Name:	Ing. Zuzana Slížková, Ph.D.

Professional specialization

Research of resilience of historic building porous materials (stone and mortar) against expected environmental influences, focused on development of methods for simulation and assessment of degradation processes. Research into characteristics of new repair materials in relation to characteristics and behaviour of historical materials, focused on effective and compatible conservation (consolidation) interventions on architectural cultural heritage.

Education and work experience, foreign experience

Education

1981-1985 University of Chemical Technology in Prague, Faculty of Chemical Technology,
Master's thesis „Strengthening of Historical Plasters by Dispersions and Solutions of Synthetic Polymers" in Department of Chemical Technology of Monument Conservation (UCT Prague)

2004 -2007 Ph.D. programme at Czech Technical University, the study programme "Materials Engineering", dissertation thesis „Methods of Conservation of Historic Porous Building Materials"

Work experience

Z. Slížková gained working experience in a research field and also in an applied science in years 1989-2003, when she worked for institutions Prague Building Renovation Enterprise, State Studios for Restoration, National Heritage Institute, AQUA – Rehabilitation of Buildings, Ltd.. She has been working in ITAM AS CR since 2003, mainly on various European and national projects focusing the research of monuments conservation, in position of a project leader or a member of the research team. She mainly deals with methodology of historic materials characterization, degradation phenomena and degradation patterns, consolidation of stone and mortars, design of new materials for conservation of historic buildings and architectural objects and evaluation of compatibility of new conservation interventions. Foreign experiences Z. Slížková gained in the international course „Conservation of Stone" in Venice, as the exchange visitor in NCSU Raleigh in USA, during European research projects, in committee of international organizations RILEM and ICCROM and through participation in a number of international conferences.

RESEARCH PROJECTS

NATIVE

1. GRANT MINISTRY OF CULTURE CR n. PK95G01OPP054 – 1996/2010 Plaque Columns in Bohemia and Moravia
2. GRANT MINISTRY OF CULTURE CR n. PK99P04OPP028 –1999/2001 Monitoring of air pollution on cultural heritage objects (with typical measurements on Prague St.Vitus Cathedral)
3. GRANT MINISTRY OF CULTURE CR n.PK99P04OPP006-1999/2003: Monitoring of air pollution on cultural heritage objects (diagnosis of failures)
4. GRANT GAČR 103/06/1609 Optimization of Properties of Mortar Mixtures used for Restoration of Cultural Heritage Monuments (2006-2008)
5. GRANT GAČR 103/07/1467 Comparative Study of Properties of Historic Mortars and Renders (2007-2009)
6. GRANT GAČR 103/09/2067 Consolidation of historic mortars and plasters (2009-2013)
7. GRANT GAČR P105/12/G059 Change of building materials characteristics due to decay and degradation, *Database of material parameters including damage cumulation (*2012-2018)
8. GRANTS MINISTRY OF CULTURE CR, programme of National culture identity:
9. NAKI *DF11P01OVV008* Formulation of repair mortars for cultural heritage (2011-2015)
10. NAKI *DF11P01OVV012* New materials for stone conservation – cleaning, consolidation and protection (2011-2015)

11. NAKI *DF11P01OVV027* Study of several conservation procedures for improvement of monument care systems
12. *NAKI DF11P01OVV018 Requirements of compatible care of inorganic historic porous* materials
13. M00264 Nanolith (2013-2014) Use of Nanomaterials for Sustainable Preservation of Historic Architectural and Sculptural Works from Leitha Limestone.

INTERNATIONAL

1. Project ENV4-CT98-0708 *REACH-Rationalized economic appraisal of cultural heritage*, (study of degradation processes on stone and consolidated stone)
2. U.S.-Czech Engineering Research: In-Situ Evaluation of Historic Wood Buildings, (with NCSU Raleigh), NSF supported 2001-2004 (in USA), in CR supported under the Ministry of Education KONTAKT ME660 Project), (study of technological surface treatment of historical timber)
3. ICA1-CT-2000-70013 ARCCHIP Centre of Excellence (Advance Research Centre for Cultural Heritage Interdisciplinary Projects), supported in the 5th EC Research Framework Programme, (invited State-of-the-Art Report on historical materials and their diagnostics)
4. EVK4-CT-2002-30011 HISTOCLEAN (Control Device for Stone Laser Cleaning), supported in the 5th EC Research Framework Programme, (analyses of different stones and comparative studies of cleaning processes)
5. SSPI-CT-2004-501837 NOAH'S ARK (FP 6) "Global climate change impact on built heritage and cultural landscapes" – (catalogue of damages and categorization of details and materials according their vulnerability to climatic action)
6. SSPI-CT-2004-501609 CULTSTRAT (FP 6) "Assessment of air pollution effects on cultural heritage – management strategies" – (soiling effects on facades and sculptures)
7. ARI 2004 - CIBHER – Access to research Infrastructure – (study of surface treatment on moisture and temperature penetration into limestone elements) Nantes, 2004
8. FP-2005-SSP-5A CHEF „Cultural Heritage Protection against Flood" Specific targeted research and innovation project
9. Project č. FP7-NMP-2007-SME-1 No.213651 STONECORE (FP7) project on stone consolidation (2008-2011)

LECTURING

Z. Slížková is a lecturer in the Czech Technical University, Faculty of Civil Engineering, University of Padova and University of Minho in Guimaraes in programme Erasmus Mundus, Advanced Master course "Structural analyses of Monuments and Historical Structures". She supervised Ph.D. theses and master's theses at the Faculty of Civil Engineering (CTU Prague) and at University of Pardubice at the Faculty of Restoration.

Z. Slížková is expert- member of Scientific Committee ICOMOS-ISCS for Stone conservation and a member of Technical Committees RILEM „Specifications for non-structural grouting of historic masonries and historic architectural surfaces" and TC ASC.

Scientific publications – summary

Z. Slížková is the author or co-author of more than 40 articles in journals, especially in high-impacted and others or parts of monographs), 42 papers at international conferences, 11 papers at local conferences. She is a co-author of 2 patents, 2 utility models, 3 certified methodologies, 2 preservation procedures and her publications have 53 citations in WoS.

H-index according to Web of Science/Scopus : 4/5

10 recent publications

- Slížková, Zuzana, et al. "Soils and Earthen Building Materials used for the Buddhist Temple Complex." International Journal of Architectural Heritage, 10, 4 (2016), p. 406-417. ISSN 1558-3058.

- Slížková, Zuzana, Miloš Drdácký, and Alberto Viani. "Consolidation of weak lime mortars by means of saturated solution of calcium hydroxide or barium hydroxide." Journal of Cultural Heritage 16.4 (2015): 452-460.
- Slížková, Zuzana, and Dita Frankeová. "Consolidation of porous limestone with nanolime. Laboratory study." *12th International Congress on the Deterioration and Conservation of Stone Columbia University, New York*. 2012.
- Frankeová, Dita, and Zuzana Slížková. "Determination of the pozzolanic activity of mortar's components by thermal analysis." *Journal of Thermal Analysis and Calorimetry*: 1-9.2016.
- Drdácký, Miloš, and Zuzana Slížková. "Enhanced affordable methods for assessing material characteristics and consolidation effects on stone and mortar." *Journal of Geophysics and Engineering* 10.6 (2013): 064005.
- Drdácký, Miloš, and Zuzana Slížková. "In situ peeling tests for assessing the cohesion and consolidation characteristics of historic plaster and render surfaces." *Studies in Conservation* 60.2 (2015): 121-130.
- Nežerka, V., Němeček, J., Slížková, Zuzana - Tesárek, P. "Investigation of crushed brick-matrix interface in lime-based ancient mortar by microscopy and nanoindentation". Cement & Concrete Composites. Roč. 55, January (2015), s. 122-128. ISSN 0958-9465.
- Remzová, Monika, Šašek, Petr, Frankeová, Dita, Slížková, Zuzana, Rathouský, Jiří. "Effect of modified ethylsilicate consolidants on the mechanical properties of sandstone". Construction and Building Materials. 112, JUN 2016 (2016), s. 674-681. ISSN 0950-0618.
- Van Hees, R. P. J., Rosario Veiga, and Zuzana Slížková. "Consolidation of Renders and Plasters (RILEM TC 243-SGM)." Materials and Structures (2016); table (2016).
- Nunes, Cristiana, et al. "Microstructure of lime and lime-pozzolana pastes with nanosilica." Cement and Concrete Research 83 (2016): 152-163