

Эрдэм шинжилгээний бүтээлийн жагсаалт The list of academic publications

Овог нэр: **Эрдэнийн Хувилай**
Full name: **Khuvilai Erdene**

Эрдмийн зэрэг: Техникийн Ухааны Доктор (Ph.D.)
Degree: Doctor of Philosophy in Technical Science

Албан тушаал: ШУТИС, Барилга, Архитектурын сургуулийн багш
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RCX-3630-2026

A. Зэрэг хамгаалсан бүтээлүүд / Theses (PhD, M.Eng. or M.Sc.)

1. PhD thesis (2026): Yonsei University – “BIM Adoption Strategy for Developing Countries (Mongolia Case) and a Semantic Web Technology Application for BIM-based Bridge Condition Assessment” (<https://dcollection.yonsei.ac.kr/srch/srchDetail/000000563832>)
2. Магистрын төгсөлтийн ажил (2015): Шинжлэх Ухаан Технологийн Их Сургууль – “Тулгуурт тулж хүчитгэсэн дамнурууны бат бэхийн судалгаа”
M.Eng. thesis (2015): Mongolian University of Science and Technology – “Pre-tensioned Reinforced Concrete Beam Strength Design Assessment”

B. Олон улсын сэтгүүлийн өгүүллүүд / International journal articles

1. Khuvilai Erdene, Bong-Geun Kim, and Sang-Ho Lee. (2025). ADAPTE Process-Based Strategic Framework Development for National BIM Adoption: The Case for Sustainable Advancement in Mongolia. *Sustainability* 18(1), 71. <https://doi.org/10.3390/su18010071>
2. Khuvilai Erdene, Sung Hoon Kim and Sang-Ho Lee. (2025). BIM Adoption and Implementation Challenges in Mongolia. *Kalpa Publications in Computing: Proceedings of The Sixth International Conference on Civil and Building Engineering Informatics*, vol 22, pp. 42-55. <https://doi.org/10.29007/25lx>
3. Inseop Yun, Khuvilai Erdene, Sang-Ho Lee. (2024). Condition Assessment of Bridge by BIM-based Integrated Model Reflecting Damage. *Land and Housing Review*, 15(4), 11–20. <https://doi.org/10.5804/LHR.2024.15.4.11>
4. Khuvilai Erdene, Tae Ho Kwon, and Sang-Ho Lee. (2020). Integration of Extended IFC-BIM and Ontology for Information Management of Bridge Inspection. *Journal of the Computational Structural Engineering Institute of Korea*, 33.6: 411-417. <https://doi.org/10.7734/COSEIK.2020.33.6.411>

C. Олон улсын хурлын эмхэтгэлүүд / International conference proceedings

1. Khuvilai Erdene, Sang-Ho Lee. (2026). Advancing Level 3 BIM Maturity Through Semantic Interoperability: An Ontology-Driven Framework for Infrastructure Maintenance. Proceedings of the International Conference on Computing in Civil Engineering (i3CE 2026), ASCE, June 14-17, Songdo, Incheon, South Korea.
2. Khuvilai Erdene, Sang-Ho Lee. (2025). A Strategic Framework for National BIM Implementation in a Developing Economy: The Case of Mongolia. 10th The Civil Engineering Conference in the Asian Region (CECAR10) from Asian Civil Engineering Coordinating Council (ACECC), October 21-24, Jeju, South Korea.
3. Khuvilai Erdene, Sang-Ho Lee. (2025). Laying the BIM based Digital Foundation for Subway Infrastructure Development: IFC and Semantic Enrichment Based Approach. International Technical Seminar Proceedings on “Metro & Underground Structure Construction International Case Studies” from Mongolian Association of Civil Engineers (MACE) Annual Conference 2025, June 12, Ulaanbaatar, Mongolia. pp. 112-118.
4. Khuvilai Erdene, Sung Hoon Kim, Sang-Ho Lee. (2025). BIM Adoption and Implementation Challenges in Mongolia. Proceedings of the 6th International Conference on Civil and Building Engineering Informatics (ICCBEI), January 8-11, Hong Kong, China.
5. Khuvilai Erdene, Sang-Ho Lee. (2024). Towards Digital Twin Methodology: BIM-based Railway Sleeper Maintenance Model Enabled by Semantic Technology. KSCE CELeN 2024, October 17, ICC Jeju, South Korea.
6. Sang-Ho Lee, Khuvilai Erdene. (2024). Development of a Strategic Plan for BIM adoption in Mongolia. International Roundtable Meeting “BIM & Digital Construction” at Mongolian Association of Civil Engineers Annual Conference by MACE & the Affordable Housing and Resilient Urban Renewal Project (AHURP), June 14, Ulaanbaatar, Mongolia.
7. Khuvilai Erdene, Inseop Yun, Sang-Ho Lee. (2023). BIM and Semantic Web Technology Based Bridge Deck Condition Assessment. Session 9, KIBIM Annual Conference 2023 “BIM in the AI Era”, June 9, Seoul, Korea.
8. Khuvilai Erdene, Sang-Ho Lee. (2020). Ontology Based Knowledge Management for Railway Track Inspection. Rapid Ph.D. presentation session, LDAC2020 – 8th Linked Data in Architecture and Construction Workshop, June 19, Dublin, Ireland.

9. Khuvilai Erdene, Sang-Ho Lee. (2019). Extension of IFC-Rail Schema for the Representation of Railway Infrastructure Model Information. Tohoku-Yonsei Student Seminar, Infrastructure Systems Joint (ISJ) Workshop, November 21, Sendai, Japan.
10. Sang-Ho Lee, Kyou-Won Choi, Khuvilai Erdene. (2019). IFC BIM-based Digitalization for Bridge Maintenance Information. KSCE 2019 Convention "Conference & Civil Expo", pp.435-436, October 16-18, Pyeongchang, South Korea.
11. Khuvilai Erdene, Sang-Ho Lee. (2018). Generation and Application of Standard Based Information Model for Railway Infrastructure. Tohoku-Yonsei Student Seminar, Infrastructure Systems Joint (ISJ) Workshop, November 12, Seoul, South Korea.
12. Khuvilai Erdene, Sang-Ho Lee. (2018). Infrastructure Asset Management: Railway Track Maintenance Ontology. 4th International Conference on Computational Design in Engineering (CODE), April 1-4, Changwon, Korea.
13. Khuvilai Erdene, Sugar Mijir. (2015). Pre-tensioned Reinforced Concrete Beam Strength Design Assessment. Mongolia – Japan Joint seminar between Mongolian University of Science and Technology and Nagoya University, Ulaanbaatar, Mongolia.
14. Khuvilai Erdene, Sugar Mijir. (2015). Pre-tensioned Reinforced Concrete Beam Strength Design Research. Proceedings of 9th Mongolia-Korea Joint Mini Symposium on Civil & Environmental Engineering between MUST and Seoul National University, June 17, Ulaanbaatar, Mongolia.

D. Үндэсний хурлын эмхэтгэлүүд / Domestic proceedings

1. Э. Хувилай, М. Сугар. (2015). Тулгуурт Тулж Хүчитгэсэн Дамнурууны Бат Бэхийн Судалгаа. Шинжлэх Ухаан Технологийн Их Сургуулийн Магистрант, докторантын эрдэм шинжилгээний бүтээлийн эмхэтгэл №13/177, Улаанбаатар, Монгол Улс.

E. Олон улсын хурлын ханын самбар / International conference poster

1. Tae Ho Kwon, Seong Geun Jang, Khuvilai Erdene, Sang-Ho Lee. (2017). Automatic Assessment of Sleepers in Railway by using Image Processing and BIM. KSCE Annual Conference, pp. 1421-1422, October 2017, South Korea

F. Бусад/ Others

1. "Монгол Улсад Барилгын мэдээлэлтэй загварчлал (BIM) нэвтрүүлэх стратеги төлөвлөгөө, замын зураглал боловсруулах (Development of a Strategic Plan and Roadmap for BIM Adoption in Mongolia)" төсөл, 2023.09-

2024.06. Төслийн нарийн бичиг судлаач (Project coordinator). Төслийн тайлан боловсруулалтад оролцсон (Contribution to the project final report).
Хамтрагч: Ёнсэй Их Сургууль, БНСУ-ын Барилгын Инженерүүдийн Холбоо (KSCE), Монголын Барилгын Инженерүүдийн Холбоо (MACE), Барилгын Хөгжлийн Төв.

2. Khuvilai Erdene., et.al. with Faculty Advisors: Hansen M.R., Sugar M., Duinkherjav Ya. (2014) Big Beam 2014 Contest Report, Zone 7, Team 5. Precast/ Prestressed Concrete Institute (PCI), USA. (Олон улсын төмөрбетон дамнурууны тэмцээнд туршилт явуулан амжилттай оролцсон ба тайлан бэлтгэн илгээсэн.)

Дээрх эрдэм шинжилгээний бүтээлийн жагсаалт нь үнэн зөв бөгөөд энэхүү жагсаалтаас үүдэлтэй аливаа асуудлын хариуцлагыг хүлээхээ зохиогч миний бие баталж байна.

I hereby declare that all the publication records mentioned above are in accordance with the truth and fact as per my knowledge and I hold the responsibility for the correctness of the above-mentioned particulars.

Бүтээлийн жагсаалт гаргасан
/ Publication list by:

Зохиогч Э. Хувилай
Khuvilai Erdene, Author