

# Curriculum Vitae

## Dr.-Ing. Michael Zink

ASSOCIATE PROFESSOR  
ELECTRICAL AND COMPUTER ENGINEERING DEPARTMENT  
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IEEE SENIOR MEMBER

### RESEARCH INTERESTS

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Sensor Networks	Virtual private sensor networks, Sense-and-respond architecture, Sensor network design and implementation, Energy-rechargeable wireless sensor networks, Long-distance multi-hop 802.11 networks
Next Generation Internet	Measurement architectures and tools, Cloud computing for scientific applications, Virtual Lab for Computer Networks Education
Systems Engineering	Design and implementation of a 4 node, closed-loop, radar sensor network, Technical project management in interdisciplinary environment
Multimedia Distribution	Architectures for content distribution, Scalable adaptive streaming, Streaming in wireless networks

### EDUCATION

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11/1998 – 09/2003	<b>Darmstadt University of Technology</b> <b>Darmstadt, Germany</b> Ph.D. in Electrical Engineering and Information Technology (with distinction) Ph.D. thesis “Scalable Internet Video-on-Demand Systems”
10/1991 – 07/1997	<b>Darmstadt University of Technology</b> <b>Darmstadt, Germany</b> Diploma (equivalent to M.Sc.) in Electrical Engineering and Information Technology, specializing in Communications Technology <ul style="list-style-type: none"><li>• Diploma thesis “Integration of ATM and Internet Quality of Service Architectures: Overview and Evaluation of RSVP over ATM approaches”</li><li>• Student thesis “Formal Description of the IPv6 Protocol for OSI Conformance Testing”</li></ul>

## PROFESSIONAL APPOINTMENTS

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- 09/2015 to present ***TU Darmstadt*** ***Darmstadt, Germany***  
• Guest Researcher in the DFG Collaborative Research Centre (CRC) “MAKI – Multi-Mechanisms Adaptation for the Future Internet”
- 09/2015 to present ***University of Massachusetts*** ***Amherst, USA***  
• Associate Professor in the Electrical and Computer Engineering Department  
• Co-Director for Technical Integration in the NSF Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere
- 09/2009 – 08/2015 ***University of Massachusetts*** ***Amherst, USA***  
• Assistant Professor in the Electrical and Computer Engineering Department  
• Deputy Director for Technical Integration in the NSF Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere
- 09/2008 – 08/2009 ***University of Massachusetts*** ***Amherst, USA***  
• Research Assistant Professor in the Computer Science Dep.  
• Deputy Director for Technical Integration in the NSF Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere
- 08/2005 – 08/2008 ***University of Massachusetts*** ***Amherst, USA***  
• Senior Research Scientist in the Computer Science Department  
• Technical Integration Thrust Leader for the NSF Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere
- 04/2004 – 07/2005 ***University of Massachusetts*** ***Amherst, USA***  
• Postdoctoral Fellow in the Computer Networks Research Group in the Computer Science Department  
• Systems Engineer for the NSF Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere
- 10/2003 – 03/2004 ***Darmstadt University of Technology*** ***Darmstadt, Germany***  
• Head of the Multimedia Distribution and Networking group at the Multimedia Communications Lab (KOM)
- 11/1998 – 09/2003 ***Darmstadt University of Technology*** ***Darmstadt, Germany***  
• Research Assistant at the Multimedia Communications Lab (KOM). Involved in several teaching and research projects as described below
- 10/1997 – 09/1998 ***National Institute of Standards and Technology*** ***Gaithersburg, MD, USA***

- Guest Researcher at the Information Technologies Lab.  
Designed and implemented an MPLS capable router
- 02/1997 – 04/1997 **Darmstadt University of Technology** **Darmstadt, Germany**
- 08/1997 – 09/1997 • Student Assistant at the Multimedia Communications Lab (KOM). Participation in research projects and conference paper preparation
- 01/1992 – 12/1996 **ID GmbH** **Wiesbaden, Germany**
  - Technical staff and trainer
  - Novell Certified Network Engineer
  - Novell Certified Network Instructor (Held more than 40 courses)

## RESEARCH GRANTS & PROJECTS

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|-------------------|---|
| 01/2016 to date   | GENI Going Forward: Virtual Computer Networks Lab II (Sole PI)<br>• National Science Foundation   |
| 09/2015 to date   | CC*DNI: High-bandwidth Network Connectivity for Remote Sensing Research (Sole PI)<br>• National Science Foundation  |
| 03/2015 – 12/2015 | NSF I-Coprs: Commercialization of a City-Scale Weather Radar (Sole PI)<br>• National Science Foundation   |
| 09/2014 to date   | CyberSEES: Type 2: Integrative Sensing and Prediction of Urban Water for Sustainable Cities (PI: Dong-Jun Seo, Co-PIs: Michael Zink, Xinbao Yu, Zheng Fang, Jean Gao)<br>• National Science Foundation  |
| 09/2014 to date   | CloudLab: Flexible Scientific Infrastructure to Support Fundamental Advances in Cloud Architectures and Applications (PI: Rob Ricci, Co-PIs: Michael Zink, Brig ‘Chip’ Elliot, Srinivasa Akella, Kuang-Ching Wang)<br>• National Science Foundation |
| 03/2014 to date   | CAREER: Sensing as a Service: Architectures for Closed-loop Sensor Network (Sole PI)<br>• National Science Foundation   |
| 06/2014 to date   | FIA-NP (Senior Personnel, PI: Arun Venkataramani)<br>• National Science Foundation  |
| 10/2013 to date   | Virtual Computer Networks Lab (PI, Co-PI: Jim Kurose)<br>• National Science Foundation  |
| 09/2013 to date   | HazardSEES Type 2: Next Generation, Resilient Warning Systems for Tornadoes and Flash Floods (Co-PI, PI: Brenda   |

- Philips)  
 • National Science Foundation
- 05/2013 to date CASA Radar Integration with NWS Forecaster Operations (PI, Co-PI: Eric Adams)  
 • National Weather Service
- 12/2012 – 12/2014 CC-NIE Integration: Multi-Wave - A Dedicated Data Transport Ring to Support 21st Century Computational Research (Co-PI, PI: John Dubach)  
 • National Science Foundation
- 04/2012 – 04/2014 EAGER: Ultra high-speed bandwidth for performance improvements in radar networks for weather and aircraft surveillance. (PI, Co-PI: Brenda Philips)  
 • National Science Foundation
- 10/2011 – 09/2015 GIMI: Large-scale GENI Instrumentation and Measurement Infrastructure (PI, Co-PI: Max Ott)  
 • National Science Foundation
- 07/2010 to date Jerome M. Paros Fund for Measurement and Environmental Sciences Research (Investigator)
- 10/2009 – 09/2012 Data Intensive Cloud for GENI (PI, Co-PIs: Prashant Shenoy, Jim Kurose)  
 • National Science Foundation
- 10/2009 – 02/2013 Engaging Industry Personnel in the CASA Enterprise (Co-PI, PI: Ted Djaferis)  
 • National Science Foundation
- 09/2008 – 08/2011 Sensor Virtualization and Slivering in an Outdoor Wide-Area Wireless GENI Sensor/Actuator Network Testbed (Co-PI, PI: Prashant Shenoy, Co-PIs: Jim Kurose, Depak Ganesan)  
 • National Science Foundation
- 04/2005 – 08/2015 Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere (Deputy Director, Co-PI, PI: David McLaughlin)  
 • National Science Foundation
- 03/2002 – 03/2004 Multimedia distribution: feedback and adaptation in wireless networks (Technical Project Leader)  
 • Panasonic European Laboratories GmbH
- 11/1998 – 02/2002 MediaNode: support for multimedia enhanced teaching  
 • Ministry for Science and Art, State of Hesse, Germany

TEACHING, ADVISING, MANAGEMENT

Spring 2015	<b>University of Massachusetts</b> ECE 374 – Lecture for undergraduates on “Computer Networks & Internet” (62 Students)	<b>Amherst, USA</b>
Fall 2014	<b>University of Massachusetts</b> ECE 242 – Lecture for undergraduates on “Data Structures & Algorithms” (125 Students)	<b>Amherst, USA</b>
Spring 2014	<b>University of Massachusetts</b> ECE 374 – Lecture for undergraduates on “Computer Networks & Internet” (65 Students)	<b>Amherst, USA</b>
Fall 2012/ Spring 2013	<b>University of Massachusetts</b> ECE 415 – Senior Design Project: Advised a group of 4 students	<b>Amherst, USA</b>
Fall 2013	<b>University of Massachusetts</b> ECE 597SI/697SI – Lecture for graduates on “Integrative Systems Engineering” (47 Students)	<b>Amherst, USA</b>
Spring 2013	<b>University of Massachusetts</b> ECE 374 – Lecture for undergraduates on “Computer Networks & Internet” (52 Students)	<b>Amherst, USA</b>
Fall 2012/ Spring 2013	<b>University of Massachusetts</b> ECE 415 – Senior Design Project: Advised a group of 4 students	<b>Amherst, USA</b>
Fall 2012	<b>University of Massachusetts</b> ECE 697SI – Lecture for graduates on “Integrative Systems Engineering” (8 Students)	<b>Amherst, USA</b>
Spring 2012	<b>University of Massachusetts</b> ECE 374 – Lecture for undergraduates on “Computer Networks & Internet” (37 Students)	<b>Amherst, USA</b>
Fall 2011/ Spring 2012	<b>University of Massachusetts</b> ECE 415 – Senior Design Project: Advised a group of 4 students	<b>Amherst, USA</b>
Fall 2011	<b>University of Massachusetts</b> ECE 597ST/697ST – Lecture for senior undergraduates and graduates on “Systems Simulation” (23 students)	<b>Amherst, USA</b>
Spring 2011	<b>University of Massachusetts</b> ECE 374 – Lecture for undergraduates on “Computer Networks & Internet” (43 Students)	<b>Amherst, USA</b>
Fall 2010/ Spring 2011	<b>University of Massachusetts</b> ECE 415 – Senior Design Project: Advised a group of 4 students	<b>Amherst, USA</b>
Fall 2010	<b>University of Massachusetts</b> ECE 697SI – Lecture for graduates on “Integrative Systems Engineering” (22 Students)	<b>Amherst, USA</b>

Spring 2010	<i>University of Massachusetts</i>	<i>Amherst, USA</i>	ECE 597S/697S – Lecture for senior undergraduates and graduates on “Systems Simulation” (22 students)
Fall 2009/ Spring 2010	<i>University of Massachusetts</i>	<i>Amherst, USA</i>	ECE 415 – Senior Design Project: Advised a group of 4 students
Fall 2006	<i>University of Massachusetts</i>	<i>Amherst, USA</i>	CS 491M – Lecture for senior undergraduates in the CS and EE departments “Introduction to Systems Engineering”
Fall 2005	<i>University of Massachusetts</i>	<i>Amherst, USA</i>	CS 496A – Independent Study Class “Independent Study in Wireless Networking” (Co-taught with Prof. Kurose)
Fall 2000	<i>Darmstadt University of Technology</i>	<i>Darmstadt, Germany</i>	Seminar “Introduction to Operating Systems“
Fall 1999, 2000, 2001, 2002	<i>Darmstadt University of Technology</i>	<i>Darmstadt, Germany</i>	Lab Exercises “Communication Networks”
Spring 1999	<i>Darmstadt University of Technology</i>	<i>Darmstadt, Germany</i>	Seminar “MBone: The Multicast Backbone”
2001, 2002, 2003	<i>Darmstadt University of Technology</i>	<i>Darmstadt, Germany</i>	Substitute for lectures “Communication Networks I + II” and “Multimedia Communication”
08/2005 – present	Supervision of CASA staff and students:		
	<ul style="list-style-type: none"> <li>• David Pepyne, Senior Research Fellow</li> <li>• David Irwin, Postdoctoral Research Associate (2007-2011)</li> <li>• David Westbrook, Senior Research Fellow</li> <li>• Eric Lyons, Research Scientist</li> <li>• Brian Donovan, PhD committee member</li> <li>• Adam Nyzio, Tim Ireland</li> </ul>		
	Independent study: The Impact of Directional Antenna Orientation, Spacing, and Channel Separation on Long-distance Multi-hop 802.11g Networks		
	<ul style="list-style-type: none"> <li>• Ian Ricci</li> </ul>		
	Independent study: 802.11 long-distance wireless measurements		
	<ul style="list-style-type: none"> <li>• Ryan Nichols, Andrew Gadbois, Dan Komisar, Phil Dasilva, Nick Nhativ</li> </ul>		
	Undergraduates involved in the construction of the four CASA IP1 radars.		
11/1998 – 06/2003	Supervision of eight Student Theses and 8 Master Theses at Darmstadt University of Technology		

## INVITED TALKS

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- 07/2014 Software Defined Exchanges: New Opportunities for Future Internet Research, The Fourth GENI Research and Educational Experiment Camp (GREE-SC 2014), Iowa State University, Ames, IA.
- 09/2013 Collaborative Adaptive Sensing of the Atmosphere (CASA), Architecture, Design, Implementation, and Operation of Sensor/Actuator Networks for Severe Weather Observations, Alvine Engineering Professional Effectiveness and Enrichment Program, University of New Haven, New Haven, CT.
- 11/2012 Collaborative Adaptive Sensing of the Atmosphere (CASA): Architecture, Design, Implementation, and Operation of Sensor/Actuator Networks for Severe Weather Observations. Colloquium, University of Connecticut, Storrs, CT.
- 07/2012 Closed-loop Sensor Networks for Atmospheric Sensing. Siemens AG Corporate Technology, Munich, Germany.
- 07/2012 ExoGENI and GIMI: GENI Racks and Their Measurement and Instrumentation Tools. 12<sup>th</sup> Würzburg Workshop on IP: Joint ITG and Euro-NF Workshop "Visions of Future Generation Networks" (EuroView2012), Würzburg, Germany.
- 08/2011 NowCasting: UMass/CASA Weather Radar Demonstration. 11<sup>th</sup> Würzburg Workshop on IP: Joint ITG and Euro-NF Workshop "Visions of Future Generation Networks" (EuroView2011), Würzburg, Germany.
- 02/2011 Closed-loop Sensor Networks for Atmospheric Sensing. Keynote at IEEE Sensor App. Symposium, San Antonio, TX.
- 01/2009 Collaborative Adaptive Sensing of the Atmosphere. Systems Engineering Colloquium, Department of Systems and Information Engineering, University of Virginia, Charlottesville, VA
- 09/2006 CASA IP1 Meteorological Command and Control. Presentation to members of the DOE ARM Program, Amherst, MA
- 01/2005 CASA - Collaborative Adaptive Sensing of the Atmosphere. Darmstadt University of Technology, Darmstadt, Germany.
- 06/2004 Meteorological Command and Control in CASA's IP1A Test Bed. MIT Lincoln Laboratory, Lincoln, MA, USA.
- 05/2004 Content Distribution in CASA. Dagstuhl Seminar on Content Distribution Networks, Dagstuhl, Germany.
- 03/2003 Scalable Adaptive Streaming in the Internet. Department of Informatics, University of Oslo, Oslo, Norway.

02/2002 Scalable Streaming for Internet Video Distribution.  
University of Massachusetts, Amherst, MA, USA.

## PROFESSIONAL ACTIVITIES

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01/2014 –to date	Board Member of the Multimedia Communications Technical Committee (MMTC) in IEEE Communications Society
01/2010 – to date	Editorial Board Member of the Academy Publisher’s Journal of Multimedia
10/2008 – to date	Editorial Board Member of the Springer/ACM Multimedia Systems Journal
2015	Technical Program Committee Co-Chair: <ul style="list-style-type: none"><li>• NOSSDAV 2015</li></ul> Program committee member: <ul style="list-style-type: none"><li>• NetSys 2015</li><li>• ACM Multimedia Systems 2015</li><li>• LCN 2015</li><li>• IEEE MASS Workshop on Content-Centric Networking (CCN 2015)</li><li>• Workshop on Multimedia Streaming in Information Centric Networks (MuSiC)</li></ul>
2014	Program committee member: <ul style="list-style-type: none"><li>• ACM Multimedia Systems 2014</li><li>• NOSSDAV 2014</li><li>• LCN 2014</li><li>• GREE 2014</li></ul>
2013	Program committee member: <ul style="list-style-type: none"><li>• ACM Multimedia Systems 2013</li><li>• NOSSDAV 2013</li><li>• ICCCN 2013</li><li>• LCN 2013</li><li>• ACM MM 2013 (Area Chair)</li></ul>
2012	Technical Program Committee Chair: <ul style="list-style-type: none"><li>• TridentCom 2012</li></ul> Program committee member: <ul style="list-style-type: none"><li>• ACM Multimedia Systems 2012</li><li>• LCN 2012</li></ul>
2011	Program committee member: <ul style="list-style-type: none"><li>• INFOCOM 2011</li><li>• ACM Multimedia Conference 2011</li><li>• ACM Multimedia Systems 2011</li></ul>



- NOSSDAV 2011
- 2010 Program committee member:
- INFOCOM 2010
  - ACM Multimedia Conference 2010
  - ACM Multimedia Systems Conference 2010
- 2009 Program committee member:
- INFOCOM 2009
  - ACM Multimedia 2009
  - YouTube and the 2008 Election Cycle in the United States
  - IEEE FNM 2009
  - WASA 2009
- 2008 Program committee member:
- INFOCOM 2008
  - ACM Multimedia 2008
  - MMCN 2008
  - PAM 2008
- 2007 Program committee member:
- ACM Multimedia 2007
  - MMCN 2007
- 2006 Program committee member:
- ACM Multimedia 2006
  - MMCN 2006
  - CCNC 2006
  - Euromicro 2006
  - NOSSDAV 2006
- 2005 Program committee member:
- ACM Multimedia 2005
  - CCNC 2005
  - WWW 2005
  - ICPP 2005
  - Euromicro 2005
- 2004 Program committee member:
- MMCN 2004
  - NRBC 2004
- 2003 Program committee member:
- ACM Multimedia 2003
  - MMCN 2003
- 2000 to date Reviews for the journals:
- IEEE Transactions on Multimedia, ACM Transactions on Multimedia Computing Communications and Applications

- Springer & ACM Journal on Multimedia Systems
- Inderscience International Journal on Sensor Networks
- Elsevier International Journal on Computer and Telecommunication Networking

## AWARDS

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***Best Paper Award at SPIE/ACM Multimedia Communication and Networking Conference 2008***

***“Journal’s best reviewer in 2007”, Springer/ACM Multimedia Systems Journal***

***Best Paper Award at the Second GENI Research and Educational Experiment Workshop (GREE2013).***

***NSF CAREER Award (2014)***

## BOOKS

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Thanasis Korakis, Michael Zink, Max Ott (Eds.). Testbeds and Research Infrastructure. Development of Networks and Communities. Springer. ISBN 978-3-642-35575-2

M. Zink. Scalable Video-on-Demand: Adaptive Internet-based Distribution. Wiley. October 2005. ISBN 0-470-02268-X.

## BOOK CHAPTER

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M. Zink, and P. Shenoy. Caching and Distribution Issues for Streaming Content Distribution. In *Web Content Delivery*. Springer. August 2005. ISBN 0-387-24356-9.

## JOURNAL ARTICLES

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Dilip Kumar Krishnappa, M. Zink, C. Griwodz, P. Halvorsen. Cache-centric Video Recommendation: An Approach to Improve the Efficiency of YouTube Caches. *ACM Transactions on Multimedia Computing, Communications and Applications*. 11(4), 48:1-48:20, 2015.

Mark Berman, Piet Demeester, Jae Woo Lee, Kiran Nagaraja, Michael Zink, Didier Colle, Dilip Kumar Krishnappa, Dipankar Raychaudhuri, Henning Schulzrinne, Ivan Seskar, Sachin Sharma. Future Internets Escape the Simulator. *Communications of the ACM*. 58(6), 78-89, 2015.

Nauman Javed, Eric Lyons, Michael Zink, Tilman Wolf. Adaptive Wireless Mesh Networks: Surviving Weather Without Sensing It. *Elsevier Computer*

*Communications. Vol. 54,120-130, 2014.*

Dilip Kumar Krishnappa, Eric Lyons, David Irwin, and Michael Zink, CloudCast: Cloud Computing for Short-term Weather Forecasts. *IEEE Computing Science in Science & Engineering Magazine. 15(4), 30-37, Sep. 2013.*

N. Sharma, D. Irwin, P. Shenoy, and M. Zink. MultiSense: Proportional-Share for Mechanically Steerable Sensor Networks. *Multimedia Systems Journal,18(5), 425-444, July 2012.*

S. Khemmarat, R. Zhou, D. Kumar Krishnappa, L. Gao, and M. Zink. Watching User Generated Videos with Prefetching. *International Journal on Signal Processing: Image Communication. 27(4), 343-359, April 2012.*

M. Zink, E. Lyons, D. Westbrook, J. Kurose, D. Pepyne. Closed-loop Architecture for Distributed Collaborative Adaptive Sensing of the Atmosphere: Meteorological Command & Control. *International Journal of Sensor Networks, Inderscience. 7(1/2), 4-18, February 2010.*

D. McLaughlin, D. Pepyne, V. Chandrasekar, B. Philips, J. Kurose. M. Zink et al. Short-Wavelength Technology and the Potential for Distributed Networks of Small Radar Systems. *Bulletin of the American Meteorological Society. 90(12), 1797-1817, January 2010.*

P. Serrano, C. Bernardos, A. de la Oliva, A. Banchs and M. Zink. FloorNet: Deployment and Evaluation of a Multihop Wireless 802.11 Testbed. *EURASIP Journal on Wireless Comm. and Networking, 2010.*

E. Bass, L. Baumgart, B. Philips, K. Kloesel, K. Dougherty, H. Rodriguez, W. Donner, J. Santos, W. Diaz, and M. Zink. Incorporating Emergency Management Needs in the Development of Weather Radar Networks. *Journal of Emergency Management. 7(1), 45-52, March 2009.*

M. Zink, K. Suh, Y. Gu, and J. Kurose. Characteristics of YouTube Network Traffic at a Campus Network - Measurements, Models, and Implications. *Elsevier Computer Networks. Vol. 53, No. 4, 501-514, March 2009.*

M. Zink, J. Schmitt, and R. Steinmetz. Layer Encoded Video in Scalable Adaptive Streaming. *IEEE Transactions on Multimedia, Vol. 7, No. 1, 75-84, February 2005.*

M. Zink, J. Schmitt, and C. Griwodz. Layer-Encoded Video Streaming: A Proxy's Perspective. *IEEE Communications Magazine, Vol. 42, No. 8, 96-103, August 2004.*

## CONFERENCE PAPERS

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Zdravko Bozakov, Amr Rizk, Divyashri Bhat, and Michael Zink. Measurement-based Flow Characterization in Centrally Controlled Networks. *In Proceedings of the IEEE International Conference on Computer Communications INFOCOM (accepted for publication), 2016.*

Cong Wang, Michael Zink, and David Irwin. Optimizing Parallel HPC Applications for Green Energy Sources. *In Proceedings of the sixth Green and Sustainable Computing Conference, Las Vegas, USA, December 2015.*

Divyashri Bhat, Cong Wang, Amr Rizk, Michael Zink, A load balancing approach for adaptive bitrate streaming in Information Centric networks. *In Proceedings of Workshop on Multimedia Streaming in Information Centric Networks. Torino, Italy, July 2015.*

Dilip Kumar Krishnappa, Michael Zink, and Ramesh Sitaram. Optimizing the Video Transcoding Workflow in Content Delivery Networks. *In proceedings of the 6th ACM Multimedia Systems Conference (MMSys), 37-48, Portland OR, USA, February 2015.*

Seo, D.-J. , B. Kerke, M. Zink, N. Fang, J. Gao, X. Yu, iSPUW: A Vision for Integrated Sensing and Prediction of Urban Water for Sustainable Cities. *In Dynamic Data-Driven Environmental System Science, Lecture Notes on Computer Science Vol. 8964, 68-78, Boston, MA, USA, November 2014.*

Divyashri Bhat, Niky Riga, Michael Zink, Towards Seamless Application Delivery using Software Defined Exchanges. *In Proceedings of Workshop on Federated Future Internet and Distributed Cloud Testbeds (FIDC), Karlskrona, Sweden, September 2014.*

Cong Wang, Michael Zink, On the Feasibility of DASH Streaming in the Cloud. *In Proceedings of NOSSDAV 2014, Singapore, March 2014.*

Fraida Fund, Cong Wang, Yong Liu, Thanasis Korakis, Michael Zink, Shivendra Panwar, Mobile User Experience for DASH and WebRTC Video Services. *In Proceedings of International Packet Video Workshop 2013, San Jose, CA, USA, December 2013.*

Dilip Kumar Krishnappa, Divyashri Bhat, and Michael Zink, DASHing YouTube: An Analysis of Using DASH in YouTube Video Service. *In Proceedings of the IEEE Conference on Local Computer Networks (LCN), Sydney, Australia, October 2013.*

Nauman Javed, Michael Zink, Eric Lyons, and Tilman Wolf, Adaptive Wireless Mesh Networks: Surviving Weather Without Sensing It. *In Proceedings of the 7th Workshop on Wireless Mesh and Ad Hoc Networks (WIMAN), Nassau, Bahamas, July 2013.*

Tilman Wolf, Michael Zink, and Anna Nagurney, The Cyber-Physical Marketplace: A Framework for Large-Scale Horizontal Integration in Distributed Cyber-Physical Systems. *In Proceedings of the Third International Workshop on Cyber-Physical Networking Systems, Philadelphia, PA, USA, July 2013.*

Fraida Fund, Cong Wang, Yong Liu, Thanasis Korakis, Michael Zink, Shivendra Panwar, GENI WiMAX Performance: Evaluation and Comparison of Two Campus Testbeds. *In Proceedings of the Second GENI Research and Educational*

*Experiment (GREE) Workshop, Salt Lake City, UT, March 2013. **Best paper award!***

Dilip Kumar Krishnappa, Michael Zink, Carsten Griwodz, What should you Cache? A Global Analysis on YouTube Related Video Caching. In *Proceedings of NOSSDAV '13, Oslo Norway, February 2013.*

D. Kumar Krishnappa, M. Zink, C. Griwodz, P. Halvorsen. Cache-centric Video Recommendation: An Approach to Improve the Efficiency of YouTube Caches. In *Proceedings of the ACM Multimedia Systems Conference (MMSys), Oslo, Norway, February 2013.*

N. Sharma, D. Kumar Krishnappa, D. Irwin, M. Zink, P. Shenoy. GreenCache: Augmenting Off-the-Grid Cellular Towers with Multimedia Caches. In *Proceedings of the ACM Multimedia Systems Conference (MMSys), Oslo, Norway, February 2013.*

D. Kumar Krishnappa, E. Lyons, D. Irwin, and M. Zink. CloudCast: Cloud Computing for Short-term Mobile Weather Forecasts. In *Proceedings of IEEE IPCCC 2012, Austin, TX, USA, December 2012.*

D. Bandara, A. Jayasumana, M. Zink. Radar Networking in Collaborative Adaptive Sensing of Atmosphere: State of the Art and Research Challenges. In *Proceedings of the IEEE Globecom Workshop on Radar and Sonar Networks (RSN), Anaheim, CA, USA, December 2012.*

D. Kumar Krishnappa, E. Lyons, D. Irwin, and M. Zink, Network Capabilities of Cloud Services for a Real Time Scientific Application. In *Proceedings of the IEEE Conference on Local Computer Networks (LCN), Clearwater, FL, USA, October 2012.*

C. Wang, and M. Zink. QoS Featured Wireless Virtualization Based on 802.11 Hardware. In *Proceedings of the International Symposium on Wireless Communication Systems (ISWCS), Paris, France, August 2012.*

D. Pepyne, D. McLaughlin, D. Westbrook, E. Lyons, E. Knapp, S. Frasier, and M. Zink. Dense Radar Networks for Low-Flyer Surveillance. In *Proceedings of the International Conference on Technologies for Homeland Security (HST), Boston, MA, USA, November 2011.*

D. Kumar Krishnappa, S. Khemmarat, and M. Zink. Planet YouTube: Global, Measurement-based Performance Analysis of Viewer's Experience Watching User Generated Videos. In *Proceedings of 6th IEEE Workshop on Network Measurements, Bonn, Germany, October 2011.*

B. An, V. Lesser, D. Westbrook, and M. Zink. Agent-mediated Multi-step Optimization for Resource Allocation in Distributed Sensor Networks. In *Proceedings of 10th International Conference on Autonomous Agents and Multiagent Systems – Innovative Applications Track (AAMAS 2011), Taipei, Taiwan, May 2011.*

J. Trabal, G. Pablos-Vega, J. Colom-Ustariz, J. Ortiz, S. Cruz-Pol, D. McLaughlin, M. Zink, and V. Chandrasekar. Off-the-Grid Weather Radar Network for

- Precipitation Monitoring in Western Puerto Rico. In *Proceedings of the International Symposium in Weather Radar and Hydrology, Exeter, United Kingdom, April 2011*.
- D. Kumar Krishnappa, S. Khemmarat, L. Gao, and M. Zink. On the Feasibility of Prefetching and Caching for Online TV Services: A Measurement Study on Hulu. In *Proceedings of Passive and Active Measurement Conference (PAM), Atlanta, GA, March 2011*.
- S. Khemmarat, R. Zhou, L. Gao, and M. Zink. Watching User Generated Videos with Prefetching. In *ACM Multimedia Systems Conference (MMSys), San Jose, CA, February 2011*.
- N. Sharma, D. Irwin, P. Shenoy, and M. Zink. MultiSense: Fine-grained Multiplexing for Steerable Camera Sensor Networks. In *ACM Multimedia Systems Conference (MMSys), San Jose, CA, February 2011*.
- B. An, V. Lesser, D. Irwin, and M. Zink. Automated Negotiation with Decommittment for Dynamic Resource Allocation in Cloud Computing. In *Proceedings of the 9th International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), Montreal, Canada, May 2010*.
- D. Irwin, N. Sharma, M. Zink, and P. Shenoy. Towards a Virtualized Sensing Environment. In *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering (LNICST) by Springer, Berlin, Germany, May 2010*.
- D. Irwin, P. Shenoy, E. Cecchet, and M. Zink. Resource Management in Data-Intensive Clouds: Opportunities and Challenges. In *Proceedings of the 17th IEEE Workshop on Local and Metropolitan Area Networks (LANMAN), Long Branch, NJ, USA, May 2010*.
- V. Manfredi, J. Kurose, N. Malouch, C. Zhang, and M. Zink. Separation of Sensor Control and Data in Closed-Loop Sensor Networks. In *Proceedings of IEEE SECON 2009, Rome, Italy, June 2009*.
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