PUBLICATIONS OF DR. PÉTER BABARCZI

JOURNAL PUBLICATIONS **(TOTAL IMPACT: 64.706)**

[J18] Ferenc Mogyorósi, Péter Babarczi, Johannes Zerwas, Andreas Blenk, and Alija Pašić, *Resilient Control Plane Design for Virtualized 6G Core Networks*, IEEE Transactions on Network and Service Management (**IEEE TNSM**), vol. 19, no. 3, Special Issue on Recent Advances in the Design and Management of Reliable Communication Networks, pp. 2453-2467, impact factor 5.30, 2022.

[J17] Péter Babarczi, *Resilient Control Plane Design for Virtual Software Defined Networks*, IEEE Transactions on Network and Service Management (**IEEE TNSM**), vol. 18, no. 3, Special Issue on Design and Management of Reliable Communication Networks, pp. 2557-2569, impact factor 4.758, 2021.

[J16] Alija Pašić, Rita Girão-Silva, Ferenc Mogyorósi, Balázs Vass, Teresa Gomes, Péter Babarczi, Péter Revisnyei, János Tapolcai, and Jacek Rak, *eFRADIR: An Enhanced FRAmework for DIsaster Resilience*, **IEEE Access**, vol. 9, pp. 13125-13148, impact factor 3.476, 2021.

[J15] Péter Babarczi, Markus Klügel, Alberto Martínez Alba, Mu He, Johannes Zerwas, Patrick Kalmbach, Andreas Blenk and Wolfgang Kellerer, *A Mathematical Framework for Measuring Network Flexibility*, Elsevier Computer Communications (**Elsevier ComCom**), vol. 164, Special Issue on IFIP Networking 2019, pp. 13-24, impact factor 3.167, 2020.

[J14] Alija Pašić, Péter Babarczi, János Tapolcai, Erika Bérczi-Kovács, Zoltán Király, and Lajos Rónyai, *Minimum Cost Survivable Routing Algorithms for Generalized Diversity Coding*, IEEE/ACM Transactions on Networking (**IEEE/ACM ToN**), vol. 28, no. 1, pp. 289-300, impact factor 3.560, 2020.

[J13] János Tapolcai, Gábor Rétvári, Péter Babarczi, and Erika Bérczi-Kovács, *Scalable and Efficient Multipath Routing via Redundant Trees*, IEEE Journal on Selected Areas in Communications (**IEEE JSAC**), vol. 37, no. 5, Series on Network Softwarization & Enablers, pp. 982-996, impact factor 11.420, 2019.

[J12] Jose Yallouz, Ori Rottenstreich, Péter Babarczi, Avi Mendelson, and Ariel Orda, *Minimum-Weight Link-Disjoint Node-``Somewhat Disjoint'' Paths*, IEEE/ACM Transactions on Networking (**IEEE/ACM ToN**), vol. 26, no. 3, pp. 1110-1122, impact factor 3.597, 2018.

[J11] Wolfgang Kellerer, Arsany Basta, Péter Babarczi, Andreas Blenk, Mu He, Markus Klügel and Alberto Martínez Alba, *How to Measure Network Flexibility? A Proposal for Evaluating Softwarized Networks*, IEEE Communications Magazine (**IEEE ComMag**), vol. 56, no. 10, pp. 1-7, impact factor 10.356, 2018.

[J10] Alija Pašić, Péter Babarczi, and János Tapolcai, *Unambiguous Switching Link Group Failure Localization in All-Optical Networks*, Wiley Networks Journal (**Wiley Networks**), vol. 70, no. 4, Special Issue on Design of Resilient Commun. Networks, pp. 327-341, impact factor 1.121, 2017.

[J09] Péter Babarczi, János Tapolcai, Alija Pašić, Lajos Rónyai, Erika Bérczi-Kovács, and Muriel Médard, *Diversity Coding in Two-Connected Networks*, IEEE/ACM Transactions on Networking (**IEEE/ACM ToN**), vol. 25, no. 4, pp. 2308-2319, impact factor 3.110, 2017.

[J08] Alija Pašić, Péter Babarczi, and Attila Kőrösi, *Diversity Coding-Based Survivable Routing with QoS and Differential Delay Bounds*, Elsevier Optical Switching and Networking (**Elsevier OSN**), Special Issue on Reliable Network Design and Modeling of Resilient Optical Networks, pp. 118-128, impact factor 1.113, 2017.

[J07] János Tapolcai, József Bíró, Péter Babarczi, András Gulyás, Zalán Heszberger, and Dirk Trossen, *Optimal False-Positive-Free Bloom Filter Design for Scalable Multicast Forwarding*, IEEE/ACM Transactions on Networking (**IEEE/ACM ToN**), vol. 23, no. 6, pp. 1832-1845, impact factor 2.186, 2015.

[J06] János Tapolcai, Pin-Han Ho, Péter Babarczi, and Lajos Rónyai, *Neighborhood Failure Localization in All-Optical Networks via Monitoring Trails*, IEEE/ACM Transactions on Networking (**IEEE/ACM ToN**), vol. 23, no. 6, 1719-1728, impact factor 2.186, 2015.

[J05] Péter Babarczi, Alija Pašić, János Tapolcai, Felicián Németh, and Bence Ladóczki, *Instantaneous Recovery of Unicast Connections in Transport Networks: Routing versus Coding*, Elsevier Computer Networks (**Elsevier ComNet**), vol. 82, no. Special Issue on Robust and Fault-Tolerant Communication Networks, pp. 68-80, impact factor 1.446, 2015.

[J04] János Tapolcai, Pin-Han Ho, Péter Babarczi, and Lajos Rónyai*, On Signaling-Free Failure Dependent Restoration in All-Optical Mesh Networks*, IEEE/ACM Transactions on Networking (**IEEE/ACM ToN**), vol. 22, no. 4, pp. 1067-1078, impact factor 1.811, 2014.

[J03] Péter Babarczi, Gergely Biczók, Harald Øverby, János Tapolcai, and Péter Soproni, *Realization Strategies of Dedicated Path Protection: A Bandwidth Cost Perspective*, Elsevier Computer Networks (**Elsevier ComNet**), vol. 57, no. 9, pp. 1974-1990, impact factor 1.282, 2013.

[J02] János Tapolcai, Pin-Han Ho, Lajos Rónyai, Péter Babarczi, and Bin Wu, *Failure Localization for Shared Risk Link Groups in All-Optical Mesh Networks using Monitoring Trails*, IEEE/OSA Journal of Lightwave Technology (**IEEE/OSA JLT**), vol. 29, no. 10, pp. 1597-1606, impact factor 2.784, 2011.

[J01] Péter Babarczi, János Tapolcai, and Pin-Han Ho, *Adjacent Link Failure Localization with Monitoring Trails in All-Optical Mesh Networks*, IEEE/ACM Transactions on Networking (**IEEE/ACM ToN**), vol. 19, no. 3, pp. 907-920, impact factor 2.033, 2011.

CONFERENCE PUBLICATIONS

[C28] Péter Babarczi, Ferenc Mogyorósi, and Alija Pašić, *Intelligent Control Plane Design for Virtual Software-Defined Networks*, in Proc. of the 13th Workshop on Reliable Networks Design and Modeling (**RNDM**), pp. 1-7, Hamburg, Germany, 2023.

[C27] János Tapolcai, Péter Babarczi, Pin-Han Ho, and Lajos Rónyai, *Resilient Routing Table Computation Based on Connectivity Preserving Graph Sequences*, in Proc. of the 42th IEEE International Conference on Computer Communications (**INFOCOM**), pp. 1-10, New York, NY, USA, 2023.

[C26] Péter Babarczi, Gábor Rétvári, Lajos Rónyai, and János Tapolcai, *Routing on the Shortest Pairs of Disjoint Paths*, in Proc. of the IFIP Networking Conference (**IFIP Networking**), pp. 1-9, Catania, Italy, 2022.

[C25] Alberto Martínez Alba, Péter Babarczi, Andreas Blenk, Mu He, Patrick Kalmbach, Johannes Zerwas, and Wolfgang Kellerer, *Modeling the Cost of Flexibility in Communication Networks*, in Proc. of the 40th IEEE International Conference on Computer Communications (**INFOCOM**), pp. 1-10, Vancouver, Canada, 2021.

[C24] Alija Pašić, Rita Girão-Silva, Balázs Vass, Teresa Gomes, Ferenc Mogyorósi, Péter Babarczi, and János Tapolcai, *FRADIR-II: An Improved Framework for Disaster Resilience*, in Proc. of the 11th Workshop on Reliable Networks Design and Modeling (**RNDM**), pp. 1-7, Nicosia, Cyprus, 2019.

[C23] Markus Klügel, Mu He, Wolfgang Kellerer, and Péter Babarczi, *A Mathematical Measure for Flexibility in Communication Networks*, in Proc. of the IFIP Networking Conference (**IFIP Networking**), pp. 1-9, Warsaw, Poland, 2019.

[C22] Alija Pašić, Rita Girão-Silva, Balázs Vass, Teresa Gomes, and Péter Babarczi, *FRADIR: A Novel Framework for Disaster Resilience*, in Proc. of the 10th Workshop on Reliable Networks Design and Modeling (**RNDM**), pp. 1-7, Spitsbergen, Norway, 2018.

[C21] Patrick Kalmbach, Johannes Zerwas, Péter Babarczi, Andreas Blenk, Wolfgang Kellerer, and Stefan Schmid, *Empowering Self-Driving Networks*, in Proc. of the ACM SIGCOMM Workshop on Self-Driving Networks (**ACM SelfDN**), pp. 8-14, Budapest, Hungary, 2018.

[C20] Jose Yallouz, Ori Rottenstreich, Péter Babarczi, Avi Mendelson, and Ariel Orda, *Optimal Link-Disjoint Node-``Somewhat Disjoint'' Paths*, in Proc. of the 24th IEEE International Conference on Network Protocols (**IEEE ICNP**), pp. 1-10, Singapore, 2016.

[C19] Massimo Tornatore, Joao André, Péter Babarczi, T. Braun, E. Følstad, P. Heegaard, A. Hmaity, M. Furdek, L. Jorge, W. Kmiecik, C. Mas Machuca, L. Martins, C. Medeiros, F. Musumeci, A. Pašić, J. Rak, S. Simpson, R. Travanca, and A. Voyiatzis, *A Survey on Network Resiliency Methodologies against Weather-Based Disruptions*, in Proc. of the 8th Workshop on Reliable Networks Design and Modeling (**RNDM**), pp. 23-34, Halmstad, Sweden, 2016.

[C18] Alija Pašić and Péter Babarczi, *Switching Link Group Failure Localization via Monitoring Trails in All-Optical Networks*, in Proc. of the 8th Workshop on Reliable Networks Design and Modeling (**RNDM**), pp. 92-99, Halmstad, Sweden, 2016.

[C17] János Tapolcai, Gábor Rétvári, Péter Babarczi, Erika Bérczi-Kovács, Panna Kristóf, and Gábor Enyedi, *Scalable and Efficient Multipath Routing: Complexity and Algorithms*, in Proc. of the 23rd IEEE International Conference on Network Protocols (**IEEE ICNP**), pp. 376-385, San Francisco, CA, USA, 2015.

[C16] Alija Pašić and Péter Babarczi, *Delay Aware Survivable Routing with Network Coding in Software Defined Networks*, in Proc. of the 7th Workshop on Reliable Networks Design and Modeling (**RNDM**), pp. 41-47, Munich, Germany, 2015.

[C15] Alija Pašić, János Tapolcai, Péter Babarczi, E. Bérczi-Kovács, Zoltán Király, and Lajos Rónyai, *Survivable Routing Meets Diversity Coding*, in Proc. of the IFIP Networking Conference (**IFIP Networking**), pp. 1-9, Toulouse, France, 2015.

[C14] Péter Babarczi, János Tapolcai, Lajos Rónyai, and Muriel Médard, *Resilient Flow Decomposition of Unicast Connections with Network Coding*, in Proc. of the IEEE International Symposium on Information Theory (**IEEE ISIT**) pp. 116-120, Honolulu, HI, USA, 2014.

[C13] Péter Babarczi, János Tapolcai, Alija Pašić, Sara Rahimi, and Pin-Han Ho, *New Addressing Scheme to Increase Reliability in MPLS with Network Coding*, in Proc. of the 9th Intl. Workshop on the Design of Reliable Communication Networks (**DRCN**), pp. 36-43, Budapest, Hungary, 2013.

[C12] János Tapolcai, Pin-Han Ho, Péter Babarczi, and Lajos Rónyai, *On Achieving All-Optical Failure Restoration via Monitoring Trails*, in Proc. of the 32nd IEEE International Conference on Computer Communications (**IEEE INFOCOM**) Mini-Conference, pp. 380-384, Turin, Italy, 2013.

[C11] Éva Hosszu, János Tapolcai, Lajos Rónyai, Péter Soproni, Péter Babarczi, and Pin-Han Ho, *Fast Failure Localization in All-Optical Networks with Length-Constrained Monitoring Trails*, in Proc. of the 4th Workshop on Reliable Networks Design and Modeling (**RNDM**), pp. 677-683, Saint Petersburg, Russia, 2012.

[C10] János Tapolcai, András Gulyás, Zalán Heszberger, József Bíró, Péter Babarczi, and Dirk Trossen, *Stateless Multi-Stage Dissemination of Information: Source Routing Revisited*, in Proc. of the

IEEE Global Communications Conference (**IEEE GLOBECOM**), pp. 2797-2802, Anaheim, CA, USA, 2012.

[C09] Harald Øverby, Gergely Biczók, Péter Babarczi, and János Tapolcai, *Cost Comparison of 1+1 Path Protection Schemes: A Case for Coding*, in Proc. of the IEEE International Conference on Communications (**IEEE ICC**), pp. 3067-3072, Ottawa, ON, Canada, 2012.

[C08] Péter Babarczi, János Tapolcai, Pin-Han Ho, and Muriel Médard, *Optimal Dedicated Protection Approach to Shared Risk Link Group Failures using Network Coding*, in Proc. of the IEEE Intl. Conference on Communications (**IEEE ICC**), pp. 3051-3055, Ottawa, ON, Canada, 2012.

[C07] Péter Soproni, Péter Babarczi, János Tapolcai, Tibor Cinkler, and Pin-Han Ho, *A Meta-Heuristic Approach for Non-Bifurcated Dedicated Protection in WDM Optical Networks*, in Proc. of the 8th International Workshop on the Design of Reliable Communication Networks (**DRCN**), pp. 110-117, Krakow, Poland, 2011.

[C06] Péter Babarczi, János Tapolcai, and Pin-Han Ho, *SRLG Failure Localization with Monitoring Trails in All-Optical Mesh Networks*, in Proc. of the 8th International Workshop on the Design of Reliable Communication Networks (**DRCN**), pp. 188-195, Krakow, Poland, 2011.

[C05] Bin Wu, Pin-Han Ho, János Tapolcai, and Péter Babarczi, *Optimal Allocation of Monitoring Trails for Fast SRLG Failure Localization in All-Optical Networks*, in Proc. of the IEEE Global Communications Conference (**IEEE GLOBECOM**), pp. 1-5, Miami, FL, USA, 2010.

[C04] Péter Babarczi, János Tapolcai, Pin-Han Ho, and Bin Wu, *SRLG Failure Localization in Transparent Optical Mesh Networks with Monitoring Trees and Trails*, in Proc. of the 12th Intl. Conference on Transparent Optical Networks (**ICTON**), pp. 1-4, Munich, Germany, 2010.

[C03] Péter Babarczi, János Tapolcai, and Pin-Han Ho, *Availability-Constrained Dedicated Segment Protection in Circuit Switched Mesh Networks*, in Proc. of the 1st Workshop on Reliable Networks Design and Modeling (**RNDM**), pp. 1-6, Saint Petersburg, Russia, 2009.

[C02] János Tapolcai, Péter Babarczi, and Pin-Han Ho, *Dedicated Protection Scheme with Availability Guarantee*, in Proc. of the 13th International Telecommunications Network Strategy and Planning Symposium (**Networks**), pp. 1-9, Budapest, Hungary, 2008.

[C01] Péter Babarczi and János Tapolcai, *End-to-End Service Availability Guarantee With Generalized Dedicated Protection*, in Proc. of the Sixth International Symposion Communication Systems, Networks and Digital Signal Processing (**CSNDSP**), pp. 511-515, Graz, Austria, 2008.

BOOKS AND BOOK CHAPTERS

[B04] Teresa Gomes, Luísa Jorge, Rita Girão-Silva, Jose Yallouz, Péter Babarczi, and Jacek Rak, *Fundamental Schemes to Determine Disjoint Paths for Multiple Failure Scenarios*, Chapter 17 in Guide to Disaster-resilient Communication Networks, Edited by J. Rak and D. Hutchinson, pp. 429-453, Publisher: **Springer,** 2020.

[B03] Massimo Tornatore, Péter Babarczi, Omran Ayoub, Sifat Ferdousi, Rafael Lourenco, Johannes Zerwas, Andreas Blenk, Markus Klügel, and Wolfgang Kellerer, *Alert-Based Network Reconfiguration and Data Evacuation*, Chapter 14 in Guide to Disaster-resilient Communication Networks, Edited by J. Rak and D. Hutchinson, pp. 353-377, Publisher: **Springer,** 2020.

[B02] János Tapolcai, Pin-Han Ho, Péter Babarczi, and Lajos Rónyai, *Internet Optical Infrastructure - Issues on Monitoring and Failure Restoration*, pp. 1-212, Publisher: **Springer**, 2014.

[B01] Péter Babarczi and János Tapolcai, *Protection Survivability Architectures: Principles and Challenging Issues*, Chapter 2 in Resilient Optical Network Design: Advances in Fault-Tolerant Methodologies, Edited by Y. S. Kavian and M. S. Leeson, pp. 27-56, Publisher: **IGI Global**, 2011.

SHORT PUBLICATIONS

[D02] Bence Ladóczki, Carolina Fernandez, Oscar Moya, Péter Babarczi, János Tapolcai, and Daniel Guija, *Robust Network Coding in Transport Networks*, in Proc. of the 34th IEEE International Conference on Computer Communications (**IEEE INFOCOM**) Demo session, pp. 27-28, Hong Kong, 2015.

[D01] Péter Babarczi, János Tapolcai, and Massimo Tornatore, *Comments on "Availability Formulations for Segment Protection"*, IEEE Transactions on Communications (**IEEE TCom**), vol. 61, no. 6, p. 2591, impact factor 1.979, 2013.

Budapest, 1st August, 2023.