

A kutatási témában **a kutatás kezdete óta (2001)** az OTKA nyilvántartási szám feltüntetésével megjelent (vagy közlésre elfogadott) publikációk listája.

## 2001

### Folyóirat cikkek

#### Sztrik János

1. Stochastic simulation of Markov-modulated finite-source queueing systems  
**Journal of Mathematical Sciences** 105 (2001) 2615-2625

### Konferencia előadások és kiadványok

#### Almási Béla

1. Performability Modeling a Client-Server Communication System with Randomly Changing Parameters Using MOSEL  
**5<sup>th</sup> International Workshop on Performability Modeling of Computer and Communication Systems, Erlangen, Germany** (2001)
2. Performability Modeling of Non-homogeneous Terminal Systems Using MOSEL  
**5<sup>th</sup> International Workshop on Performability Modeling of Computer and Communication Systems, Erlangen, Germany** (2001)
3. MARKMOD – A software tool to implement finite-source Markov-modulated queueing systems  
**XXV Hungarian Conference of Operations Research, Debrecen, Hungary** (2001)
4. Optimization problems in non-reliable terminal systems using MOSEL  
**XXV Hungarian Conference of Operations Research, Debrecen, Hungary** (2001)
5. Modeling a Communication System with Randomly Changing Parameters Using MOSEL  
**COMCON8, 8<sup>th</sup> International Conference on Advances in Communication and Control, Crete, Greece,** (2001)

#### Sztrik János

1. Markov-Modulated Finite-Source Queueing Models and their Applications  
**XXI Seminar on Stability Problems of Stochastic Models, Eger, Hungary** (2001)
2. An Educational Tool for Queueing Theory  
**5<sup>th</sup> International Conference on Applied Informatics, Eger, Hungary** (2001)  
Co-authors: A. Kuki, G. Bolch
3. Performability Modeling a Client-Server Communication System with Randomly Changing Parameters Using MOSEL  
**5<sup>th</sup> International Workshop on Performability Modeling of Computer and Communication Systems, Erlangen, Germany** (2001)  
Co-authors: B. Almási, G. Bolch
4. Performability Modeling of Non-homogeneous Terminal Systems Using MOSEL  
**5<sup>th</sup> International Workshop on Performability Modeling of Computer and Communication Systems, Erlangen, Germany** (2001)  
Co-authors: B. Almási, G. Bolch
5. Simulation of Markov-modulated finite-source queueing systems  
**XXV Hungarian Conference of Operations Research, Debrecen, Hungary** (2001)  
Co-authors: M. Kósa, O. Moller

6. Applying PEPSY-QNS for investigation of queueing systems  
**XXV Hungarian Conference of Operations Research, Debrecen, Hungary (2001)**  
Co-authors: A. Kuki, G. Bolch
7. MARKMOD – A software tool to implement finite-source Markov-modulated queueing systems  
**XXV Hungarian Conference of Operations Research, Debrecen, Hungary (2001)**  
Co-authors: B. Almási, G. Bolch
8. Optimization problems in non-reliable terminal systems using MOSEL  
**XXV Hungarian Conference of Operations Research, Debrecen, Hungary (2001)**  
Co-authors: B. Almási, M.Kósa
9. Modeling a Communication System with Randomly Changing Parameters Using MOSEL  
**COMCON8, 8<sup>th</sup> International Conference on Advances in Communication and Control, Crete, Greece, (2001)**  
Co-authors: B. Almási, G. Bolch
10. CAC Algorithm Based on Advanced Round Robin Method for QoS Networks  
**The 6<sup>th</sup> IEEE Symposium on Computers and Communications (ISCC 2001), Hammamet, Tunisia, (2001)**  
Co-authors: T. Marosits, S. Molnár

### Telek Miklós

1. Analysis of partial loss reward models and its application  
**Measuring, Modelling and Evaluation of Computer and Communication Systems (MMB2001),**  
(Aachen,  
Germany),  
Co-author: S. Rác
2. MAP based decomposition of tandem networks of  $M/PH/1(K)$  queues with MAP input  
**Measuring, Modelling and Evaluation of Computer and Communication Systems (MMB2001),**  
(Aachen,  
Germany),  
Co-author: A. Heindl
2. Time domain analysis of nmspn with pri transitions  
**9<sup>th</sup> Int. workshop on Petri Net Performance Models (Aachen, Germany )**  
Co-author: A. Horváth

**2002****Folyóirat cikkek****Lakatos László**

1. A discrete retrial system with uniformly distributed service time,  
**Annales Univ. Sci. Budapest., Sect. Comp.** (to appear)

**Sztrik János**

1. Customer motion in queueing models: The use of tangent vector fields  
**International Journal of Pure and Applied Mathematics** 2( 2002 ) 1-21  
Co-author: D. Baum
2. Markov-Modulated Finite-Source Queueing Models and their Applications  
**Journal of Mathematical Sciences** 111 (2002) 3895-3900
3. Simulation of machine interference in randomly changing environments  
**Yugoslav Journal of Operations Research** 12, No.2 ( 2002 ) 1-10  
Co-author: O. Moeller
4. Performance Modeling of Non-homogeneous Unreliable Multi-Server Systems Using MOSEL  
**Computers and Mathematics with Applications** ( to appear)  
Co-authors: A. Zreikat, G. Bolch
5. Solving queueing networks with PEPSY-QNS  
**Journal of Mathematical Sciences** ( to appear)  
Co-authors: A. Kuki, G. Bolch
6. Heterogeneous Finite-Source Retrial Queues  
**Journal of Mathematical Sciences** ( to appear)  
Co-authors: B. Almási, G. Bolch
7. The Effects of Service Disciplines on the Performance Measures of Markov Modulated Finite-Source Queueing Systems  
**Journal of Mathematical Sciences** ( to appear)  
Co-authors: M. Kósa, O. Moller
8. Markov-modulated finite-source queueing models in evaluation of computer and communication systems  
**Computers and Mathematics with Applications** ( to appear)  
Co-author: Che Soong Kim

**Telek Miklós**

1. Output models of MAP/PH/1(K) queues for an efficient network decomposition  
**Performance Evaluation** 49 (2002) 321-339  
Co-author: A. Heindl
2. A partially blocking-queueing system with CBR/VBR and ABR/UBR arrival streams  
**Telecommunication Systems**, vol.19:1 (2002) pp.75-99.  
Co-authors: A.T. Andersen, S. Blaabjerg, G. Fodor
3. On providing blocking probability- and throughput guarantees in a multi-service environment  
**International Journal of Communication Systems**, 15:4 (2002) pp. 257-285.  
Co-authors: G. Fodor, S. Rác,

**Konferencia előadások és kiadványok****Almási Béla**

1. Stochastic Modelling of Multistage Interconnection Networks with MOSEL  
**XXII Seminar on Stability Problems of Stochastic Models, Varna, Bulgaria (2002)**

**Lakatos László**

1. Limit distributions for some cyclic-waiting queueing systems,  
**Ukrainian Math. Congress Sect.9. Probability theory and Math. Stat., Kiev, 2002, 102-106**

**Sztrik János**

1. Solving Queueing Problems by the Help of WINPEPSY  
**Proceedings of Informatics in the Hungarian Higher Education, Debrecen, Hungary ( 2002 )**  
1166-1171  
Co-authors: A. Kuki, G. Bolch ( in Hungarian )
2. A Key to Queueing Theory and its Applications  
**Proceedings of Informatics in the Hungarian Higher Education, Debrecen, Hungary ( 2002 )**  
1162-1165  
Co-authors: A. Gábor ( in Hungarian )
3. Asymptotic reliability analysis of complex telecommunication systems with bursty arrivals and service  
**Proceedings of MMR2002, Third International Conference on Mathematical Methods in Reliability Methodology and Practice, Trondheim, Norway, ( 2002 ) 623-626**
4. Solving finite source queueing problems with WinPepsy  
**XXII Seminar on Stability Problems of Stochastic Models, Varna, Bulgaria (2002)**  
Co-authors: A. Kuki, G. Bolch
5. Heterogeneous Finite-Source Retrial Queues  
**XXII Seminar on Stability Problems of Stochastic Models, Varna, Bulgaria (2002)**  
Co-authors: B. Almási, G. Bolch
6. The Effects of Service Disciplines on the Performance Measures of Markov Modulated Finite-Source Queueing Systems  
**XXII Seminar on Stability Problems of Stochastic Models, Varna, Bulgaria (2002)**  
Co-authors: M. Kósa, O. Moller
7. Asymptotic methods in modelling Markov-modulated finite-source queueing systems  
**Stochastik-Tage 2002, University of Magdeburg, Magdeburg, Germany (2002)**

**Telek Miklós**

1. MRMSolve: Distribution estimation of large Markov reward models  
**Tools 2002, pp.72-81**  
Co-authors: S. Rácz, A. Tari
2. PhFit: A general purpose phase type fitting tool  
**Tools 2002, pp.82-91**  
Co-authors: A. Horváth
3. Moment bounds for acyclic discrete and continuous phase-type distributions of second order  
**In Proc. of UK Performance Evaluation Workshop, UKPEW 2002**  
Co-authors: A. Heindl
4. Markovian point process exhibiting multifractal behaviour and its application to traffic modeling  
**4th International Conference on Matrix-Analytic Methods in Stochastic models, MAM4, pp. 183-208.**  
Co-authors: A. Horváth

## **Research Reports**

### **Sztrik János**

1. Heterogeneous Finite-Source Retrial Queues  
Interner Bericht, TR-I4-02-04, **Univ. Erlangen**, Germany (2002)  
Co-author : B. Almási, G. Bolch
2. Homogeneous finite-source retrial queues with server subject to breakdowns and repairs  
Technical Report of Institute of Mathematics and Informatics, **Univesity of Debrecen**, 2002/17, ( 2002 )  
Co-authors: B. Almási, J. Roszik

A beszámolóhoz csatoltuk

### **Sztrik János:**

1. Customer motion in queueing models: The use of tangent vector fields  
**International Journal of Pure and Applied Mathematics** 2( 2002 ) 1-21  
Co-author: D. Baum
2. Markov-Modulated Finite-Source Queueing Models and their Applications  
**Journal of Mathematical Sciences** 111 (2002) 3895-3900
3. Simulation of machine interference in randomly changing environments  
**Yugoslav Journal of Operations Research** 12, No.2 ( 2002 ) 1-10  
Co-author: O. Moeller

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1. Output models of MAP/PH/1(K) queues for an efficient network decomposition  
**Performance Evaluation** 49 (2002) 321-339  
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2. On providing blocking probability- and throughput guarantees in a multi-service environment  
**International Journal of Communication Systems**, 15:4 (2002) pp. 257-285.  
Co-authors: G. Fodor, S. Rác,

cikkeinek 2-2 példányát, de csak **printelt** változatban, mert ez ideig nem kaptunk külön lenyomatot a kiadótól.

**2003****Folyóirat cikkek****Lakatos László**

1. A discrete retrial system with uniformly distributed service time  
**Annales Univ. Sci. Budapest., Sect. Comp.** 22 (2003) 225-234

**Sztrik János**

1. Performance Modeling of Non-homogeneous Unreliable Multi-Server Systems Using MOSEL  
**Computers and Mathematics with Applications** 46 (2003) 293-312  
Co-authors: A. Zreikat, G. Bolch
2. Markov-modulated finite-source queueing models in evaluation of computer and communication systems  
**Mathematical and Computer Modelling** 38 (2003) 961-968  
Co-author: Che Soong Kim
3. Analysing Markov-modulated finite-source queueing systems  
**Annales Univ. Sci. Budapest, Sec. Comp.** 22 (2003) 23-33  
Co-authors: B. Almási, G. Bolch
4. Heterogeneous Finite-Source Retrial Queues  
**Journal of Mathematical Sciences** ( to appear)  
Co-authors: B. Almási, G. Bolch

**Telek Miklós**

1. Acyclic discrete phase type distributions: Properties and a parameter estimation algorithm  
**Performance Evaluation** 54 (2003) 1-32  
Co-authors: A. Bobbio, A. Horváth, M. Scarpa

**Konferencia előadások és kiadványok****Lakatos László**

1. A retrial queueing system with urgent customers  
**XXIII Seminar on Stability Problems of Stochastic Models**, Pamplona, Spanyolország

**Sztrik János**

1. Heterogeneous Finite-Source Retrial Queues with Server Subject to Breakdowns and Repairs  
**Proceedings of XXIII Seminar on Stability Problems of Stochastic Models**, Pamplona, Spain (2003), 19 pages on the accompanying CD  
Co-authors: B. Almási, J. Roszik
2. Heterogeneous Finite-Source Retrial Queues in the Analysis of Communication Systems with CSMA/CD Protocols  
**Proceedings of the International Conference << Modern Mathematical Methods of Analysis and Optimization of Telecommunication Networks >>**, Gomel, Belarus, (2003) 39-45  
Co-authors: G. Bolch, J. Roszik
3. Homogeneous Finite-Source Retrial Queues with Server Subject to Breakdowns and Repairs  
**5th EURO/INFORMS Joint International Meeting**, Istanbul, Turkey  
Co-authors: B. Almási, J. Roszik

**Telek Miklós**

1. Stationary analysis of FSPNs with mutually dependent discrete and continuous parts  
**International Conference on Petri Net Performance Models - PNPM 2003**, Urbana, IL, USA, pp. 30-39,  
IEEE CS Press  
Co-authors: R. German, M. Gribaudo, G. Horváth
2. Approximate analysis of two class WFQ systems  
**Workshop on Performability Modeling of Computer and Communication Systems - PMCCS 2003**,  
Arlington, IL, USA, pp. 43-46  
Co-author: G. Horváth

**Research Reports**

**Sztrik János**

1. Heterogeneous finite-source retrial queues with server subject to breakdowns and repairs  
**Technical Report of Institute of Mathematics and Informatics**, University of Debrecen, 2003/3, ( 2003 )  
Co-authors: G. Bolch, J. Roszik
2. Modeling cellular networks using MOSEL  
**Technical Report of Institute of Informatics, University of Debrecen**, 2003/14, ( 2003 )  
Co-authors: J. Roszik, C. Kim

A beszámolóhoz csatoltuk

**Lakatos László**

1. A discrete retrial system with uniformly distributed service time  
**Annales Univ. Sci. Budapest., Sect. Comp.** 22 (2003) 225-234

**Sztrik János**

1. Performance Modeling of Non-homogeneous Unreliable Multi-Server Systems Using MOSEL  
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Co-authors: A. Zreikat, G. Bolch
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**Mathematical and Computer Modelling** 38 (2003) 961-968  
Co-author: Che Soong Kim
3. Analysing Markov-modulated finite-source queueing systems  
**Annales Univ. Sci. Budapest, Sec. Comp.** 22 (2003) 23-33  
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1. Acyclic discrete phase type distributions: Properties and a parameter estimation algorithm  
**Performance Evaluation** 54 (2003) 1-32  
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Debrecen, 2004. február 16.

Dr. Sztrik János  
témavezető