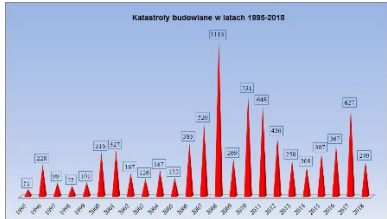
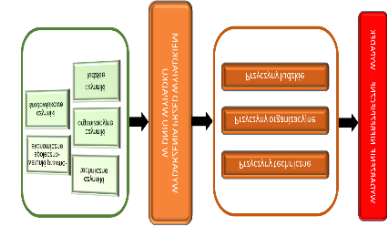






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<p>name of the unit:</p> <p style="text-align: center;">DEPARTMENT OF BUILDING MATERIALS PHYSICS AND SUSTAINABLE DESIGN</p> <p style="text-align: center;">Division of Civil Engineering and Facility Maintenance.</p>		<p>symbol:</p> <p style="text-align: center;">K-62</p> <p style="text-align: center;">http://kfb-lx.p.lodz.pl</p>
<p>head of the unit:</p> <p style="text-align: center;">Associate Professor Jacek Szer Ph.D., D.Sc.</p>	<p>potential promoters:</p> <p style="text-align: center;">Associate Professor Jakub Miszczak Ph.D. Marek Sitnicki Ph.D. Monika Kaszubska Ph.D. Elżbieta Habiera-Waśniewska Ph.D.</p>	<p>contact person:</p> <p style="text-align: center;">tel: 42-631-35-53 jacek.szer@p.lodz.pl</p>
<p>scope of activities:</p> <p>The Division is concerned with issues related to construction in the field of:</p> <ul style="list-style-type: none"> - structural safety of buildings and structures built in traditional technology, - risk assessment for construction disasters as well as accidents and hazardous events at workplaces, - methodology of designing and conducting construction works in construction objects (including historic buildings) 		
<p>present activities:</p> <p>Participation in the consortium in the project "Modelling of Risk Assessment of Construction Disasters. Accidents and Dangerous Incidents at Workplaces Using Scaffoldings".</p> <p>Research service, entitled "EKODROGA - empowerment the company's position on the road construction industry by purchasing a research service and its implementation in 2020-2021".</p> <p>Research service on the basis of subcontracting related to the implementation of the project entitled "MODEA-PACO mobile, unfolding building structure" - starting July 2021.</p> <p>Performing of technical opinions and construction projects in the field of the described activity and supervision on the construction works in progress.</p>		  



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Future activities:

Research work related to:

- maintenance of buildings,
- risk assessment of construction disasters and accidents
- influence of climatic conditions on hazardous events occurring in the construction industry,
- diagnostics of buildings (including historic buildings) with minimally invasive methods (3D scanning, strain monitoring, determination of material strength), restoration, structural reinforcement.

Planned publications and releases:

- publication on the basics of applying loads,
- publication on traditional and monumental constructions,
- articles and papers on maintenance, repair of buildings and occurrence of hazardous events.

Publications/patents, awards, projects:

1. Szer I., Lipeccki T., Szer J., Czarnocki K.: Using meteorological data to estimate heat stress of construction workers on scaffolds for improved safety standards, *Automation in Construction*, 134, 2022, <https://doi.org/10.1016/j.autcon.2021.104079>
2. Hoła B., Topolski M., Szer I., Szer J., Błazik-Borowa E.: Prediction model of seasonality in the construction industry based on the accidentality phenomenon, *Archives of Civil and Mechanical Engineering*, 22(1), 30, 2022, <https://doi.org/10.1007/s43452-021-00348-7>
3. Szer I., Szer J., Kaszubska M., Miszczak J., Hoła B., Błazik-Borowa E., Jabłoński M.: Influence of the seasons on construction site accidents. *Archives of Civil Engineering*, 67(3),2021, pp. 489–504, DOI: 10.24425/ace.2021.138067
4. Szer I., Szer J.: The influence of external environment on workers on scaffolding illustrated by UTCI, *Open Engineering*, 11(1), 2021, pp. 929–936, <https://doi.org/10.1515/eng-2021-0093>
5. Jacek J.: Safety of buildings and construction disasters. *Archives of Civil Engineering*, 66(1), 2020, p.281-295, AF:K-62,2020, <http://journals.pan.pl/dlibra/publication/131788/edition/115118/content.DOI:10.24425/ace.2020.131788>
6. Chmielewski T., Szer J., Bobra P.: Derecho wind storm in Poland on 11–12 August 2017: results of the post-disaster investigation. *Environmental Hazards-Human and Policy Dimensions*, 2020,



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7. Błazik-Borowa E., Pieńko M., Szer I., Hoła B., Czarnocki K.: Probability distribution functions for service loads of frame scaffoldings. *Bulletin of the Polish Academy of Sciences: Technical Sciences* 69(2), 2021; DOI:10.24425/bast.2021.136734
8. Jabłoński M., Szer I., Szer J.: Probability of occurrence of health and safety risks on scaffolding caused by noise exposure, *Journal of Civil Engineering and Management* 24(6), 2018, s. 117-125, ISSN 1392-3730, eISSN 1822-3605, DOI: /10.3846/jcem.2018.5716
9. Szer I., Błazik-Borowa E. Szer J.: The Influence of Environmental Factors on Employee Comfort Based on an Example of Location Temperature, *Archives of Civil Engineering*, vol. LXIII, 3, 2017, s. 163-174, DOI: 10.1515/ace-2017-0035,
10. Szer I., Szer J., Czarnocki K., Błazik-Borowa E.: Apparent Temperature Distribution on Scaffoldings during Construction Works, *World Academy of Science, Engineering and Technology, International Journal of Medical, Health, Biomedical, Bioengineering and Pharmaceutical Engineering*, 12(3), 2018, s. 81-87, eISSN:1307-6892, urn:dai:10.1999/1307-6892/10008737
11. Szer I., Szer J., Pieńko M., Robak A., Jamińska-Gadomska P.: Forecasting of Scaffolding Work Comfort Parameters Based on Data from Meteorological Stations, *World Academy of Science, Engineering and Technology, International Journal of Civil, Environmental, Structural, Construction and Architectural Engineering*, 12(2), 2018, s. 99 - 105, urn:dai:10.1999/1307-6892/10008523

Keywords:

Maintenance of buildings, building catastrophe, risks in construction, building construction, traditional construction, historical monuments, building works

List of internship proposal in this research team:

Research on the impact of climate on construction site safety.
Examination of building elements by non-destructive methods.