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# CURRICULUM VITAE

**Betty Baziana**

Dr.-Ing. in Electrical and Computer Engineering

## Personal Data

Betty (Peristera) Baziana received her Dr.-Ing. degree in Electrical and Computer Engineering from the National Technical University of Athens (NTUA), Greece in 2008. Her research interests include optical communications, optical networks architectures and transmission protocols, analytical modelling and optimization, and telecommunication systems simulation. She has more than 55 research publications in international journals, conferences proceedings with reviewers and book chapters, related to these fields. Today she is serving as a Laboratory Teaching Staff at the School of Electrical and Computer Engineering of NTUA. During the period 2000-2002 she was a research fellow of the University of Patras, Greece. Since 2002 she has been a researcher of the NTUA. During the academic periods 2015-2016 and 2016-2017 she was an adjunct lecturer at the Department of Informatics and Telecommunications Engineering, University of Western Macedonia, Greece. Since 2016 she has been an adjunct lecturer at the Department of Computer Science, University of Thessaly, Greece. Since 2017 she has been an adjunct lecturer at the Department of Digital Systems, University of Piraeus, Greece. Also, since 2017 she has been a visiting professor at the Beijing University of Posts and Telecommunications (BUPT), China. She is married with Alexis Tsipras and they have two sons.

## Contact

➤ *E-Mail:* baziana@central.ntua.gr

## Studies

➤ *2002 – 2008:*

Dr.-Ing. degree in Electrical and Computer Engineering, National Technical University of Athens (NTUA), Greece.

Title of Thesis: "**Control Architectures and Transmission Techniques for the Performance Optimizations of Optical WDM Networks**".

➤ *1992 - 1998:*

Dipl.-Ing. in Electrical and Computer Engineering, University of Patras, Greece.

Title of Thesis: "**Design and Implementation of Subsystems for Receiver Front-End with Application in Personal Communications Systems (P.C.S.)**"

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## Research Interests

- Optical Communications - Optical Fiber Networks
- Control Architectures and Transmission Techniques of Optical Networks
- Performance Optimization
- Analytical Modelling of Network Performance and Traffic
- Telecommunication Systems Simulation

## Research and Professional Activities

### 1. 2018 - today

Laboratory Teaching Staff, School of Electrical and Computer Engineering, NTUA, Greece

Courses:

- Fall:
  - Computer Networks (7th semester)
- Spring:
  - Communication Systems Simulation (8th semester)
  - Analog and Digital Communication Systems (8th semester)
- Spring 2004-2010:
  - Communication Systems Simulation (8th semester)

### 2. 2017 - today

Visiting Professor, Beijing University of Posts and Telecommunications (BUPT), China

### 3. 2017 - today

Adjunct lecturer, Department of Digital Systems, University of Piraeus, Greece

Courses:

- Fall:
  - Telecommunications Infrastructures and Services (post graduated)

### 4. 2016 - today

Adjunct lecturer, Department of Computer Science, University of Thessaly, Greece

Courses:

- Fall:
  - Telecommunication Systems (7th semester)
- Spring:
  - Optical Networks (post graduated)

### 5. 2015 - 2016 & 2016 - 2017

Adjunct lecturer, Department of Informatics and Telecommunications Engineering, University of Western Macedonia, Greece

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Courses:

- Fall:
  - Computer Networks I (3rd semester)
- Spring:
  - Computer Networks II (4th semester)

6. 2002 - 2018

Research fellow of the NTUA, Greece - Courses assistant, School of Electrical and Computer Engineering, NTUA, Greece (2014 - 2018)

7. 2000 - 2002

Research fellow of the University of Patras, Greece: Department of Electrical and Computer Engineering

## Research Publications

### Publications in International Journals with Reviewers

- [J.1] **P.A.Baziana**: "Exploring the optimum number of receivers per station in WDM networks", Elsevier Computer Networks Journal, Vol. 143, pp. 153-165, 2018 (dx.doi.org/10.1016/j.comnet.2018.07.015).
- [J.2] **P.A.Baziana**: "A Traffic-Depended Multi-Buffer Node Architecture and an Effective Access Technique under Symmetric and Asymmetric IP Traffic Scenarios for Unslotted Ring WDM MANs", Elsevier Optical Fiber Technology Journal, Vol. 31, pp. 92-110, Sept. 2016. (dx.doi.org/10.1016/j.yofte.2016.06.006)
- [J.3] **P.A.Baziana**: "Performance Analysis and Transmission Strategies Comparison for Synchronous WDM Passive Star LANs", Springer Photonic Network Communications Journal, Vol. 31, Issue 3, pp. 457-465, June 2016. (dx.doi.org/10.1007/s11107-015-0593-0)
- [J.4] **P.A.Baziana**: "An Approximate Protocol Analysis with Performance Optimization for WDM Networks", Elsevier Optical Fiber Technology Journal, Vol. 20, Issue 4, pp. 414-421, Aug. 2014. (dx.doi.org/10.1016/j.yofte.2014.05.003)
- [J.5] **P.A.Baziana**, I.E.Pountourakis: "A Channel Reuse Strategy with Adaptive Channel Allocation for All-Optical WDM Networks" Elsevier Optical Switching and Networking Journal, Vol. 10, pp. 246-257, July 2013. (dx.doi.org/10.1016/j.osn.2013.02.005)
- [J.6] **P.A.Baziana**, I.E.Pountourakis: "An Access Protocol for Efficiency Optimization in WDM Networks: A Propagation Delay and Collisions Avoidance Analysis", Elsevier Computer Networks Journal, Vol. 57, pp. 1234-1252, April 2013. (dx.doi.org/10.1016/j.comnet.2012.12.015)
- [J.7] **P.A.Baziana**, I.E.Pountourakis: "An Efficient Access Protocol and a Node Multi-Buffer Architecture for Bandwidth Utilization Improvement in WDM Ring MANs", Elsevier Optik –International Journal for Light and Electron Optics, Vol. 124, pp. 3038-3046, Sept. 2013. (dx.doi.org/10.1016/j.ijleo.2012.09.024)

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- [J.8] **P.A.Baziana**, I.E.Pountourakis: "A Transmission Strategy with Protocol Analysis for Performance Improvement in WDM Networks", *IEEE Transactions on Communications*, Vol. 60, No. 7, pp. 1975-1985, July 2012. (dx.doi.org/10.1109/TCOMM.2012.051412.110422)
- [J.9] **P.A.Baziana**, I.E.Pountourakis: "An Input Traffic Allocation Strategy and an Efficient Transmission Technique for Collisions-Free WDM Ring MANs", *Elsevier Optical Fiber Technology Journal*, Vol. 16, Issue 5, pp. 279-291, Oct. 2010. (dx.doi.org/10.1016/j.yofte.2010.06.002)
- [J.10] **P.A.Baziana**, I.E.Pountourakis: "A Slotted Access Control Protocol for Metropolitan WDM Ring Networks", *Elsevier Optical Fiber Technology Journal*, Vol. 15, pp. 100-118, March 2009. (dx.doi.org/10.1016/j.yofte.2008.06.006)
- [J.11] **P.A.Baziana**, I.E.Pountourakis: "An Efficient Metropolitan WDM Ring Architecture for a Slotted Transmission Technique", *IEEE Journal of Lightwave Technology*, Vol. 26, No. 19, pp. 3307-3317, Oct. 1, 2008. (dx.doi.org/10.1109/JLT.2008.928930)
- [J.12] **P.A.Baziana**, I.E.Pountourakis: "Performance Optimization with Propagation Delay Analysis in WDM Networks", *Elsevier Computer Communications Journal*, Vol. 30, Issue 18, pp. 3572-3585, Dec. 2007. (dx.doi.org/10.1016/j.comcom.2007.08.032)
- [J.13] I.E.Pountourakis, **P.A.Baziana**: "A Collision-free with Propagation Latency WDMA Protocol Analysis", *Elsevier Optical Fiber Technology Journal*, Vol. 13, Issue 2, pp. 160-169, April 2007. (dx.doi.org/10.1016/j.yofte.2006.12.006)
- [J.14] **P.A.Baziana**, I.E.Pountourakis: "A Reservation Protocol Analysis for Multi-Channel Wireless Networks", *Journal of Communications Software and Systems (JCOMSS)*, Vol. 2, No. 4, pp. 340-346, Dec. 2006.
- [J.15] **P.A.Baziana**, I.E.Pountourakis: "A Dynamic Procedure with Propagation Delay Analysis for Performance Optimization in WDM Networks", *WSEAS Transactions on Computers Research*, Issue 1, Vol. 1, ISSN 1991-8755, pp. 1-6, Nov. 2006.
- [J.16] I.E.Pountourakis, **P.A.Baziana**: "Markovian Receiver Collision Analysis of High-Speed Multi-channel Networks", *Mathematical Methods in the Applied Sciences Journal*, Vol. 29, Issue 5, pp. 575-593, March 2006. (dx.doi.org/10.1002/mma.701)
- [J.17] I.E.Pountourakis, **P.A.Baziana**: "Multi-channel Multi-access Protocols with Receiver Collision Markovian Analysis", *WSEAS Transactions on Communications*, Issue 8, Vol. 4, ISSN 1109-2742, pp. 564-569, Aug. 2005.

## Publications in International Conference Proceedings with Reviewers

- [C.1] **P.A.Baziana**: "Adaptive Channel Allocation Algorithm Suitable for WDM Networks: An Analytical Study", in *Proc. of the 9th International Conference on Optical Communication Systems 2018 (OPTICS 2018)*, July. 26-28, 2018, Porto, Portugal, (dx.doi.org/10.5220/0006848402350240).
- [C.2] **P.A.Baziana**: "Destination conflicts decrease in high-capacity optical LANs", in *Proc. of the 20th International Conference on Transparent Optical Networks (ICTON 2018)*, July. 1-5, 2018, Bucharest, Romania.
- [C.3] **P.A.Baziana**: "Performance Improvement Study for Multi-Channel Networks: A Receiver Buffer Size Analysis", in *Proc. of the International IEEE Conference on Microwaves, Communications, Antennas and Electronic Systems (IEEE COMCAS*

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- 2017), Nov. 13-15, 2017, Tel Aviv, Israel, ([dx.doi.org/10.1109/COMCAS.2017.8244723](https://doi.org/10.1109/COMCAS.2017.8244723)).
- [C.4] **P.A.Baziana:** “Dynamic Wavelength Assignment and Analytical Performance Evaluation for Optical High-Speed Networks”, accepted to be included in Proc. of the 19th International Conference on Transparent Optical Networks (ICTON 2017), July 2-6, 2017, Girona, Spain, ([dx.doi.org/10.1109/ICTON.2017.8024850](https://doi.org/10.1109/ICTON.2017.8024850)).
- [C.5] **P.A.Baziana:** “Asymmetric Access Rights Algorithm for Performance Improvement in WDM LANs”, accepted to be included in Proc. of the 40th International Conference on Telecommunications and Signal Processing (TSP 2017), July 5-7, 2017, Barcelona, Spain, ([dx.doi.org/10.1109/TSP.2017.807593](https://doi.org/10.1109/TSP.2017.807593)).
- [C.6] **P.A.Baziana:** “Performance Enhancement Conditions in WDM LANs with a Separate Control Wavelength”, in Proc. of the Fourteenth International Conference on Wireless and Optical Communications Networks (WOCN 2017), Feb. 24-26, 2017, Mumbai, India, ([dx.doi.org/10.1109/WOCN.2017.8065848](https://doi.org/10.1109/WOCN.2017.8065848)).
- [C.7] **P.A.Baziana:** “Analytical Performance Study of Multiple Packets Reception Capabilities for Network Interfaces in WDM LANs”, in Proc. of the Fourteenth International Conference on Wireless and Optical Communications Networks (WOCN 2017), Feb. 24-26, 2017, Mumbai, India, ([dx.doi.org/10.1109/WOCN.2017.8065847](https://doi.org/10.1109/WOCN.2017.8065847)).
- [C.8] **P.A.Baziana:** “Rejection Events Elimination at Destination in WDM Networks: Analytical Framework and Comparison”, in Proc. of the 2017 IEEE International Conference on Electrical, Computer and Communication Technologies (IEEE ICECCT 2017), pp. 554-560, Feb. 22-24, 2017, Coimbatore, Tami Nadu, India, ([dx.doi.org/10.1109/ICECCT.2017.8117924](https://doi.org/10.1109/ICECCT.2017.8117924)).
- [C.9] **P.A.Baziana:** “Channel Grouping Architecture for Multi-Channel Networks”, in Proc. of the 2017 IEEE International Conference on Electrical, Computer and Communication Technologies (IEEE ICECCT 2017), Feb. 22-24, 2017, Coimbatore, Tami Nadu, India, ([dx.doi.org/10.1109/ICECCT.2017.8117936](https://doi.org/10.1109/ICECCT.2017.8117936)).
- [C.10] **P.A.Baziana:** “Channels Splitting Strategy for Optical Local Area Networks of Passive Star Topology”, in Proc. of ICONDM 2017: 19<sup>th</sup> International Conference on Optical Network Design and Modelling, pp. 2013-2018, Jan. 23-24, 2017, Paris, France.
- [C.11] **P.A.Baziana, G. Fragkouli, and E. Sykas:** “Analytical Receiver Collisions Performance Modeling of a Multi-channel Network”, in Proc. of the 2017 IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering (ElConRus 2017), Paper No. 008, Feb. 01-03, 2017, St. Petersburg, Russia, ([dx.doi.org/10.1109/ElConRus.2017.7910507](https://doi.org/10.1109/ElConRus.2017.7910507)).
- [C.12] **P.A.Baziana:** “Performance Improvement Study and an Asynchronous Transmission WDMA Protocol for Various Size Internet Packets MANs”, in Proc. of the 15th IEEE International Conference on Communication Systems (IEEE ICCS 2016), Dec. 14-16, 2016, Shenzhen, China. ([dx.doi.org/10.1109/ICCS.2016.7833584](https://doi.org/10.1109/ICCS.2016.7833584))
- [C.13] **P.A.Baziana:** “An Asynchronous Transmission Protocol with Propagation Delay Study for WDM Networks”, in Proc. of 37<sup>th</sup> IEEE Sarnoff Symposium, Sept. 19-21, 2016, Newark, New Jersey, USA.
- [C.14] **P.A.Baziana:** “An Analytical Study for an Asynchronous Transmission Protocol for Optical High-Speed Networks with Multiple Tunable Receivers Per Node”, in Proc. of ISCC 2016: The Twenty-First IEEE Symposium on Computers and

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Communications, pp. 706-711, June 27-30, 2016, Messina, Italy. (dx.doi.org/10.1109/ISCC.2016.7543816)

- [C.15] **P.A.Baziana**: “A WDM Transmission Strategy and Node Architecture Suitable for Various Sizes IP Traffic in Ring MANs”, in Proc. of SAI 2015: Science and Information Conference, pp. 1098-1103, July 28-30, 2015, London, UK. (dx.doi.org/10.1109/SAI.2015.7237280)
- [C.16] **P.A.Baziana**: “Performance Analysis of a WDMA Protocol with a Multiple Tunable Receivers Node Architecture for High-Speed Optical Fiber LANs”, in Proc. of 6<sup>th</sup> International Conference on Optical Communication Systems 2015 (OPTICS 2015), pp. 5-13, July 20-22, 2015, Colmar, France. (dx.doi.org/10.5220/0005517100050013)
- [C.17] **P.A.Baziana**: “Criteria for Rejection Probability Reduction in WDM LANs”, in Proc. of 17th International Conference on Transparent Optical Networks 2015 (ICTON 2015), pp. 1-4, July 5-9, 2015, Budapest, Hungary. (dx.doi.org/10.1109/ICTON.2015.7193427)
- [C.18] **P.A.Baziana**: “Analytical Study of a Synchronous WDMA Strategy with Propagation Delay Utilization”, in Proc. of 19<sup>th</sup> International Conference on Optical Network Design and Modeling (ONDM 2015), pp. 186-191, May 11-14, 2015, Pisa, Italy. (dx.doi.org/10.1109/ONDM.2015.7127296)
- [C.19] **P.A.Baziana**: “Performance Evaluation of an Efficient Asynchronous Protocol for WDM Ring MANs”, in Proc. of ICONDM 2015: XIII International Conference on Optical Network Design and Modelling, pp. 1403-1409, Jan. 23-24, 2015, Paris, France.
- [C.20] **P.A.Baziana**, I.E.Pountourakis: “An Asynchronous WDMA Protocol without Collisions for Ring MANs: Study for Internet Traffic Packet Size Variation”, in Proc. of 2013 18<sup>th</sup> European Conference on Network and Optical Communications & 2013 8<sup>th</sup> Conference on Optical Cabling and Infrastructure (NOC-OC&I 2013), pp. 137-144, July 10-12, 2013, Graz, Austria. (dx.doi.org/10.1109/NOC-OCI.2013.6582879)
- [C.21] **P.A.Baziana**, I.E.Pountourakis: “Performance Optimization with Receiver Collisions Avoidance Protocol Analysis for WDM Networks”, in Proc. of 19<sup>th</sup> IEEE LAN/MAN Workshop on Local and Metropolitan Area Networks (LANMAN 2013), April 10-12, 2013, Brussels, Belgium. (dx.doi.org/10.1109/LANMAN.2013.6528273)
- [C.22] **P.A.Baziana**, I.E.Pountourakis: “Criteria for Performance Improvement in Metropolitan Area WDM Ring Networks”, in Proc. of IEEE International Symposium on Signal Processing and Information Technology (ISSPIT 2011), pp. 114-119, December 14-17, 2011, Bilbao, Spain. (dx.doi.org/10.1109/ISSPIT.2011.6151544)
- [C.23] **P.A.Baziana**, I.E.Pountourakis: “A Channels Reuse Protocol for WDM Networks”, in Proc. of 2011 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT 2011), December 6-8, 2011, Amman, Jordan.
- [C.24] **P.A.Baziana**, I.E.Pountourakis: “Bandwidth Exploitation with Propagation Delay Analysis in WDM Networks”, in Proc. of 2011 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT 2011), December 6-8, 2011, Amman, Jordan.
- [C.25] **P.A.Baziana**, I.E.Pountourakis: “An Asymmetric Access Strategy with Propagation Delay Analysis for Bandwidth Utilization Improvement in WDM Networks”, in Proc. of 16<sup>th</sup> IEEE Symposium on Computers and Communications (ISCC 2011), pp. 525-530, June 28-July 1, 2011, Corfu, Greece. (dx.doi.org/10.1109/ISCC.2011.5983891)

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- [C.26] **P.A.Baziana**, I.E.Pountourakis: “A WDM Ring MAN Architecture with Traffic Distribution and Collisions Avoidance for Bandwidth Utilization Enhancement”, in Proc. of 18<sup>th</sup> International Conference on Telecommunications (ICT 2011), ISBN: 978-1-4577-0023-1, pp. 373-378, May 8-11, 2011, Ayia Napa, Cyprus. (dx.doi.org/10.1109/CTS.2011.5898945)
- [C.27] **P.A.Baziana**, I.E.Pountourakis: “A collisions-free WDMA strategy for ring MANs with efficient traffic management: A performance optimization study”, in Proc. of 12<sup>th</sup> Anniversary International Conference on Transparent Optical Networks (ICTON 2010), June 27-July 1, 2010, Munich, Germany. (dx.doi.org/10.1109/ICTON.2010.5549263)
- [C.28] **P.A.Baziana**, I.E.Pountourakis: “A receiver collisions WDMA protocol study with propagation delay latency analysis”, in Proc. of 12<sup>th</sup> Anniversary International Conference on Transparent Optical Networks (ICTON 2010), June 27-July 1, 2010, Munich, Germany. (dx.doi.org/10.1109/ICTON.2010.5549265)
- [C.29] **P.A.Baziana**, I.E.Pountourakis: “Performance Improvement for a Metropolitan WDM Ring Network Architecture: An Efficient Traffic Management and a Delay-Sensitive Transmission Technique”, in Proc. of 17<sup>th</sup> IEEE LAN/MAN Workshop on Local and Metropolitan Area Networks (LANMAN 2010), May 5-7, 2010, Long Branch, New Jersey, USA. (dx.doi.org/10.1109/LANMAN.2010.5507165)
- [C.30] **P.A.Baziana**, I.E.Pountourakis: “A Control Channel Architecture with Collisions Avoidance Strategy for Performance Improvement in WDM Ring Networks”, in Proc. of 12<sup>th</sup> WSEAS International Conference on Communications, pp. 141-146, July 22-25, 2008, Crete Island, Greece.
- [C.31] **P.A.Baziana**, I.E.Pountourakis: “Control System Design of a Conflict-Free MAC Protocol for a WDM MAN”, in Proc. of 10<sup>th</sup> Anniversary International Conference on Transparent Optical Networks (ICTON 2008), Vol. III, pp. 85-88, June 22-26, 2008, Athens, Greece. (dx.doi.org/10.1109/ICTON.2008.4598661)
- [C.32] **P.A.Baziana**, I.E.Pountourakis: “Study of an Optical Multi-Wavelength Slotted Ring Protocol with Tunable Transceivers”, in Proc. of Sixth IASTED International Conference on Communication, Systems and Networks (CSN 2007), pp. 132-137, ISBN Hardcopy 978-0-88986-695-9, Aug. 29-31, 2007, Palma de Mallorca, Spain.
- [C.33] **P.A.Baziana**, I.E.Pountourakis: “A Dynamic Procedure with Propagation Delay Analysis for Performance Optimization in WDM Networks”, in Proc. of 4<sup>th</sup> WSEAS International Conference on Applied Electromagnetics, Wireless and Optical Communications (ELECTROSCIENCE '06), pp. 11-16, CD-ROM paper No 539-480, Nov. 20-22, 2006, Venice, Italy.
- [C.34] I.Pountourakis, **P.Baziana**, G.Panagiotopoulos: “Propagation Delay and Receiver Collision Analysis in WDMA Protocols”, in Proc. of 5<sup>th</sup> International Symposium Communication Systems Networks and Digital Signal Processing (CSNDSP 2006), pp. 120-124, July 19-21, 2006, Patra Greece.
- [C.35] I.E.Pountourakis, **P.A.Baziana**: “Multi-channel Multi-access Protocols with Receiver Collision Markovian Analysis”, in Proc. of 9<sup>th</sup> WSEAS International Conference on Communications, Vouliagmeni, CD-ROM paper No 497-351, July 11-16, 2005, Athens, Greece. – Βραβείο Καλύτερης Εργασίας Συνεδρίου
- [C.36] **P.A.Baziana**, I.E.Pountourakis: “Multi-channel MAC protocol: Performance mathematical analysis and comparison”, in Proc. of 12<sup>th</sup> International Conference on Software, Telecommunications and Computer Networks (SoftCOM 2004), pp. 146-150, October 10-13, 2004, Dubrovnik-Split-Venice.

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- [C.37] **Baziana P.**, Karavatselou E., Lymberopoulos D., Serpanos D.: “A new Methodology to Design Distributed Medical Diagnostic Centers”, in Proc. of 23<sup>rd</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society, October 25-28, 2001, Istanbul, Turkey. (dx.doi.org/10.1109/IEMBS.2001.1019616)
- [C.38] **Baziana P.A.**, Karavatselou E.I, Lymberopoulos D. K.: “A New Integrated Structure for the Control of Telematic Services”, in Proc. of 9<sup>th</sup> International Conference on Telecommunication Systems, Modeling and Analysis, March 15-18, 2001, Dallas, Texas, USA.

### **Publications in Books Chapters**

- [B.1] **Baziana P.A.**: “How Do the Multiple Tunable Receivers per Node Affect the Efficiency of a WDM LAN? A Performance Analytical Study”, in E-Business and Telecommunications, Mohammad S. Obaidat, Pascal Lorenz (Eds.), 2016, Springer International Publishing, Series of Communications in Computer and Information Science (CCIS), Vol. 585, pp. 161–176, 2016. (dx.doi.org/10.1007/978-3-319-30222-5\_8)