

## Contents

Foreword .....	11
----------------	----

### Keynotes

Relative contribution of tectonic inheritance and far field forces on the building of Paleozoic European crust Karel Schulmann, Jean-Bernard Edel, Francis Chopin, Jean Marc Lardeaux, Michel Corsini.....	12
Variscan Basement in Europe – Travelling through Time and Space Jürgen F. von Raumer .....	14
Phanerozoic paleogeography of Central Europe Jan Golonka .....	16
Cool periods in a greenhouse world – possible mechanisms based on physical and biogeochemical box models Sascha Flögel .....	18

### Oral Presentations and Posters

Late Campanian –Maastrichtian sequence stratigraphy from Kurdistan Foreland Basin, N-Iraq Fadhil. A. Ameen .....	21
Ricardo Arenas, Rubén Díez Fernández, Sonia Sánchez Martínez, Axel Gerdes, Javier Fernández-Suárez, Richard Albert Roper .....	22
Knowing the ancestry: Precambrian-Cambrian evolution of NE Africa with special reference to the Arabian-Nubian Shield Dov Avigad .....	23
Determination of subsurface structures and tectonic setting of western desert of Iraq Ezzadin N. Baban.....	24
Study of the gravity data of south of Talafar - Mosul area – NE Iraq Ezzadin N. Baban.....	25
Elephant memory of mantle lithosphere fabrics: Insights from seismic anisotropy into tectonics of the Bohemian Massif Vladislav Babuška, Jaroslava Plomerová, Luděk Vecsey.....	26
The Teplice-Altenberg Volcanic Complex revisited: Preliminary results from the Late Carboniferous Schönfeld Formation Christoph Breitzkreuz, Vladislav Rapprich, Manuel Lapp, Klaus Stanek, Bedřich Mlčoch, Zuzana Skácelová, Volker Wilde.....	27
Genesis and tectonic history of the I-type granitic rocks from the Western Carpathians Igor Broska, Igor Petřík, Vladimír Bezák.....	28
Stratigraphy, palaeontology and facial development of the epicontinen-tal Jurassic in Moravia Miroslav Bubík .....	29
Multi-criteria approach for 3D-modelling of geological horizons in the Lower Main Plain, Germany Hannah Budde, Christian Hoselmann, Rouwen J. Lehné, Heiner Heggemann, Andreas Hoppe.....	30
Phacopid trilobites across the Lochkovian/Pragian, Pragian/Emsian, Zlíchovian/Dalejan, Emsian/Eifelian and Eifelian/Givetian boundaries in the Prague Basin (Barrandian area, Czech Republic) Petr Budil .....	31
Rhyolites of the Central Basic Belt of the Brno Massif David Buriánek, Pavel Hanžl, Vojtěch Erban, Vojtěch Janoušek, Kristýna Hrdličková.....	32
The Turonian-Coniacian boundary in marginal-marine clastics of NE Bohemia: high-resolution biostratigraphy tied to stratigraphic architecture Stanislav Čech, David Uličný.....	33

Application of 3D GIS in a research project planning – an example from the Underground Research Center Josef, Czech Republic David Čížek, Jan Franěk, Petr Novák .....	34
A new generation of online map applications and map services of the Czech Geological Survey Petr Čoupek, Martin Paleček .....	36
Distribution of Triassic rocks at the north-eastern margin of the North German Basin – First insights of re-processed 2D reflection profiles in the southern Baltic Sea Andre Deutschmann, Martin Meschede, Karsten Obst .....	37
Two distinct types of hydrothermal vein mineralization in granitoid rocks of the Central Bohemian Pluton at the Mokrsko-West locality (Czech Republic) Petr Dobeš, Vladimír Žáček, Ivana Jačková, Bohuslava Čejková, Zdeňka Lněničková .....	38
Stratigraphic correlation of lower Upper Cretaceous deposits of the southern Münsterland (NW Germany) using gamma ray logs Bettina Dölling .....	39
Correlation of the Cambrian pre-Alpine basement of the External Hellenides (Crete and Peloponnesus) with the peri-Gondwanan terranes of Central- and Western-Europe Wolfgang Dörr, Gernold Zulauf, Axel Gerdes .....	40
Petrological evidence of the Moldanubian suture and its significance for Variscan Orogeny in the Bohemian Massif Shah Wali Faryad, Radim Jedlicka .....	41
The Bavarian phase of the Variscan orogeny: Relations between migmatites and granites and potential causes for crustal melting Fritz Finger, Wolfgang Dörr, Axel Gerdes, Biljana Starijaš-Mayer .....	42
Dating fluid activity, diagenesis and weathering by U-Pb LA-ICP-SFMS Axel Gerdes .....	43
Searching for the Gold of King Croesus Hartwig Gielisch, Florian Lowicki .....	44
Significant geological localities of the Czech Republic Pavla Görtlerová .....	45
Variscan tectonics of allochthonous units of the Erzgebirge and the Vogtland (Saxo-Thuringian Zone): An E-W profile from the gneiss dome of Reitzenhain to the Berga antiform Peter Hallas, Uwe Kroner .....	46
A direct stratigraphic comparison between the Chinese Loess Plateau and the Middle Danube Basin Loess Ulrich Hambach, Mladjen Jovanović, Slobodan Marković, Jan Hošek, Tivadar Gaudenyi .....	47
The Mississippian of the Jerada Massif (NE Morocco) – more northwest European than Palaeotethyan affinities Hans-Georg Herbig, Markus Aretz .....	48
Tales of a core: Sea-level history, global crises and changing depositional architecture – The Famennian-Viséan of «Velbert 4», westernmost Rhenish Massif, Germany Hans-Georg Herbig, Daria Lobova, Varinnia Seekamp .....	49
First proof of archaeocyathid-bearing Lower Cambrian in the Franconian Forest (Saxothuringian Zone, Northeast Bavaria) Hans-Georg Herbig, Thomas Wotte, Stefanie Becker .....	50
The Upper Cretaceous section at Schmilka in Saxony (Elbsandsteingebirge, Germany) – syntectonic sedimentation and inverted zircon age populations revealed by LA-ICP-MS U/Pb data Mandy Hofmann, Thomas Voigt, Ulf Linnemann .....	51

A palaeoenvironmental record of the Upper Pleistocene based on rock magnetic and geochemical proxies; case studies from Bohemian and Moravian loess/paleosol sequences Jan Hošek, Ulrich Hambach, Tomáš Grygar, Lenka Lisá, Ilja Knés, Daniela Valentová, Sascha Meszner .....	52
Magnetic fabric in amphibolized eclogites and serpentinites in the Mariánské Lázně Complex (Bohemian Massif, Czech Republic): product of exhumation-related deformations František Hrouda, Shah Wali Faryad, Marta Chlupáčová .....	53
Application of Panchromatic SEM-CL Imaging to study of Microdiamonds in Uncoated Thin Sections Petra Jakubová, Jana Kotková, Veronika Králová, Jaromír Leichmann .....	54
Vestige of the Famennian arc–back-arc association in the eastern part of the Variscan Belt (Vrbno Group, Hrubý Jeseník Mts., Czech Republic) Vojtěch Janoušek, Pavel Hanžl, Jaroslav Aichler, Axel Gerdes, Vojtěch Erban, Vratislav Pecina, Vladimír Žáček, David Wilimský, Kristýna Hrdličková, Petr Mixa, Eliška Žáčková.....	55
Geochemical analysis of floor sediments from two Latene houses at Bibracte (Mont Bevray, France) Markéta Jarošová, Martin Ivanov, David Buriánek .....	56
Preservation of prograde metamorphic path of felsic granulites from Kutná Hora crystalline complex (Bohemian Massif) by zonation of major and trace elements in garnet Radim Jedlicka, Shah Wali Faryad, Christoph Hauzenberger .....	57
Volcaniclastic rocks of the Upper Silesian Basin (Czech Republic and Poland): State of the art Jakub Jirásek, Lada Hýlová, Martin Sivek .....	58
The Variscan Terrane Wreck and its implications for Pangea Stephen T. Johnston .....	59
Sedimentary archives opened in the Holštejnská Cave, Moravian Karst (Czech Republic) Jaroslav Kadlec, Helena Hercman, Karel Žák, Stanislav Šlechta.....	60
Building a consistent model of the deeper underground of the German North Sea sector for volumetric and dynamic modelling Dirk Kaufmann, Sabine Heim, Marco Wolf, Anke Bebiolka, Fabian Jähne .....	61
Orientation Analysis Tools for GIS, example on Svratka anticline Lenka Kociánová, Rostislav Melichar .....	62
How many granite events occurred during the Variscan orogeny in the Western Carpathians? Milan Kohút.....	63
Ammonites, biostratigraphy and bio-events of the Pecínov Member (Upper Cenomanian, Bohemian Cretaceous Basin) Martin Košťák, Jan Sklenář, Stanislav Čech, Jiří Frank, Boris Ekrť, Andrea Čápková, Michal Kubajko, Martin Mazuch, Jiří Kvaček .....	64
Ultrahigh-pressure kyanite-bearing eclogite associated with the diamond-bearing granulites, northern Bohemian Massif Jana Kotková, Marian Janák .....	65
The two plate model of the Variscan orogeny - One plate boundary zone with many subduction zones Uwe Kroner, Rolf L. Romer .....	66
Relative plate motions during the formation of Pangea Uwe Kroner, Marco Roscher .....	67
Chemostratigraphy of the Devonian-Carboniferous boundary sections in the central, western and southern Europe Tomáš Kumpan, Ondřej Bábek, Jiří Kalvoda, Jiří Frýda, Tomáš Matys Grygar.....	68
Heterogeneity of the Variscan lower continental crust and upper mantle: whole-rock geochemistry and isotopic data from the Náměšť Granulite Massif (Bohemian Massif, Czech Republic) Vladimír Kusbach, Vojtěch Janoušek, Pavlína Hasalová, C. Mark Fanning, Karel Schulmann,	

Vojtěch Erban, Stanislav Ulrich .....	69
Functional morphology of trilobite larvae and palaeobiogeographic distribution: An example from Bohemian Cambrian Lukáš Laibl, Oldřich Fatka .....	70
Palaeogeography and comparative stratigraphy of the Ries impact event Jan-Michael Lange, Peter Suhr .....	71
Compilation of a voxelbased geological 3D-model for the northern Upper Rhine Graben, Germany Rouwen Lehné, Christian Hoselmann, Andreas Hoppe, Heiner Heggemann .....	72
New evidence of Caledonian magmatism within the Brunovistulicum, eastern margin of Bohemian massif Jaromír Leichmann, Sven Hönig, Jiří Kalvoda.....	73
Alluvial architecture and paleosol signatures of seasonally humid proximal braided system (Middle/Upper Pennsylvanian, Pilsen Basin) Richard Lojka, Nicholas A. Rosenau.....	74
Continental Lower Permian basins in Germany: Correlation and development Harald Lützner, Gotthard Kowalczyk, Jost Haneke.....	75
Experimental research on the chemical composition of bioapatite in bones Radana Malíková, Martin Ivanov, Michaela Vašinová Galiová .....	76
U-Pb and Hf isotope data of Zircons from Neoproterozoic Volcanics in Southern-Israel Linda Marko, Axel Gerdes, Dov Avigad.....	77
Lacustrine record of early stage of Miocene Climatic Optimum in Central Europe: Most Basin, Ohře (Eger) Graben, Czech Republic Tomáš Matys Grygar, Karel Mach, Jiří Laurin, Petr Schnabl.....	78
The Waidhofen Amphibolite Body in the Moldanubian Zone of Lower Austria: a relic of Proterozoic Avalonian crust Andreas Mayer, Axel Gerdes, Vojtěch Janoušek, Biljana Starijaš Mayer, Fritz Finger, Vojtěch Erban .....	79
Stratigraphic Table of Germany Compact 2012 (STDKe) Manfred Menning & German Stratigraphic Commission .....	80
Cenomanian–Turonian sequence stratigraphy and facies development of the Danubian Cretaceous Group (Bavaria, southern Germany) Birgit Niebuhr, Nadine Richardt, Markus Wilmsen.....	81
<i>Dactyloidites ottoi</i> (Geinitz, 1849), an enigmatic and rare rosetted trace fossil from the Cenomanian (Upper Cretaceous) of Saxony and Bavaria Birgit Niebuhr, Markus Wilmsen .....	82
Polyphase tectonometamorphic evolution of the Teplá Crystalline Complex – new structural, petrological and geochronological data Vít Peřestý, Robert M. Holder, Ondřej Lexa, Martin Racek, Bradley R. Hacker .....	83
Exploration and resource modelling of a recently discovered VMS-type copper deposit, Hanönü, northern Turkey Stephan Peters, Florian Lowicki, Torsten Gorka, Philip Mittelstädt .....	84
Bivalves from the Middle Ordovician Šárka Formation (Prague Basin, Czech Republic) Marika Polechová .....	85
Fabrics and emplacement of Weinsberg-type granitoids (Moldanubian Plutonic Complex) Ondřej Pour, Kryštof Verner .....	86
From maar to a spatter cone – Permian Principálek Volcano in the Northern part of the Krkonoše Piedmont Basin (Lower Rotliegend, Czech Republic)	

Vladislav Rapprich, Marcela Stárková, Jan Valenta, Zuzana Skácelová.....	87
Origin of granitoids of the Moldanubian batholith (Bohemian Massif) Miloš René.....	88
Early Late Cretaceous correlations around the Mid-European Island: sequence stratigraphic evidences from the Plänerkalk, Elbtal, and Danubian Cretaceous groups (Cenomanian–Turonian of Germany) Nadine Richardt, Markus Wilmsen, Birgit Niebuhr.....	89
Sequence stratigraphy of the lower Upper Cretaceous Elbtal Group (Cenomanian–Turonian of Saxony, Germany) Nadine Richardt, Markus Wilmsen.....	90
Geothermal potential of the Bückeberg Formation (Berriasium, “German Wealden”) and the Valangin of the Lower Saxony Basin Heinz-Gerd Röhling, Robert Schöner, Jörg Kuder, Thomas Wonik.....	91
Refined ages of magmatism and high-P metamorphism in the Eclogite Facies Gneissic Formation of the Cabo Ortegal Complex Richard Albert Roper, Ricardo Arenas, Axel Gerdes, Sonia Sánchez Martínez.....	93
Evaluating natural hydrocarbon on shore seeps with their related traps using three-dimensional modeling: An example from the Kirkuk area in the north of Iraq Layth Sahib, Rouwen Lehne, Christoph Schüth.....	94
Detailed re-dating of the Vila de Cruces Ophiolite (allochthonous complexes of NW Iberia): The opening of a back-arc basin in the Gondwanan shelf Sonia Sánchez Martínez, Ricardo Arenas, Richard Albert Roper, Axel Gerdes, Alain Potrel.....	95
Varieties of Eisgarn granite in the Plöckenstein area (South Bohemian Batholith) and their petrogenesis David Schiller, Fritz Finger.....	96
Monazite electron microprobe (EMP) Th-U-Pb dating across the Variscan sutures in the Armorican Massif (France) Bernhard Schulz.....	97
Two metamorphic cycles recorded by garnet and monazite in micaschists from the Saualpe Eclogite Zone (Eastern Alps) Bernhard Schulz.....	98
Distribution of Triassic sediments in the Baltic Sea east of Ruegen Island based on reprocessed Petrobaltic seismic data Elisabeth Seidel, Martin Meschede, Karsten Obst.....	99
Late Paleozoic post-collisional magmatism and metal resource potential of the Erzgebirge-Krušné hory (NW rim of the Bohemian massif) Thomas Seifert.....	100
The thermal expansion and its role in the dynamics of the rock massives (Examples from the Bohemian Massif) Vladimír Škvor.....	102
Mid-Cretaceous palaeograinage of the Bohemian Massif: roles of tectonic inheritance and eustasy in formation and filling palaeovalley systems Lenka Špičáková, David Uličný, Radomír Grygar, Marcela Svobodová, Stanislav Čech, Jiří Laurin.....	102
Digital Structural 3D model of Intracontinental Late Paleozoic Basin – Krkonoše Piedmont Basin, Czech Republic Marcela Stárková, Lucie Kondrová, Bedřich Mlčoch, Zuzana Skácelová.....	103
Variscan tectonics of the Schwarzburg unit (Saxo-Thuringian Zone): From a transform plate boundary zone to an orogenic wedge Tobias Stephan, Uwe Kroner.....	104
Palaeogeography of Prague Synform in Silurian times (Wenlock–Ludlow): Insights from palaeomagnetism, basalt geochemistry and biostratigraphy	

Zuzana Tasáryová, Petr Schnabl, Vojtěch Janoušek, Petr Pruner, Petr Štorch, Gunther Kletetschka, Kristýna Čížková, Stanislav Šlechta, Štěpán Manda, Vojtěch Erban, Jiří Frýda .....	105
Geochemistry and petrogenesis of the normally zoned Sedmihoří Stock, Bohemian Massif: a case for nested emplacement of separately evolved granite magmas into shallow crust Jakub Trubač, Vojtěch Janoušek, Jiří Žák, Axel Gerdes, Petr Gadaš.....	106
Interaction of hyperpycnal flows and marine currents on a coarse-grained delta front – insights from the Cretaceous of Bohemia David Uličný, Jiří Laurin, Stanislav Čech .....	107
Variscan palaeosuture in the Tauern Window, Eastern Alps Petra Veselá, Bernd Lammerer.....	108
Late Cretaceous Basin inversion at the northern border of the Bohemian Massif Thomas Voigt .....	109
Magmatism in and between the late Variscan Permo-Carboniferous sedimentary basins in Germany Volker von Seckendorff .....	110
Detailed study to identify CO <sub>2</sub> storage rock units in a representative region of the central German North Sea sector using 2D-seismic and well data Axel Weitkamp, Fabian Jähne, Dirk Kaufmann, Marco Wolf.....	111
Integrated stratigraphy, biofacies and depositional environment of the Upper Cenomanian Oberhäslich Formation (Saxonian Cretaceous Basin) Markus Wilmsen, Nadine Richardt.....	112
Rates and periodicities of early Late Cretaceous sea-level changes: evidence from sedimentary basins in Europe, northern Africa and the Middle East Markus Wilmsen, Nadine Richardt, Birgit Niebuhr .....	113
Upper Cenomanian–Lower Turonian ammonoids from the Saxonian Cretaceous (lower Elbtal Group, Saxony, Germany) Markus Wilmsen, Emad Nagm .....	114
From Data to Model: A workflow for 3D facies-modelling using the example of the Buntsandstein in the central German North Sea sector. Marco Wolf, Dirk Kaufmann, Anke-Christina Bebiolka, Axel Weitkamp, Fabian Jähne .....	115
The Tepla-Barrandian ‘Elevator’: A key element for reconstructing orogenic processes in the Variscan internides Gernold Zulauf, Wolfgang Dörr.....	116
3D-modelling of subsurface potentials in GeoMol: Project overview and first approaches to be used in the pilot area of Lake Constance Heiko Zumsprekel & the GeoMol Team.....	117

## Field trips

From Cadomian accretion to Variscan collision: a crustal-scale traverse across the northwestern Teplá–Barrandian unit Jiří Žák, Gernold Zulauf, Wolfgang Dörr, Jaroslava Hajná, Kryštof Verner.....	119
Sedimentary and tectonic evolution of the Barrandian area Petr Budil, Oldřich Fatka, Michal Mergl .....	150
Late Variscan continental basins in western Bohemia: tectono-sedimentary, climatic and biotic archives Stanislav Opluštil, Richard Lojka, Josef Pšenička.....	179