

Lista lucrări

Balázs Vass

Teza de doctorat

- [T1] **B. Vass**, “Modeling and Enumerating Geographically Correlated Failure Events in Communication Networks”, BME, Budapest, Hungary

Brevete de invenție și alte titluri de proprietate industrială

Cărți și capitole de cărți

- [B4] **B. Vass**, “Regional Failure Events in Communication Networks: Models, Algorithms and Applications”, Springer, 2022
- [B3] **B. Vass**, J. Tapolcai, D. Hay, J. Oostenbrink, F. A. Kuipers, “How to Model and Enumerate Geographically Correlated Failure Events in Communication Networks”, in Guide to Disaster-Resilient Communication Networks, Springer, 2020
- [B2] T. Gomes, L. Martins, R. Girao-Silva, D. Tipper, A. Pašić, **B. Vass**, L. Garrote, U. Nunes, M. Zachariasen, J. Rak, “Enhancing Availability for Critical Services”, in Guide to Disaster-Resilient Communication Networks, Springer, 2020
- [B1] T. Gomes, D. Santos, R. Girão-Silva, L. Martins, B. Nedic, M. Gunkel, F. Dikbiyik, **B. Vass**, J. Tapolcai, J. Rak, “Disaster-Resilient Routing Schemes for Regional Failures”, in Guide to Disaster-Resilient Communication Networks, Springer, 2020

Articole/studii, publicate în reviste din fluxul științific internațional principal

- [J10] E. R. Bérczi-Kovács, P. Gyimesi, **B. Vass**, J. Tapolcai, ”*DateLine: Efficient Algorithm for Computing Region Disjoint Paths in Backbone Networks*,” In IEEE Journal on Selected Areas in Communications (JSAC), 2025, doi: 10.1109/JSAC.2025.3528810

- [J9] T. Lévai, **B. Vass**, G. Rétvári, "Programmable Real-time Scheduling of Disaggregated Network Functions: A Theoretical Model," In IEEE Transactions on Network and Service Management (TNSM), 2025, doi: 10.1109/TNSM.2025.3531989
- [J8] **B. Vass**, E. R. Bérczi-Kovács, Á. Fraknói, C. Raiciu, and G. Rétvári, "Charting the Complexity Landscape of Compiling Packet Programs to Reconfigurable Switches," in IEEE/ACM Transactions on Networking, 2024 pp. 1-14, doi: 10.1109/TNET.2024.3424337
- [J7] **B. Vass**, B. É. Nagy, B. Brányi, and J. Tapolcai, "The Complexity Landscape of Disaster-Aware Network Extension Problems," in Networks, Wiley, 2023, pp. 1-14, doi: <https://doi.org/10.1002/net.22199>
- [J6] **B. Vass**, E. Bérczi-Kovács, Á. Barabás, Zs. L. Hajdú; J. Tapolcai, "A Whirling Dervish: Polynomial-Time Algorithm for the Regional SRLG-disjoint Paths Problem", IEEE-ACM Transactions on Networking, 2023
- [J5] **B. Vass**, E. Bérczi-Kovács, and J. Tapolcai, "Enumerating Maximal Shared Risk Link Groups of Circular Disk Failures Hitting k Nodes", IEEE-ACM Transactions on Networking, 2021
- [J4] A. Pašić, R. Girão-Silva, F. Mogyorósi, **B. Vass**, T. Gomes, P. Babarzi, P. Revisnyei, J. Tapolcai, J. Rak "eFRADIR: An Enhanced FRAMework for Disaster Resilience", IEEE Access, 2021
- [J3] **B. Vass**, J. Tapolcai, Z. Heszberger, J. Bíró, D. Hay, F. A. Kuipers, J. Oostenbrink, A. Valentini, L. Rónyai, "Probabilistic Shared Risk Link Groups Modelling Correlated Resource Failures Caused by Disasters", IEEE Journal on Selected Areas in Communications, 2021
- [J2] J. Tapolcai, L. Rónyai, **B. Vass**, and L. Gyimóthi, "Fast Enumeration of Regional Link Failures Caused by Disasters with Limited Size", IEEE-ACM Transactions on Networking, 2020
- [J1] **B. Vass**, L. Németh, J. Tapolcai, "The Earth is Nearly Flat: Precise and Approximate Algorithms for Detecting Vulnerable Regions of Networks in Plane and on Sphere", Networks, Wiley, 2020

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- [C28] A. G. Alcoz, **B. Vass**, P. Namyar, B. Arzani, G. Rétvári, and L. Vanbever, "Everything Matters in Programmable Packet Scheduling," in 22nd USENIX Symposium on Networked Systems Design and Implementation (NSDI), Philadelphia, Pennsylvania, USA, April 2025.

- [C27] **B. Vass**, P. Revisnyei, and A. Pašić ” *Computing Safest st-Paths in Backbone Networks: Efficiently Solvable Cases and Fast Heuristics*,” in IEEE RNDM - International Workshop on Resilient Network Design and Modeling, Pompeii, Italy, 2024
- [C26] T. Lévai, **B. Vass**, G. Rétvári ” *Programmable Real-Time Scheduling of Disaggregated Network Functions*,” in IFIP Networking Conference (IFIP Networking), Thessaloniki, Greece, 2024
- [C25] **B. Vass**, E. Bérczi-Kovács, P. Gyimesi, and J. Tapolcai, ” *Efficient Computing of Disaster-Disjoint Paths: Greedy and Beyond*,” in IEEE INFOCOM WKSHP, Vancouver, Canada, 2024
- [C24] E. Bérczi-Kovács, P. Gyimesi, **B. Vass**, and J. Tapolcai, ” *Efficient Algorithm for Region-Disjoint Survivable Routing in Backbone Networks*,” in IEEE INFOCOM, Vancouver, Canada, 2024
- [C23] **B. Vass**, B. Brányi, B. É. Nagy, J. Tapolcai, “On the Complexity of Disaster-Aware Network Extension Problems,” in Int. Workshop on Resilient Networks Design and Modeling (RNDM), Compiègne, France, 2022.
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- [C21] **B. Vass**, E. Bérczi-Kovács, Á. Barabás, Z. L. Hajdú, and J. Tapolcai, “*Polynomial-Time Algorithm for the Regional SRLG-disjoint Paths Problem*,” in Proc. IEEE INFOCOM, London, United Kingdom, 2022.
- [C20] **B. Vass**, and J. Tapolcai, “Essence of Geographically Correlated Failure Events in Communication Networks,” in IEEE/IFIP Network Operations and Management Symposium, 2022.
- [C19] **B. Vass**, Á. Fraknoi, E. Bérczi-Kovács, G. Rétvári, ” *Compiling packet programs to dRMT switches: theory and algorithms*”, P4 Workshop in Europe (EuroP4 '22), Rome, Italy, 2022
- [C18] **B. Vass**, B. Brányi, B. É. Nagy, and J. Tapolcai, “On the Complexity of Disaster-Aware Network Extension Problems”, in Int. Workshop on Resilient Networks Design and Modeling (RNDM), Compiègne, France, 2022.
- [C17] **B. Vass**, Cs. Sarkadi, G. Rétvári, “Programmable Packet Scheduling With SP-PIFO: Theory, Algorithms and Evaluation”, in Proc. IEEE INFOCOM Workshops, London, UK, 2022
- [C16] **B. Vass**, E. Bérczi-Kovács, Á. Barabás, Zs. L. Hajdú; J. Tapolcai, “Polynomial-Time Algorithm for the Regional SRLG-disjoint Paths Problem”, in Proc. IEEE INFOCOM, London, UK, 2022

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- [C14] **B. Vass**, E. Bérczi-Kovács, C. Raiciu, G. Rétvári, "Compiling Packet Programs to Reconfigurable Switches: Theory and Algorithms", P4 Workshop in Europe (EuroP4 '20), Barcelona, Spain, 2020
- [C13] B. Németh, Y.-A. Pignolet, M. Rost, S. Schmid, **B. Vass**, "Cost-Efficient Embedding of Virtual Networks With and Without Routing Flexibility", IEEE IFIP Networking, Paris, France, 2020
- [C12] D. Haja, **B. Vass**, L. Toka, "Towards making big data applications network-aware in edge-cloud systems", IEEE 8th International Conference on Cloud Networking (CloudNet), Coimbra, Portugal, 2019
- [C11] A. Valentini, **B. Vass**, J. Oostenbrink, L. Csák, F. A. Kuipers, B. Pace, D. Hay and J. Tapolcai, "Network Resiliency Against Earthquakes", IEEE Int. Workshop on Resilient Networks Design and Modeling (RNDM), Nicosia, Cyprus, 2019
- [C10] A. Pašić, R. Girao-Silva, **B. Vass**, T. Gomes, F. Mogyorósi, P. Babarczi, J. Tapolcai, "FRADIR-II: An Improved Framework for Disaster Resilience", IEEE Int. Workshop on Resilient Networks Design and Modeling (RNDM), Nicosia, Cyprus, 2019
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- [C6] J. Tapolcai, **B. Vass**, Z. Heszberger, J. Biró, D. Hay, F. A. Kuipers, and L. Rónyai, "A Tractable Stochastic Model of Correlated Link Failures Caused by Disasters", in Proc. IEEE INFOCOM, Honolulu, HI, USA, 2018.
- [C5] J. Tapolcai, L. Rónyai, **B. Vass**, and L. Gyimóthi, "List of Shared Risk Link Groups Representing Regional Failures with Limited Size", in Proc. IEEE INFOCOM, Atlanta, GA, USA, 2017

- [C4] **B. Vass**, E. Bérczi-Kovács, and J. Tapolcai, “Enumerating Shared Risk Link Groups of Circular Disk Failures Hitting k nodes”, in Proc. International Workshop on Design Of Reliable Communication Networks (DRCN), Munich, Germany, 2017.
- [C3] **B. Vass**, E. Bérczi-Kovács, and J. Tapolcai, “Enumerating Circular Disk Failures Covering a Single Node”, in Int. Workshop on Resilient Networks Design and Modeling (RNDM), Halmstad, Sweden, 2016.
- [C2] **B. Vass**, E. Bérczi-Kovács, and J. Tapolcai, “Shared Risk Link Group Enumeration of Node Excluding Disaster Failures”, in Int. Conference on Networking and Network Applications (NaNA), Hakodate (Hokkaido), Japan, 2016. Winner of Best Paper Award.
- [C1] **B. Vass**, “Shared Risk Link Groups of Disaster Failures”, in IEEE Conference on Computer Communications Workshop, 2016.

Alte lucrări și contribuții științifice sau, după caz, din domeniul creației artistice