

## PERSONAL INFORMATION

Name Šárka Křížová (née Jonášová)  
Date of Birth May 5, 1984  
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Researcher ID <http://www.researcherid.com/rid/I-8345-2016>  
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## EDUCATION

- 2014 – present Doctoral study, Institute of Geochemistry, Mineralogy and Mineral Resources, Faculty of Science, **Charles University**, Prague.  
Theme of doctoral dissertation: *Chemical and Physical Properties of Impact Glasses*
- 2011 – 2013 Doctoral study, Chemistry and technology of materials, The Faculty of Chemical Technology, **The University of Chemistry and Technology**, Prague – terminated due to starting of the full time job – the combined study was not allowed.
- 2009 – 2011 Bachelor programme, Department of Chemical Technology of Monument Conservation, The Faculty of Chemical Technology, **The University of Chemistry and Technology**, Prague. The degree awarded: Bc. (equivalent to B.Sc.).  
Bachelor thesis: *Restoration of ceramic finds from the Salm Palace*
- 2009 – 2011 Master programme, Department of Glass and Ceramics – Conservation and Restoration of Cultural Heritage Objects, The Faculty of Chemical Technology, **The University of Chemistry and Technology**, Prague. The degree awarded: Ing. (equivalent to M.Sc.Eng.).  
Diploma thesis: *Historical glasses - preparation and X-ray microanalysis*
- 2006 – 2009 Bachelor programme, Department of Chemical Technology of Monument Conservation, The Faculty of Chemical Technology, **The University of Chemistry and Technology**, Prague. The degree awarded: Bc. (equivalent to B.Sc.).  
Bachelor thesis: *The influence of vacuum packing on newsprint*
- 2003 – 2006 Collegiate programme on glass and technology, Nový Bor. The degree awarded: DiS.
- 1999 – 2003 Secondary glass-technical school, Nový Bor, Art processing of glass-grinding and patterning of cut glass. Graduation work awarded by the company V.I.D.

## EMPLOYMENT

- 2019 Graduate specialist, **Czech Geological Survey**, Prague, Materials scientist – electron microscopy SEM/EDS, EBSD and CL (Tescan MIRA 3GMU).
- 2013 – present Graduate specialist, Department of Analytical Methods, **Institute of Geology of the Czech Academy of Sciences**, Materials scientist – electron microscopy – SEM/EDS, CL (Tescan Vega 3UXM), SEM/WDS (Cameca SX 100), Raman microspectrometer (S&I, MonoVista CRS+).
- 2012 – 2013 Graduate specialist, Chemistry and technology of inorganic materials, **The University of Chemistry and Technology**, Prague.

## THE AREA OF EXPERTISE

Material characterization, electron microscopy, Raman spectroscopy, impact glasses, tektites, meteorites, shock metamorphism, archaeometry, archaeological glasses and ceramics.

## PROJECTS (MEMBER OF THE RESEARCH TEAM)

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|-------------|--------------|--|
| 2019 – 2021 | GA 19-23566S | Prehistoric and historical glass in the Czech Republic. The continuity of the dialogue between archaeology and archaeometry. Principal investigator: Kateřina Tomková.                     |
| 2017 – 2019 | GA 17-27099S | Variability of the Australasian tektites in wider vicinity of Muong Nong in Laos - Constraints on their source rocks and a parent crater location. Principal investigator: Roman Skála.    |
| 2014 – 2016 | GA 14-25396S | Archaeology, archaeometry and informatics: prehistoric and medieval glass in the Czech Republic. Principal investigator: Natálie Venclová.   |
| 2013– 2017  | GP13-34374P  | Everyday life of inhabitants of the Prague Castle in times of the first Habsburgs. Material culture analysis set into Central European context. Principal investigator: Gabriela Blažková. |
| 2013 – 2016 | GA 13-22351S | Combined use of novel and traditional stable isotope systems in identifying source components and processes of moldavite formation. Principal investigator: Tomáš Magna.                   |
| 2009 – 2011 | IAA800020903 | Glassmaking in prehistory and Middle Ages: cultural and technological transformations Principal investigator: Natálie Venclová.  |

## AWARD

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|------|---|
| 2018 | Outstanding Student Poster Award at the European Planetary Science Congress (EPSC 2018) held in Berlin on September 16–21, 2018. The award honored my results in the study of Australasian tektites – Sulfide globules in Muong Nong-type tektites from Laos. |
| 2015 | Rakow Grant for Glass Research – The Corning Museum of Glass. The archaeometric survey of luxury and utilitarian glasses found in a cesspit at Salm palace in Prague.   |

## PROFESSIONAL COURSES

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|------|---|
| 2018 | Basics of FTIR spectroscopy and control of Omnic program  |
| 2017 | Autumn school of electron microscopy basics, Brno   |
| 2017 | High-Pressure Experimental Techniques and Applications to the Earth's Interior, Bayerisches Geoinstitut, University of Bayreuth. Germany. |
| 2016 | Summer school of X-ray microanalysis, Spectroscopic Society of Jan Marek Marci. Žďár nad Sázavou.   |

- 2015 Introduction to Raman spectrometry and microspectroscopy of nanoobjects, Prague, Nicolet.
- 2012 Conservation of Glass Objects, Natural History Museum, London. Supervisor Stephen P. Koob from Corning Museum of Glass.

#### BACHELOR THESIS CONSULTANT:

Lebocová Barbora, Restoration of glazed stoneware, The University of Chemistry and Technology, Prague, defended 2013.

Kališová Lucie, Restoration of porcelain set from Březová, The University of Chemistry and Technology, Prague, defended 2013.

Kumstová Veronika, Restoration of archaeological glazed ceramics, The University of Chemistry and Technology, Prague, submitted 2012, defended 2013.

Syrovátková Tereza, Restoration of garden glazed ceramics from the 17th century, The University of Chemistry and Technology, Prague, submitted 2012, defended 2013.

Mikušková Sasha, Characterization of glaze-ceramic shard system of historical tiles, The University of Chemistry and Technology, Prague, defended 2012.

#### LANGUAGE SKILLS

Czech	native language
English	advanced (B1-B2)
Germany	advanced (B1-B2)

#### COMPUTER SKILLS

Software: MS Office, Omnic, "R", Systat, SigmaPlot, PeakFit, Adobe Photoshop, CorelDraw, Corel PhotoPaint.

## List of publications – Šárka Křížová (née Jonášová)

2020

### *Papers in scientific journals*

- IF 4.659<sup>1</sup>      Ackerman L., Žák K., Skála R., Rejšek J., **Křížová Š.**, Wimpenny J. and Magna T. (2020) Sr-Nd-Pb isotope systematics of Australasian tektites: Implications for the nature and composition of target materials and possible volatile loss of Pb. *Geochimica et Cosmochimica Acta* **276**, 135–150.
- IF 1.978      **Křížová Š.**, Venclová N., Vaculovič T. and Dillingerová V. (2020) Multi-analytical approach and microstructural characterisation of glasses from the Celtic oppidum of Třísov, Czech Republic, second to first centuries BC. *Archaeological and Anthropological Sciences* **12**, 1–14.
- IF 1.535      Krmíček L., Ulrych J., Šišková P., Krmíčková S., Špaček P., **Křížová Š.** (2020) Geochemistry and Sr–Nd–Pb isotope characteristics of Miocene basalt–trachyte rock association in transitional zone between the Outer Western Carpathians and Bohemian Massif. *Geologica Carpathica* **71**, 5, 462–482.

### *Chapters in books*

- Blažková G. and **Křížová Š.** (2020) Poutnické lahve. In *Krajinou archeologie, krajinou skla* (eds. K. Tomková and N. Venclová). Archeologický ústav AV ČR, Praha , v.v.i., a Ústav archeologické památkové péče severozápadních Čech, v.v.i., Prague. pp. 315–325.
- Tomková K., **Křížová Š.** and Vaculovič T. (2020) Korálky ze Zelenče ve světle analýz chemického složení skel. In *Raně středověké pohřebiště v Zelenči* (eds. M. Lutovský and L. Špaček). Archeologie ve středních Čechách – Supplementum 1. Ústav archeologické památkové péče středních Čech, Prague. pp. 87–99.
- Venclová N., Kozáková R. and **Křížová Š.** (2020) Prstencové korále: vrchol nebo úpadek Laténského sklářství? In *Krajinou archeologie, krajinou skla* (eds. K. Tomková and N. Venclová). Archeologický ústav AV ČR, Praha , v.v.i., a Ústav archeologické památkové péče severozápadních Čech, v.v.i., Prague. pp. 197–206.

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<sup>1</sup> IF – impact factor quoted where appropriate

- Ernée M., **Křížová Š.** and Šura J. (2020) Kamenné nástroje – valouny a otloukače; Lithic tools – pebbles and hammerstones, In *Mikulovice: Pohřebiště starší doby bronzové na Jantarové stezce. Early Bronze Age cemetery on the amber road* (eds. M. Ernée, M. Langová, et al.). Památky archeologické, Supplementum 21, Archeologický ústav AV ČR, Praha, v.v.i., Prague. pp. 302–317.
- Ernée M. and **Křížová Š.** (2020) Stopy postříbření na předmětech z hrobu č. 13; Traces of silver-plating on artefacts from grave no. 13, In *Mikulovice: Pohřebiště starší doby bronzové na Jantarové stezce. Early Bronze Age cemetery on the amber road* (eds. M. Ernée, M. Langová, et al.). Památky archeologické, Supplementum 21, Archeologický ústav AV ČR, Praha, v.v.i., Prague. pp. 412.
- Ernée M. and **Křížová Š.** (2020) Stopy kovů na kostěných artefaktech z objektů č. 2023 a 2412; Traces of metal on bone artefacts from features no. 2023 and 2412, In *Mikulovice: Pohřebiště starší doby bronzové na Jantarové stezce. Early Bronze Age cemetery on the Amber Road* (eds. M. Ernée, M. Langová, et al.). Památky archeologické, Supplementum 21, Archeologický ústav AV ČR, Praha, v.v.i., Prague. pp. 413.

## 2019

### *Papers in scientific journals*

- IF 4.258      Ackerman L., Skála R., **Křížová Š.**, Žák K. and Magna T. (2019) The quest for an extraterrestrial component in Muong Nong-type and splash-form Australasian tektites from Laos using highly siderophile elements and Re-Os isotope systematics. *Geochimica et Cosmochimica Acta* **252**, 179–189.
- IF 2.631      **Křížová Š.**, Skála R., Halodová P., Žák K. and Ackerman L. (2019) Near end-member shenzhuangite, NiFeS<sub>2</sub>, found in Muong Nong-type tektites from Laos. *American Mineralogist* **104**, 1165–1172.
- IF 2.318      Žák K., Skála R., Pack A., Ackerman L. and **Křížová Š.** (2019) Triple oxygen isotope composition of Australasian tektites. *Meteoritics & Planetary Science* **54**, 1167–1181.

## 2018

*Papers in scientific journals*

- IF 3.677 Ulrych J., Krmíček L., Teschner C., Skála R., Adamovič J., Ďurišová J., **Křížová Š.**, Kuboušková S. and Radoň M. (2018) Chemistry and Sr-Nd isotope signature of amphiboles of the magnesio-hastingsite–pargasite–kaersutite series in Cenozoic volcanic rocks: Insight into lithospheric mantle beneath the Bohemian Massif. *Lithos* **312–313**, 308–321.
- IF 3.034 **Křížová Š.**, Blažková G. and Skála R. (2018) Chemical composition of archaeological glasses from Prague Castle (Czech Republic) from the period 1650–1800 determined by electron probe microanalysis and laser ablation inductively coupled plasma mass spectrometry. *Microchemical Journal* **142**, 236–250.
- Křížová Š.**, Blažková G. and Skála R. (2018) Chemical analyses of glasses found in cesspits during archaeological excavations in the Salm palace, Prague, Czech Republic. *Journal of Glass Studies* **60**, 183–205.
- Venclová N., **Křížová Š.**, Dillingerová V. and Vaculovič T. (2018) Hellenistic cast monochrome glass vessels from Staré Hradisko, 2nd–1st cent. BCE. *Journal of Archaeological Science: Reports* **22**, 540–549.

## 2017

*Papers in scientific journals*

- IF 12.124 Magna T., Žák K., Pack A., Moynier F., Mougél B., Peters S., Skála R. and **Jonášová Š.** (2017) Zhamanshin astrobleme provides evidence for carbonaceous chondrite and post-impact exchange between ejecta and Earth's atmosphere. *Nature Communications* **8**, 1–8.
- IF 4.609 Ackerman L., Magna T., Žák K., Skála R., **Jonášová Š.**, Mizera J. and Řanda Z. (2017) The behavior of osmium and other siderophile elements during impacts : insights from the Ries impact structure and central European tektites. *Geochimica et Cosmochimica Acta* **210**, 59–70.

- IF 3.304 Vaculovič T., Breiter K., Korbelová Z., Venclová N., Tomková K., **Jonášová Š.** and Kanický V. (2017) Quantification of elemental mapping of heterogeneous geological sample by laser ablation inductively coupled plasma mass spectrometry. *Microchemical Journal* **133**, 200–207.
- IF 1.664 Ulrych J., Krmíček L., Teschner C., Řanda Z., Skála R., **Jonášová Š.**, Fediuk F., Adamovič J. and Pokorný R. (2017) Tachylyte in Cenozoic basaltic lavas from the Czech Republic and Iceland: contrasting compositional trends. *Mineralogy and Petrology* **111**, 761–775.
- IF 1.439 Audra P., Bosák P., Gázquez F., Cailhol D., Skála R., Lisá L., **Jonášová Š.**, Frumkin A., Knez M., Slabe T., Hajna N. Z. and Al-Farraj A. (2017) Bat urea-derived minerals in arid environment. First identification of allantoin, C<sub>4</sub>H<sub>6</sub>N<sub>4</sub>O<sub>3</sub>, in Kahf Kharrat Najem Cave, United Arab Emirates. *International Journal of Speleology* **46**, 81–92.
- Tomková K., **Jonášová Š.**, Zlámalová Cílová Z. (2017) Glass in fashion and trade in Bohemia in the 9th-11th centuries (archaeology and archaeometry), *Annales du 20e Congrès de l'Association Internationale pour l'Histoire du Verre*, Fribourg et Romont 7 – 11 Septembre 2015. Romont. Verlag Marie Leidorf GmbH. Rahden/Westf.
- Tomková, K. and Křížová, Š. (2017) Aktuelle Aspekte des Studiums mehrfarbiger Perlen aus dem frühmittelalterlichen Böhmen. In: G. Fusek ed., *Archäologische Studien zum frühen Mittelalter*. Internationale Konferenz Nitra vom 18. –20. Oktober 2016, *Archaeologica Slovaca Monographiae, Communicationes* 19, Nitra: Archeologický ústav SAV, 193–207.

## 2016

### *Papers in scientific journals*

- IF 4.609 Žák K., Skála R., Řanda Z., Mizera J., Heissig K., Ackerman L., Durišova J., **Jonášová Š.**, Kameník J. and Magna T. (2016) Chemistry of Tertiary sediments in the surroundings of the Ries impact structure and moldavite formation revisited. *Geochimica et Cosmochimica Acta*. **179**, 287–311.

- IF 4.609 **Jonášová Š.**, Ackerman L., Žák K., Skála R., Ďurišová J., Deutsch A. and Magna T. (2016) Geochemistry of impact glasses and target rocks from the Zhamanshin impact structure, Kazakhstan: Implications for mixing of target and impactor matter. *Geochimica et Cosmochimica Acta* **190**, 239–264.
- IF 0.609 Skála R., **Jonášová Š.**, Žák K., Ďurišová J., Brachaniec T. and Magna T. (2016) New constraints on the Polish moldavite finds: A separate sub-strewn field of the central European tektite field or re-deposited materials *Journal of Geosciences (Czech Republic)* **61**, 171–191.

### **Chapters in books**

- Jonášová Š.**, Blažková G. and Skála R. (2016) A chemical analysis of glass finds from early modern waste pits at Prague Castle. In *Material Finds from the Renaissance Waste Pits at Prague Castle* (ed. G. Blažková). Archeologický ústav AV ČR, Praha, v.v.i., Prague. pp. 238–248.

## **2015**

### **Papers in scientific journals**

- IF 2.259 Mrázek J., Potel M., Buršík J., Mráček A., Kallistová A., **Jonášová Š.**, Boháček J. and Kašík I. (2015) Sol-gel synthesis and crystallization kinetics of dysprosium-titanate Dy<sub>2</sub>Ti<sub>2</sub>O<sub>7</sub> for photonic applications. *Materials Chemistry and Physics* **168**, 159–167.
- IF 1.405 Haluzová E., Ackerman L., Pašava J., **Jonášová Š.**, Svojtka M., Hrstka T. and Veselovský F. (2015) Geochronology and characteristics of Ni-Cu-(PGE) mineralization at Rožany, lusatian granitoid complex, Czech Republic. *Journal of Geosciences (Czech Republic)* **60**, 219–236.
- Venclová N., Hulínský V., **Jonášová Š.**, Frána J., Fikrle M., Vaculovič T. (2015) Hellenistic mosaic glass vessels in Bohemia and Moravia. *Archeologické rozhledy* **67**, 192–212.



**Chapters in books**

Hulínský V., **Jonášová Š.** and Tomková K. (2015) Skleněné korálky z pohřebiště Klecany I z pohledu jejich chemického složení. In *Klecany. Raně středověká pohřebiště I* (eds. N. Profantová a kol.). EPOCH, Praha. pp. 129–131.

**2012**

**Chapters in books**

Hulínský V., **Jonášová Š.** and Tomková K. (2012) Skleněné korálky z pohřebišť na katastru Žalova z pohledu jejich chemického složení. In *Levý Hradec v zrcadle archeologických výzkumů. Pohřebiště. Díl I* (eds. K. Tomková a kol.). Archeologický ústav AV ČR, Praha pp. 336–341.