

TECHNICKÁ UNIVERZITA V KOŠICIACH
STAVEBNÁ FAKULTA

PREHĽAD VEDECKO-VÝSKUMNÝCH AKTIVÍT

Ing. Eva Krídlová Burdová, PhD.

Košice, marec 2021

Prehľad vedecko-výskumnej činnosti

Zahraniché projekty (3):

1. ERAZMUS+ projekt č. 2015-1- IT02-KA203-014974 PAES Hosing Policies for Sustainable Construction, 2016-2018, riešiteľ
2. MVTS NATO/TUKE/08 Sustainable Building Design - Pre-design Assessment, 2008-2009, riešiteľ
3. NATO ESP.NUKR.CLG 982978 Building Environmental Assessment and Certification, 2007-2009, riešiteľ

Domáce projekty:

APVV projekty (1):

1. APVV-18-0360, Aktívna hybridná infraštruktúra pre špongiové mesto, 2019-2023, riešiteľ

VEGA projekty (4):

1. 1/0512/20 Analýza nových prístupov posudzovania a certifikácie udržateľných administratívnych budov z pohľadu spokojnosti a výkonnosti zamestnancov, 2020-2023, riešiteľ
2. VEGA 1/0307/16, Výskum kvality vnútorného prostredia budov pre školstvo a vzdelávanie zameraný na ochranu zdravia detí a mládeže, 2016-2019, riešiteľ
3. Projekt VEGA 1/0405/13 Analýza aspektov a ukazovateľov posudzovania udržateľnosti obytných budov so zohľadnením prístupu životného cyklu, 2013 – 2015, zástupca zodpovedného riešiteľa
4. VEGA č. 1/3342/06 Teória tvorby vnútorného prostredia budov vo väzbe na stavebné materiály, konštrukcie a sústavy techniky prostredia, 2006 – 2008, riešiteľ

KEGA projekty (5):

1. KEGA 047TUKE-4/2020 Projektovanie budov vo svete udržateľných miest, 2020 – 2023, riešiteľ
2. KEGA 073TUKE-4/2018 Systematizácia univerzitného laboratória za účelom diverzifikácie jeho činnosti do procesu výučby, výskumu a pre stavebnú prax, 2017 – 2020, riešiteľ
3. KEGA 002TUKE-4/2017 Inovatívne didaktické metódy v pedagogickom procese na univerzitách a ich význam pre zvyšovanie pedagogického majstrovstva učiteľov a rozvoj kompetencií študentov, riešiteľ, 2017-2019, riešiteľ
4. KEGA 052TUKE-4/2013 Využitie virtuálneho laboratória pri navrhovaní energeticky efektívnych budov - riešiteľ, riešiteľ, 2013 – 2015
5. KEGA 004TUKE-4/2011 Stratégia integrovaného navrhovania budov, 2011 – 2013, zodpovedný riešiteľ

Ostatné projekty (4):

1. Regionálna inovačná stratégia Košického kraja 2013 – 2020, Európsky fond regionálneho rozvoja. „Investícia do vašej budúcnosti“, 2015
2. ITMS 26220220064 Centrum výskumu účinnosti integrácie kombinovaných systémov obnoviteľných energií, 2.1 Odborný pracovník pre oblasť výberu zariadení merania škodlivín a energetické zhodnotenie vzduchu.
3. ITMS 26110230093 Balík doplnkov pre ďalšiu reformu vzdelávania na TUKE. Expert na prípravu učebných textov a pedagogickej dokumentácie na TUKE – Aktivita 1.1
4. Operačný program Bezpečné a udržateľné budovy a ich prostredie, 313011T578, 2016-2029

Recenzný posudok na preklad normy:

STN EN 15643-4: 2012 Trvalá udržateľnosť výstavby. Posudzovanie budov. Časť 4: Rámec na posudzovanie ekonomických vlastností

Výskumné a odborné práce na báze podnikateľskej činnosti

- Vypracovanie environmentálnych správ pre objekty vo vlastníctve UniCredit Bank Slovakia a. s., pobočky v mestách Martin (M. R. Štefánika), Malacky (Záhorácka), Trnava (Štefánikova), Nitra (Štefánikova), číslo zmluvy: 316/2011-3560, autorský kolektív: Silvia Vilčeková, **Eva Krídlová Burdová**, riešiteľské postavenie: riešiteľ, jún 2011-august 2011, autorský podiel: 0,5
- Merania parametrov kvality vnútorného prostredia v novostavieb bytového domu, Slnčnice, Bratislava, číslo zmluvy: O-19-105/0059-00, autorský kolektív: Silvia Vilčeková, **Eva Krídlová Burdová**, riešiteľské postavenie: riešiteľ september 2019, autorský podiel: 0,3

Recenzie vydaných a nevydaných prác (monografie, VŠ učebnice, skriptá, vedecké a odborné články v časopisoch a zborníkoch, kvalifikačné práce, výskumné správy)

• Posudky do časopisu WoS/Scopus (54)

1. Energy, *Building service life and its effect on the life cycle embodied energy of buildings* (Ms. Ref. No.: EGY-D-14-01345)
2. Pollack Periodica, *Examination of microclimates and physical hazards in working area* (Paper No: PP-30-2014)
3. Building and Environment, *A Thermal Energy System Performance Evaluating Methodology for Residential Buildings* (Ms. Ref. No.: BAE-D-15-01474) Dátum: 23.11. 2015
4. Journal of Building Engineering, *Alternative building materials analysis for different residential buildings considering embodied energy and material cost*, (Ms. Ref. No.: JOBE-D-15-00253) Dátum: 25.11. 2015
5. Building and Environment, *Environmental impact evaluation of energy saving and energy generation: case study for two Dutch dwelling typologies*, BAE-D-16-00552) Dátum: 17.05.2016
6. Environmental Impact Assessment Review, *Life Cycle Assessment to support the quantification of the environmental impacts of a temporary exhibition* (EIR_2016_7) Dátum: 26.05.2016
7. Journal of Cleaner Production, *Development of a new Healthcare Building Sustainability Assessment (HBSA) Method - proposed structure and system of weights for the Portuguese context* (JCLEPRO-D-16-02257) Dátum: 15.07.2016
8. Journal of Cleaner Production, *Alternative Binders for the Production of Roofing Tiles - A Comparative Study*, (Ref. No.: JCLEPRO-D-18-03836) Dátum: 25.5.2018
9. Renewable & Sustainable Energy Reviews, *Specific greenhouse gas emissions from combined heat-and-power production in agricultural biogas plants in Bavaria*, (Ref. No.: RSER-D-18-00451) Dátum: 28.6.2018
10. Resources, Conservation & Recycling, *Life Cycle Carbon and Payback of Office Building Retrofit Packages*, (Ref. No.: RECYCL-D-18-01058) Dátum: 18.7.2018
11. Journal of Building Engineering, *Assessing Physical Conditions of Indoor Space Enclosing Elements in Schools in Relation to their Indoor Environmental Quality*, (Ref: JOBE_2018_419) Dátum: 1.9.2018
12. Heliyon, *Multi criteria evaluation in paradigmatic perspectives of agricultural environmental management*, (HELIYON_2018_4642) Dátum: 12.9.2018
13. Journal of Cleaner Production, *Minus carbon refugee house. A LCA and LCC study*, (Ref. No.: JCLEPRO-D-18-09769) Dátum: 16.10.2018
14. International Journal of Sustainable Engineering, *Preference-based Multi-criteria framework for developing a Sustainable Material Performance Index (SMPI)*, (Ref: TSUE-2018-005) Dátum: 25.10.2018

15. Energy and Buildings, *The impact of Greenery Systems on Building Energy*, ENB_2018_3654
16. Energies, *Fast modelling of nZEB metrics of office buildings built with advanced glass and BIPV façade structures*, Authors: Suzana Domjan, Sašo Medved, Boštjan Černe, Ciril Arkar, ID: energies-564905.
17. Journal Engineering Structures, *Evaluation of alternative solutions of general design of railway lines with regards to environmental protection*, ENGSTRUCT_2019_3560
18. Sustainable Cities and Society, *A critical discussion of the BREEAM Communities Method as Applied to Chinese Eco-village Assessment*, Ref: SCS_2019_1600
19. Journal of Cleaner Production, *Development of a Building Sustainability Assessment Method (BSAM) for Developing Countries in sub-Saharan Africa*, Ref. No: JCLEPRO-D-19-12800
20. Heliyon, *Multi criteria evaluation in paradigmatic perspectives of agricultural environmental management*, Corresponding Author: Kurosh Rezaei-Moghaddam, Ref: HELIYON_2018_4642_R1
21. Sustainability, *Evaluation of the Criteria for Decision-Making on the Designation of Maintenance Districts in Low-Rise Residential Areas: Focusing on Urban Renewal Projects in Seoul*, Authors: Woongkyoo Bea, UnHyo Kim, Jeongwoo Lee, sustainability-611624
22. Sustainable Cities and Society, *The role of life cycle cost analysis in the selection of measures for the sustainable redevelopment of an urban neighbourhood in Lisbon*, Ref: SCS_2019_2098
23. Energy and Buildings, *Life Cycle Assessment of Integrated Thermal Energy Storage Systems in Buildings: A Case Study in Canada*, Ref: ENB_2019_1750
24. Energies, *Evaluation of environmental performance of residential building envelope components*, Authors: Serik Tokbolat, Farnush Nazipov, Jong Kim, Ferhat Karaca, Manuscript ID: energies-653315
25. Applied Sciences, *Evaluating LEED-NCv4 in the US: State of the art*, Authors: Svetlana Pushkar, Manuscript ID: applsci-688480
26. Resources, Conservation & Recycling, *Building Impact Assessment - a combined life cycle assessment and multi-criteria decision analysis framework*, Ms. Ref. No.: RECYCL-D-19-00673
27. Heliyon, *Energy Modeling and Eco Impact Evaluation in Direct Metal Laser Sintering Hybrid Milling*, Corresponding Author: Emmanuel Enemuoh, Ref: HELIYON_2019_4362
28. Energy and Buildings, *Conventional versus modular construction methods: A comparative cradle-to-gate LCA for residential buildings*, Ref: ENB_2019_1057
29. International Journal of Urban Sciences, *The Sustainable House Comparative Analysis of houses within the Residential Environment in Al Kut Neighborhoods-Iraq*, ID RJUS-2019-0059
30. Energy Strategy Reviews, *Environmental economic implications of energy efficiency in new residential buildings: a multi-criteria selection approach*, Ref. No.: ESR-19-00134.
31. Building and Environment, *Prevalence of sick building syndrome and its association with perceived indoor environmental quality in an Asian multi-ethnic working population*, Ref. No.: BAE-19-01686
32. Energies, *Fast modelling of nZEB metrics of office buildings built with advanced glass and BIPV façade structures*, Authors: Suzana Domjan *, Sašo Medved, Boštjan Černe, Ciril Arkar, Manuscript ID: energies-564905
33. Energies, *Energy and Cost Analysis of Building Envelope Components Using BIM: A Systematic Approach*, Authors: Zoran Pučko, Damjan Maučec, Nataša Šuman, Manuscript ID: energies-798770
34. Journal of Building Engineering, *Circular Economy potential within the building stock - mapping the embodied greenhouse gas emissions of four Danish examples*, Ref: JOBE_2020_1615
35. Energies, *Evaluation of the hot air recirculation effect and relevant empirical formulae applicability for mechanical draft wet cooling towers*, Authors: haotian dong, Yuanbin Zhao, Manuscript ID: energies-832553
36. Energy and Buildings, *Development of a Bayesian based adaptive optimisation algorithm for the thermostat settings in agile open plan offices*, Ref: ENB_2020_1606
37. Sustainable Energy Technologies and Assessments, *New sustainability assessment model for*

Intelligent Façade Layers when applied to refurbish school buildings skins, Saeid Habibi; Oriol Pons; Diana Pena, SETA_2020_531

38. Heliyon, *Simulation Study for Natural Ventilation Retrofitting Techniques in Educational Classrooms – A Case Study*, Author(s): Shouib Mabdeh, Ph.D.; Amani Al-Zghoul, Master; Tamer Alradaideh, Master; Asma Bataineh, Master; Saba Ahmad, Master, Manuscript Number: HELIYON-D-20-01805R1
39. Resources, *Environment and Sustainability, Chinese Environmental Accountability: Ancient beliefs, science and sustainability*, Ref. No.: RESENV-D-20-00005
40. Journal of Building Engineering, *Sustainable Building Materials Assessment and Selection Using System Dynamics*, JOBE_2020_771
41. IEEE Access, *Artificial Intelligence Based Energy Performance Class Detection Model for Residential Buildings with Selection of Relevant Features*, ID Access-2020-11940
42. Architectural Engineering and Design Management, *Low carbon design strategies for new residential buildings – lessons from Danish architectural practice*, AEDM-2019-0061.
43. Building and Environment, *How indoor environmental quality (IEQ) satisfaction matters to higher education male and female students*, Ref. No.: BAE-20-00047
44. Energy and Buildings, *Life Cycle Assessment of Integrated Thermal Energy Storage Systems in Buildings: A Case Study in Canada*, Ref: ENB_2019_1750_R1
45. Energy and Buildings, *Energy Renovation of Multi Apartment Buildings: Contributions to Economy and Climate Changes*, Ref: ENB_2020_576
46. Heliyon, *Global warming potentials due to railway tunnel construction and maintenance*, Author(s): Sakdirat Kaewunruen; Jessada Sresakoolchai; Shuonan Yu, Manuscript Number: HELIYON-D-20-01669
47. Journal of Civil Engineering and Management, *Study of embodied energy in healthcare center construction*, ID SCEM-2020-0149
48. Sustainability, *Numerical simulation on the influence of the longitudinal fins on the enhancement of a shell-and-tube ice storage (STIS) device*, Authors: Pei Cai, Youxue Jiang, He Wang, Liangyu Wu, Peng Cao, Feng Yao, ID: sustainability-740694
49. Sustainability, *Young Pioneers, Vitality, and Commercial Gentrification in Mudan Street, Changchun, China*, Authors: Jing Zhang, Dawei Li, Wei Liu, Yao Tong, Chenggu Li, Zuopeng Ma, ID: sustainability-761378
50. Sustainability, *Assessing Neighborhood Satisfaction and Social Capital in a Multi-cultural Setting of Abu Dhabi Neighborhood*, Authors: Anfal Al-Ali, Praveen Maghelal *, Khaled Alawadi, ID: sustainability-771991
51. Sustainable Cities and Society, *Critical discussion of the BREEAM Communities Method as Applied to Chinese Eco-village Assessment*, Manuscript Number: SCS_2019_1600R1
52. Sustainability, *Evaluation model of Environmental Impact of Insulation Buildings Envelopes*, ID: sustainability-715497
53. Journal of Asian Architecture and Building Engineering, *Selecting the Optimum System and Building Materials for Multi-Story Buildings in Egypt Using Quality Function Deployment*, ID JAABE2004143BS
54. Carbon Management, *Development of a carbon footprint calculating tool for different multi-storied buildings in India*, D TCMT-2020-1153

• **Posudky do ostatných časopisov a konferenčných zborníkov (15)**

1. APMAS 2015 (16.-19. 4. 2015, Sentido Lykia Resort, Oludeniz, Turecko), *Influence of Parameters on Dry Sliding of Chopped Bamboo Reinforced Epoxy Composites Based on Taguchi's Method*, Autori: Neslihan Ozsoy, Murat Ozsoy, Abdullah Mimaroglu, Dátum: 18. 11. 2015
2. APMAS 2015 (16.-19. 4. 2015, Sentido Lykia Resort, Oludeniz, Turecko), *Determination of radiation shielding properties of cotton polyester blend fabric coated with different barite rate*,

- Autori: Şemsettin Kılınçarşlan, İskender Akkurt, İ.Serkan Üncü, Feyza Akarşlan, Dátum: 3. 12. 2015
3. APMAS 2015 (16.-19. 4. 2015, Sentido Lykia Resort, Oludeniz, Turecko), *Fabrication and characterisation of bronze pads and comparison with commercial bronze*, Autor: Adem Demir, Dátum: 3. 12. 2015
 4. enviBUILD 2015 (15.-16. 10. 2015, Bratislava), *FLCA of Fibre Flax Thermal Insulation*, Autori: Karel Struhala, Zuzana Stránská, Jiří Sedlák, Dátum: 14. 9. 2015
 5. enviBUILD 2015 (15.-16. 10. 2015, Bratislava), *Green building – towards sustainable architecture*, Autor: Boris Bielek, Dátum: 14. 9. 2015
 6. enviBUILD 2015 (15.-16. 10. 2015, Bratislava), *The Operational and Environmental Consequences of the Polystyrene Insulation Disposal*, Autori: Jan Pasek, Martin Casensky, Jakub Stransky, Dátum: 14. 9. 2015
 7. Young Scientist 2015 (8.-10. 4. 2015, Jasná, Vysoké Tatry), *Examination of working and residential buildings area from microclimate and physical hazards*, Autor: Zoran Apostoloski, Dátum: 16. 3. 2015
 8. Design of energy efficient buildings, *Evaluation of the daylighting in the industrial hall*, Autor: E. Dolníková, Dátum: december 2015, Košice
 9. Design of energy efficient buildings, *The activity of persons and its impact on indoor air quality*, Autor: P. Kapalo, Dátum: december 2015, Košice
 10. Design of energy efficient buildings, *The efficient operation of absorption units of a selected experimental room*, Autori: R. Nagy, D. Košičanová, P. Fedorčák, Dátum: december 2015, Košice
 11. Design of energy efficient buildings, *Realization of Underfloor Air Cavities – Concrete Slabs versus Special Shaped*, Autori: T. Renčko, A. Sedláková, Dátum: december 2015, Košice
 12. Design of energy efficient buildings 2016, *Thermo-physical evaluation of two ultra-low-energy family houses foundation*, Autori: Anna Sedláková, Peter Turcsányi, Dátum: 15.12.2016
 13. Design of energy efficient buildings 2016, *Assumption of interaction hydrothermal flows over envelope structures and thermal humidity microclimate in the premises of the factory building of Light Industry*, Autori: Jana Katunská, Dátum: 15.12.2016
 14. Mladý vedec 2016, *Environmental assessment of family house*, Autori: Iveta Selecká, Dátum: 02.03.2016
 15. Mladý vedec 2016, *Measurement of VOCs concentrations in houses*, Autori: Zoran Apostoloski, Dátum: 02.03.2016

- **Členstvá**

Člen vedeckého výboru konferencie Design of energy efficient buildings, 2016, Košice

Člen vedeckého výboru konferencie Design of Energy Efficient Buildings 2015, Proceedings of Scientific Papers – KEGA 052TUKE-4/2013

Členka Rady ŠVOČ 2015-2017

- **Ocenenia**

2018: Získanie prémie **Literárneho fondu za vedeckú a odbornú literatúru za rok 2017** v kategórii prírodných a technických vied za dielo „Výskyt organických zlúčením vo vnútornom prostredí“ v spoluautorstve s Ing. Ľudmilou Mečiarovou, PhD. a doc. Ing. Silviou Vilčekovou, PhD.