolton Hall, P.O. Box 413
US – WI 53201 MILWAUKEE
USA
Tel: 001 414 229 4866
FAX: 001 414 229 3981
e-mail: mickday@csd.uwm.edu

Dr Amos FRUMKIN
Department of Geography
Hebrew University of Jerusalem
Mount Scopus
JERUSALEM
IL – 91905 ISRAEL

Tel: 972 2 99 75 541; 58 83 352; 5883 355
FAX: 929 2 58 20 549
e-mail: msamos@mscc.huji.ac.il

Dr Martin TRAPPE

Catholic University of Eichstätt-Ingolstadt
Department of Physical Geography
Ostenstrasse 18
D-85072 EICHSTÄTT
GERMANY
Tel: +49 (0) 8421-931463
FAX: +49 (0) 8421-931787
e-mail: martin.trappe@ku-eichstaett.de
mga025@ku-eichstaett.de

Prof. Kyung Sik WOO

Cave Research Institute of Korea
Department of Geology
Kangwon National University
192 1 Hyoja 2 – dong
CHUNCHEON
Kangwondo, 200-701
REPUBLIC OF KOREA
Tel: 82 33 250 85 56
FAX: 82 33 250 85 56
e-mail: wooks@kangwon.ac.kr

Dr Asami HADA

Department of Geography, College of Humanities and Sciences
Hihon University
Sakurajosui 3-25-40, Setagaya-ku
TOKYO, 156-8550
JAPAN
Tel: 81-3-3264-9868
FAX: 81-3-3703-7833
e-mail: a_hada@chs.nihon-u.ac.jp

Dr Luiz Eduardo PANISSET TRAVASSOS

Laboratório De Estudos Ambientais – LEA
Pontificia Unisersidade Católica de Minas Gerais (PUC Minas)
Laboratório de Estudos Urbanos e Regionais
Av. Itaú 505 – Bairro Dom Bosco – Belo Horizonte – Brasil
BRASIL – CEP – 30730 – 280
Tel: +5531 341 36 757
e-mail: luizepanisset@gmail.com

PhD Eszter TANÁCS

University of Szeged
Department of Climatology and Landscape Ecology
Egyetem u. 2
P.O. Box 653
HU – 6722 SZEGED
HUNGARY
Tel: 0036 62 343 050
FAX: 0036 62 544-624
e-mail: nadragulya@geo.u-szeged.hu

Dr Kevin KIERNAN

Lecturer in Conservation Geomorphology
School of Geography and Environmental Studies
Private Bag 78
University of Tasmania, Hobart,

Tasmania 7001
 AUSTRALIA
 Tel: +61 362 26 24 61
 FAX: +61 362 26 29 89
 e-mail: Kevin.kiernan@utas.edu.au

Dr Radosław DOBROWOLSKI
 University of Maria Curie-Skłodowska
 Institute of Earth Sciences
 Department of Physical Geography and Palaeogeography
 Al. Kraśnicka 2
 PL – 20-718 LUBLIN
 POLAND
 Tel: 48 81 53 75 510 interval 143
 e-mail: rdobro64@gmail.com
rdobro@biotop.umcs.lublin.pl

Number of commission corresponding members (total and by countries) as of 1 December 2013:

N	Country	Number of KC members
1	France	19
2	Germany	18
3	Iran	18
4	China	16
5	United Kingdom	15
6	Slovenia	13
7	Australia	12
8	Belgium	11
9	Russia	10
10	United States of America	10
11	Italy	8
12	Spain	8
13	Canada	7
14	Hungary	7
15	Poland	6
16	Croatia	6
17	Israel	5
18	Slovak	5
19	Portugal	4
20	Brazil	4
21	Japan	4
22	The Netherlands	4
23	Ukraine	4
24	Bulgaria	3
25	Cuba	3
26	Czech	3
27	NewZeland	3
28	The Philippines	3
29	Romania	2
30	Switzerland	2
31	Turkey	2
32	Vietnam	2
33	Austria	2
34	Indonesia	2
35	India	1
36	Korea	1
Total		243

B. Meetings

a.

European Geosciences Union General Assembly, session NH8.6: Sinkholes; from susceptibility to risk evaluation and mapping, 22-27 April, 2012, Vienna (Austria), 10 participants.

20th International Karstological School “Karst forms and processes”, 18-23 June, 2012, Postojna (Slovenia), 136 participants.

32nd International Geographical Congress, 26-30 August 2012, Cologne (Germany), 18 participants.

V International Workshop on Ice Cave (IWIC-V), 16-23 September, 2012, Barzio (LC), Valsassina, Grigna and Milano (Italy), 31 participants.

16th “Karst development (Karsztfejlődés)” conference, 6-9 June, 2013, Bük (Hungary), 36 participants.

21st International Karstological School “Hypogene speleogenesis (between theory and reality)”, 10-14 June, 2013, Postojna (Slovenia), 125 participants.

16th International Congress of Speleology “Where history meets future”, 21-28 July, 2013, Brno (Czech Republic), 52 participants.

Regional Conference of the International Geographical Union: Traditional Wisdom and Modern Knowledge for the Earth’s Future, 4-8 August, 2013, Kyoto (Japan), 10 participants.

b.

2012:

Session “Sinkholes; from susceptibility to risk evaluation and mapping”

The session aims were to stimulate the discussion on the state-of-the-art of the studies on the sinkholes, with special regard to sinkholes in plain non-karstic areas. Data about the genetic mechanisms and risk evaluation and mapping of sinkholes have both the long-term theoretical and practical importance.

The basic idea of the meeting in the course of 20th *Karstological School* was to present the state



During the scientific excursion to Planinsko polje

of recent karstology and to promote the discussions between participants via set of lectures, poster sessions and related field trips to the area of Slovene Classical karst. Research in the last two decades has contributed new findings in many topics of past Schools. Therefore, the 20th IKS was an opportunity to review our current understanding of typical karst forms and processes, to stress the research advances in the last two decades and to define challenges and perspectives for the next generation: by, example, the role of hypogene processes in speleogenesis, the stipulating role of weathering processes in the development of karstification, etc. The majority of participants were the young investigators from Europe, Asia, Northern and Southern America.

During the *Congress in Cologne* the work of two scientific sessions – “Human impacts and environmental changes in karst” and “Management and conservation of karst landscapes” and the field excursion to the Iserlohn karst area (the German Cave Museum and the Dechenhöhle cave, as well as the locality, the so-called Felsenmeer at Hemer, which is a classical point for karren in the non-alpine Central Europe) were organized. The multiple indicators of karst environmental degradation on the territory of Europe and Asia were represented both on the surface of karst massifs, and inside of the ones. It was marked that the urbanization puts a significant pressure on the karsts, especially through the acidifying effect of the infiltrating contaminated water. As the result, the importance of landscape long-term ecological research in karst regions in the 21st century was emphasized.

The List of new Steering Committee and the state of Commission’s web-site were at the focus of attention during business meeting of KC.

Workshop on Cave Ice devoted completely to cave ice explorations.

The materials concerning the cave ice degradation’s observations were given much space. Theses data have a long-time theoretical and practical implication for the modeling of environmental development in 21 century.

2013:

Karst development conference was organized as the meeting of the young and the experienced investigators. During the conference the young karstologists had the possibility to represent their results of explorations and to receive the recommendations for the future work from the chief karstologists. The conference included two field trips, to Rax Mountain and to Bakony Mts.



After heavy route to Rax Mountain

The aim of the 21st IKS was to present the basic hydrogeological and chemical principles and the processes of hypogene speleogenesis, as well as the geological conditions leading to it. Special

attention was paid to the geometry of cave passages and wall rock features which are often interpreted as hypogene, but could have as well formed otherwise, such as in meteoric flood-water conditions or by dissolution in contact with sediments. Hypogene speleogenesis is a new direction of recent karstology.



In the course of scientific excursion in Postojna

The ***Speleological Congress*** showed the considerable growth of anthropogenic pressure in the caves and the increase of cave environmental changes. It was marked that the creation of touristic caves is one of the methods of cave conservation and protection.

Geomorphologic and hydrological problems caused by human activities in different terrains of the world are the main themes of Commission's meeting in the course of the ***Regional conference IGU***. In particular, the changes of karst environment observed during recent years in the field and by the experimental data were presented and discussed. New interesting materials were received by the observations of influence of the burning out of spring grass to the limestone weathering: the activity of karst processes after burning out is increasing in some times. The same influence on karst development has the cattle-breeding: the surfaces, devoid of the vegetation cover, are the object of intensive karstification.

The Commission's project "Saving Caves - Towards an International Protection System for Karst Environments" was at the center of attention during the business meeting.

After the conference, 10-12th of August, the excursion to Akiyoshi Plateau was organized with the visit of two caves (Shuhodo and Kagekiyodo), Quarry Company and the village in the Uvales. The accent was done to the presentation of human activities on the Plateau.

c.

22nd International Karstological School, June 2014, Postojna, Slovenia

<http://iks.zrc-sazu.si>

The topics are confirmed in January of current year.

International conference and Field seminar "Karst Without Boundaries",

11-15 June 2014, Trebinje & Dubrovnik, Croatia

<http://www.karstwithoutboundaries2014.org>.

VI International Workshop on Cave Ice, 17-22 August, 2014, Idaho Falls, Idaho, USA

<http://www.iwic-vi.org/index.html>

International Geographical Union Regional conference “Changes, Challenges, Responsibility”,
18–22 August 2014, Krakow, Poland
<http://www.igu2014.org>.

Environmental Change and Stewardship Responsibilities in Karst Regions

Chair: Dr Elena Trofimova
Co-chair: Dr Martin Trappe

Abstract

Karst regions in the 21st Century are increasingly modified by human activities. Global changes, including climate change, agriculture, water exploitation, deforestation, urbanization and tourism, are resulting in potentially irreversible changes in karst environments, which are inherently fragile and vulnerable. In light of these developments, it is expedient and timely to focus on human stewardship and the responsible use of karst terrains, particularly those which are protected areas and those which are recognized as having outstanding global natural and/or cultural significance.

Dr A. Tyc is responsible for the organization of field excursions during the conference.

XII International Congress of the International Association of Engineering Geology
“Engineering Geology for Society and Territory”, session 5.7: “Engineering problems in Karst”,
15-19 September 2014, Torino, Italy
<http://www.iaeg2014.com/>

5th International conference on Karst, 13-16 October 2014, Malaga, Spain
<http://www.cehiuma.uma.es/en/sika2014.asp>

V International conference “Speleology and speleostology”, November 2014, Naberezhny
Chelny, Russia
<http://pro-speleo.ru/index/0-29>

23rd International Karstological School, June 2015, Postojna, Slovenia
<http://iks.zrc-sazu.si>

International Geographical Union Regional conference, 2015, Moscow, Russia
<http://www.igu2015.org>.

Multidisciplinary Conference on Sinkholes & the Engineering and Environmental Impacts of
Karst, 5-10 October 2015, Rochester, Minnesota, USA
<http://www.sinkholeconference.com>

C. Networking

a.

During the period 2012-2013 some collaboration has been with Commission IGU “Environment Evolution”. The Commission’s corresponding members and the members of Commission’s Steering Committee also had a lot of individual contacts with the members of other Commissions IGU, especially during the IGU scientific actions.

The seminar “*Climate changes and problems of human and environment interactions*” held 15 May 2012 at the Institute of Geography (Russian Academy of Sciences), organized by two Commissions of the International Geographical Union: Environment Evolution (C08.09) and Karst (C08-23).



During the joint seminar of two Commissions IGU

26 colleagues from different scientific institutions of Moscow (Institute of Geography RAS, Institute of Soil Science RAS, Institute of Ecology and Evolution of RAS, named after A.N. Severtsev and Moscow State University) took part at the discussions. The president of IGU (as for today), prof. Vladimir Kolossov (honorary guest and participant of the seminar) emphasized the importance of scientific collaboration between Commissions and Task Forces of IGU.

b.

■ Karst Commission has the old and fruitful relations with the International Union of Speleology (IUS). What is more, starting from August 2013, prof. Kyung Sik Woo, member of Commission's Steering Committee, was elaborated by the President of IUS. The 20th and 21st International Karstological Schools, III and IV International conferences "Speleology and speleotology", V International Workshop on Cave Ice, a multitude of scientific expeditions to the karst regions of the different countries (China, Vietnam, Turkey, Australia, etc.) were organized in the collaboration with IUS (with Commissions "Karst Hydrogeology and Speleogenesis", /chair Dr A. Klimchouk/, "Artificial Cavities" /chair Dr Mario Parise/, "Glacier, Firn and Ice Cave" /chair prof. Valter Maggi/).

■ The International Geological Correlation programme (IGCP) No 598: "Environmental Change and Sustainability in Karst Systems" is under the auspices of UNESCO with the participation of the International Union of Geological Sciences. The co-leaders of programme, prof. Martin Knez and prof. Chris Groves, are the corresponding members of Karst Commission. Many other colleagues from Commission are involved in this project. In summer 2015 is planning the finishing conference of the project. The conference will be organized in Hoffman Environmental Research Institute, Dept. of Geography and Geology, Western Kentucky University.

■ Karst Commission is collaborating actively with the IUCN (International Union for Conservation of Nature)/UNESCO World Commission on Protected Areas (WCPA), namely, with the Caves and Karst Task Force of the WCPA /chair Ms Jay Anderson/. The collaboration was realized over the preparation and the technical assessments of World Natural Heritage nominations in Europe ("Kungarskaya Ice Cave", "Pilot Project on the Dinaric Karst Serial Nomination, Croatia, Slovenia, Bosnia and Herzegovina and Montenegro") and Asia ("Nature Park "Iena Pillars"). Commission's members took part at the Organizing Committee of IUCN Congress, 6-15 September, 2012, Jeju, Korea.

c.

During 2012-2013 the corresponding members of Karst Commission participated at the meetings and the work of such professional societies, as the European Geosciences Union, Associations of American Geographers, Russian Geographical Society, Association of Geographical Societies of Slovenia, etc.

The main collaborative efforts of KC:

- International Union of Speleology
- International Association of Geomorphologists
- International Geological Correlation Program
- International Union for Conservation of Nature
- Glaciological association of Russia
- International Association of Engineering Geology
- Slovenian National Commission for UNESCO
- WWF.

D. Publications

a.

1. 20th International Karstological School “Karst forms and processes”, General information, programme, field trips, abstracts. Postojna (Slovenia), Karst Research Institute, 2012, 80 p.
2. Lena Pillars Nature Park. Potential World Heritage Property. Moscow: ANNIE, 2012, 56 p.
3. Proceedings of III International Conference “Speleology and Speleostology”, 26-27 November, 2012, Naberezhny Chelny, Naberezhny Chelny State Pedagogic University, 2012, 281 p.
4. 21st International Karstological School “Karst forms and processes”, General information, programme, field trips, abstracts. Postojna (Slovenia), Karst Research Institute, 2012, 98 p.
5. Annotated Bibliography of Karst Publications No 17-18, 2013:
<http://sites.google.com/site/igukarstcommission/>.
6. Newsletter N 8, dated by 15 April 2012.
7. Newsletter N 9, dated by 12 June 2012.
8. Newsletter N 10, dated by 7 August 2012.
9. Newsletter N11, dated by 20 December 2012.
10. Newsletter N12, dated by 14 May 2013.
11. Newsletter N13, dated by 18 July 2013.

b. <http://sites.google.com/site/igukarstcommission/>

E. Archival Contributions

Materials and publications are transmitting to the IGU archives.

Elena Trofimova, Institute of Geography RAS, e.trofimova1@gmail.com

