

## Curriculum Vitae: Dipankar Raychaudhuri

### Summary:

Dipankar Raychaudhuri is Distinguished Professor, Electrical & Computer Engineering and Director, WINLAB (Wireless Information Network Lab) at Rutgers University. As WINLAB's Director, he is responsible for an internationally recognized industry-university research center specializing in wireless technology. He is the principal investigator for several large multi-institutional projects supported by the US National Science Foundation (NSF) including: the "MobilityFirst" future Internet architecture (FIA) project, and the "ORBIT" open-access wireless network testbed. Dr. Raychaudhuri is also active in technology entrepreneurship and is a technical advisor to several government organizations and companies. Significant new technology contributions during his career include satellite data networks, HDTV, high-speed wireless LAN, ATM-based broadband technologies, cognitive radio, content delivery networks, the ORBIT radio grid testbed, and mobile Internet architectures & protocols.

### Education:

M.S. & PhD in Electrical Engineering, SUNY Stony Brook, NY (1978, 79)

B.Tech (Hons) in Electronics & Electrical Communications, IIT Kharagpur, India (1976)

### Work Experience:

2001-present: Distinguished Professor, ECE Dept & Director, WINLAB, Rutgers University

2008-09: Visiting Professor, EE Dept/Clean Slate Program, Stanford University

2000-01: Chief Scientist, Iospan Wireless, San Jose, CA

1993-99: Asst. GM & Dept Head (Systems Architecture), NEC USA C&C Research

1990-92 : Head, Broadband Communications Research, Sarnoff Corp, Princeton, NJ

1988-90: Senior Member of Technical Staff, Sarnoff Corp, Princeton, NJ

1979-87: Member of Technical Staff, RCA Laboratories, Princeton, NJ

### Research Profile:

Future network architectures and protocols, wireless systems and technology, dynamic spectrum access and cognitive radio, experimental prototyping and network research testbeds.

### R&D Highlights:

Principal Investigator or Lead for the following projects:

2014-present: MobilityFirst Next-Phase Future Internet Architecture Project (NSF FIA-NP)

2012-2016: Inter-network cooperation for dynamic spectrum access (NSF EARS)

2010-2016: "MobilityFirst" Future Internet Architecture Project (NSF FIA)

2006-09: NSF FIND (Future Internet Design) projects on Cache-and-Forward (CNF) mobile content delivery and CogNet cognitive radio protocol stack

2005-2015: NSF GENI (Global Environment for Network Innovation) Project – Planning Group Member (2005-07), Wireless Virtualization (2006-07) and Open WiMAX (2008-)

2005-06: WMPG (Wireless Mobile Planning Group) on Future Network Architecture

2003-present: ORBIT: Open-Access Research Testbed for Next-Generation Wireless Networks, featured in MIT Tech Review's "10 Emerging Technologies", 2008 (NSF supported)

2004-09: "WiNC2R" Network Centric Cognitive Radio Platform, NSF NeTS

2002-06: MUSE: Multimodal Sensor-on-Silicon Center-of-Excellence project, NJCST

2002-05: Dynamic Spectrum Management Policy and Technology, NSF NeTS

2001-06: Hierarchical Self-Organizing Ad-Hoc Wireless Network

2000-01: AirBurst: MIMO/OFDM system for broadband fixed wireless access

1995-99: WATMnet: 5 Ghz/25 Mbps mobile broadband wireless local area network  
1994-98: QoS-aware software framework for ATM networks  
1993-95: Multimedia network processor, MCCP  
1991-92: Networking of high resolution video (HRV) workstation  
1991-92: DirecTV/MPEG++ system design  
1989-92: AD-HDTV system design & FCC prototype  
1987-88: Packet-based digital video distribution system for CATV  
1984-87: VSAT (very small aperture terminal) satellite data network design & prototype  
1978-85: Medium Access Control (MAC) protocols, SREJ-ALOHA, ARRA, packet CDMA

**Professional:**

Past Editor, IEEE Trans. on Networking, IEEE Trans. on Comm, IEEE Comm. Magazine, IEEE  
Multimedia and ACM M2CR  
Past Chair, Data Comm Systems Committee, IEEE ComSoc,  
Member, FCC ACATS (HDTV) System Analysis Task Force (1991-92)  
Vice Chairman, Wireless ATM Working Group, ATM Forum (1996-99)  
Member, Broadband Last Mile Committee, National Academies of Science & Engineering (1999-  
2002)  
Advisor for Future Mobile Network project, NICT, Japan (2002-06)  
Board of Directors, Semandex Networks, Inc., a Princeton, NJ based startup (2001-2008)  
Member of Scientific Council, Thomson Inc. (2004-10)  
Technical Advisory Board, NJ Economic Development Authority Edison Fund, (2005-present)  
Technical Advisory Board, NTT DoCoMo Laboratories, USA (2007-11)  
Advisor for Telecommunication Center-of-Excellence (TCOE) program, Govt. of India (2004-08)  
Member of NSF GENI (Global Environment for Network Innovation) Planning Group (2005-07)  
Chair, GENI Wireless Working Group (2006-07)  
Chair, Computing Coordination Council (CCC), Rutgers University (2007-12)  
Senior Advisory Board Member, 4WARD FP7 Project, European Commission, (2008-10)  
External Advisor, European Commission FP7 Smart Santander Project (2011-present)  
Advisory Board Member: Igolgi Inc, Zipreel Inc.(2012-present)  
International Advisory Board member, National Institute of Information and Communications  
Technology (NICT), Japan (2014-present)

**Publications & Patents:**

~250 journal and conference papers,  
~10 book chapters and edited book entitled "Emerging Wireless Technologies and the Future  
Mobile Internet" (with Mario Gerla), Cambridge University Press, 2011.  
~15 patents on various topics including broadband wireless networks, medium access control  
(MAC) protocols, digital video, VSAT networks.

**Awards:**

Faculty of the Year Award, Rutgers School of Engineering (2017)  
IEEE Donald J. Fink Best Paper Award (2014)  
ECEDHA Innovative Program Award (2013)  
Distinguished Alumni Award, Indian Institute of Technology, Kharagpur (2012)  
Schwarzkopf Prize for Technological Innovation (2008)  
ISI "most frequently cited author" in the field of communications during 1985-2005 (2006)  
Fellow of IEEE (1995)  
Sarnoff Team Award for Development of the AD-HDTV System (1990)  
RCA Outstanding Technical Achievement Awards (1982, 83 and 85)

**Research Grants as PI:** Awarded a total of \$22.9M from National Science Foundation Grants since starting at Rutgers in 2001; raised an additional ~\$7.5M in industry funding for WINLAB's sponsorship program during the same period.

1. NRT: ORBIT: Open Access Research Testbed for Next Generation Wireless Networks, NSF CNS 0335244, 2003-08, **\$6,976,580**.
2. Planning Grant: New Architectures and Disruptive Technologies for the Future Internet – A Wireless and Mobile Network Community Perspective”, NSF CNS 053645, 2005-07 **\$200,000**.
3. Collaborative Proposal: Infrastructure for Experimental Network Architecture Research, NSF CNS 0540836, 2005-06, **\$30,000**.
4. Collaborative Research: NeTS FIND: CogNet – An Experimental Protocol Stack for Cognitive Radio Networks and Its Integration with the Future Internet”, NSF CNS 0626740, 2006-09, **\$450,000**.
5. Collaborative Research: Facility for Experimental Network Architecture Research, CNS 0631552, 2006-08, **\$310,693**.
6. NRT: ORBIT Open Access Research Testbed for Next Generation Wireless Networks” - supplement, CNS0638527, 2006-08, **\$525,000**.
7. The ORBIT Radio Grid as a Flexible Large Scale Community Testbed for Next Generation Wireless Research”, CNS 0725053, 2007-10, **\$1,998,875**.
8. CRI: Major Equipment Upgrade and Improved Operations Support for the ORBIT Open-Access Wireless Testbed, NSF, CNS-0958483, 2010-15, **\$2,025,000**
9. FIA: MobilityFirst: A Robust and Trustworthy Mobility-Centric Architecture for the Future Internet, NSF CNS-1040735, 2010-14, **\$3,339,000**
10. FIA: MobilityFirst: A Robust and Trustworthy Mobility-Centric Architecture for the Future Internet - supplement, NSF CNS-1341813, 2013-14, **\$545,000**
11. FIA-NP: The Next-Phase MobilityFirst Project - From Architecture and Protocol Design to Advanced Services and Trial Deployments, NSF FIA-NP Award #CNS-134529, 2016-19, **\$2,867,000**
12. EARS SAVANT: High-Performance Dynamic Spectrum Access via Inter-Network Coordination, NSF CNS- 1247764, 2013-16, **\$455,000**
13. NeTS JUNO: Virtual Mobile Cloud Network for Realizing Scalable Real-Time Cyber-Physical Systems”, NSF CNS- 1404118, 2014-17 **\$300,000**
14. CI-EN: ORBIT GEN 3 - Enhancing the ORBIT Testbed with LTE and Cloud Radio Processing, NSF CI # 1513110, 2015-19, **\$2,275,000**
15. FIA-NP: The Next-Phase MobilityFirst Project - From Architecture and Protocol Design to Advanced Services and Trial Deployments - supplement, NSF FIA-NP Award #CNS-1636529, 2016-18, **\$598,451**

**Thesis Advisor** (MS and PhD students supervised – 51):

- **Ph.D. Students (18):** F. Bronzino (2016, Inria), S. Sagari (2016, Huawei), F. Zhang (2015, Facebook), joint with Prof. Y. Zhang, K. Su (2015, Zenefits), A. Baid (2014, Tarana Wireless), T. Vu (2013, U Colorado – Denver), G. Bhanage (2011, Aruba), L. Dong (2011, Interdigital), L. Luo (2010, Marvel), S. Ganu (2007, Aruba), S. Gopal (2007, Ortiva), X. Jing (2007, Sony), H. Liu (2007, Rutgers), Z. Wu (2007, Qualcomm), S. Zhao (2007, Qualcomm), J. Li (1999, Thomson), D. Reininger (1996, Semandex), P. Narasimhan (1995, Aruba), J. Zdepski (1992, Open TV).
- **MS Thesis Students (31):** S. Mathur (2017), K. Bujaranpally (2016), S. Srinivas (2016), P. Kulkarni (2016), A. Babu (2015), A. Sheelavant (2015), S. Sriram (2015), A. Krishnamoorthy (2013), A. Chanda (2013), A. Koshibe (2013), S. Mukherjee (2013), S. Pandhe (2013), N. Somani (2012), A. Baid (2011), S. Pinagapany (2011), S. Sagari (2011), K.C. Huang (2010), S. Gopinath (2009), R. Daya (2009), H. Viswanathan (2009), A. Saleem (2008), S. Anandaraman (2008), R. Mahindra (2007), S. Singhal (2007), S. Makharia (2007), S. Swami (2006), L. Han (2006), S. Shrivastava (2006), L. Luo (2006),

S. Somasundaram (2006), S. Das (2005), I. Rajagopal (2004), B. Anepu (2004), L. Raju (2004) M. Demirhan (2003), W. Wu (2003), H. Bhaskaran (2003).

**Current Ph.D. Students:**

S. Mukherjee, P. Karimi, S. Maheswari, S. Chowdhury

**Post-Doctorates Supported:**

S. Jain, G. Hadjichristofi, S. Nelson, K. Nagaraja, Y. Hu, J. Chen

### **Current Publications (present ~2010):**

1. S Mukherjee, S. Sriram, T. Vu, D. Raychaudhuri, EIR: Edge-aware inter-domain routing protocol for the future mobile internet, *Computer Networks*, 127, 13-30 (2017).
2. Shreyasee Mukherjee, Shravan Sriram, Dipankar Raychaudhuri: Edge-aware inter-domain routing for realizing next-generation mobility services. *Proc. IEEE ICC 2017*: 1-6
3. Shweta S. Sagari, Siddarth Mathur, Dola Saha, Syed Obaid Amin, Ravishankar Ravindran, Ivan Seskar, Dipankar Raychaudhuri, Guoqiang Wang: Realization of CDMA-based IoT Services with Shared Band Operation of LTE in 5G. *MECOMM@ ACM SIGCOMM 2017*: 37-42
4. Jiachen Chen, Sugang Li, Haoyang Yu, Yanyong Zhang, Dipankar Raychaudhuri, Ravishankar Ravindran, Hongju Gao, Lijun Dong, Guoqiang Wang, Hang Liu: Exploiting ICN for Realizing Service-Oriented Communication in IoT. *IEEE Communications Magazine* 54(12-Supp): 24-30 (2016)
5. Wuyang Zhang, Yi Hu, Yanyong Zhang, Dipankar Raychaudhuri: SEGUE: Quality of Service Aware Edge Cloud Service Migration. *IEEE CloudCom 2016*: 344-351
6. Feixiong Zhang, Yanyong Zhang, Dipankar Raychaudhuri: Edge caching and nearest replica routing in information-centric networking. *IEEE Sarnoff Symposium 2016*: 181-186.
7. Francesco Bronzino, Dipankar Raychaudhuri, Ivan Seskar: Demonstrating Context-Aware Services in the Mobility First Future Internet Architecture. *Proc. ITC 2016*: 201-204.
8. Mehrnaz Tavan, Roy D. Yates, Dipankar Raychaudhuri: Connected vehicles under information-centric architectures. *VNC 2016*: 1-8.
9. Dipankar Raychaudhuri, Ivan Seskar, Max Ott: ORBIT: Wireless Experimentation. *The GENI Book 2016*: 63-95
10. Ivan Seskar, Dipankar Raychaudhuri, Abhimanyu Gosain: 4G Cellular Systems in GENI. *The GENI Book 2016*: 179-201
11. Francesco Bronzino, Dragoslav Stojadinovic, Cédric Westphal, Dipankar Raychaudhuri: Exploiting network awareness to enhance DASH over wireless. *CCNC 2016*: 1092-1100
12. Zhuo Chen, Roy D. Yates, Dipankar Raychaudhuri: Dynamic node-disjoint multipath routing for millimeter wave networks using directional antennas. *CISS 2016*: 430-435
13. Jiachen Chen, Haoyuan Xu, Shashikanth Penugonde, Yanyong Zhang, Dipankar Raychaudhuri: Exploiting ICN for Efficient Content Dissemination in CDNs. *HotWeb 2016*: 14-19
14. Adrian Lara, Shreyasee Mukherjee, Byrav Ramamurthy, Dipankar Raychaudhuri, K. K. Ramakrishnan: Inter-domain routing with cut-through switching for the MobilityFirst Future Internet architecture. *ICC 2016*: 1-6
15. Sugang Li, Jiachen Chen, Haoyang Yu, Yanyong Zhang, Dipankar Raychaudhuri, Ravishankar Ravindran, Hongju Gao, Lijun Dong, Guoqiang Wang, Hang Liu: MF-IoT: A MobilityFirst-Based Internet of Things Architecture with Global Reach-Ability and Communication Diversity. *IoTDI 2016*: 129-140
16. Kai Su, K. K. Ramakrishnan, Dipankar Raychaudhuri: Scalable, network-assisted congestion control for the MobilityFirst future internet architecture. *LANMAN 2016*: 1-2
17. Natsumi Kumatani, Mitomo Isomura, Tutomu Murase, Masato Oguchi, Shweta Sagari, Akash Baid, Ivan Seskar, Dipankar Raychaudhuri: Context Aware Multi-Rate Control in Densely Deployed IEEE802.11 WLAN for Avoiding Performance Anomaly. *LCN 2016*: 363-370

18. Siddarth Mathur, Dola Saha, Dipankar Raychaudhuri: Cross-layer MAC/PHY protocol to support IoT traffic in 5G: poster. *MobiCom 2016*: 467-468
19. F. Bronzino and D. Raychaudhuri, "Abstractions and Solutions to Support Smart Objects in the Future Internet", *Proc. 2<sup>nd</sup> Workshop on Smart Objects*, New York, Oct 2016.
20. F. Bronzino, D. Raychaudhuri and I. Seskar, "Experiences with Testbed Evaluation of the MobilityFirst Future Internet Architecture", *Proc. 1<sup>st</sup> Intl. Conf. on Networking Science and Practice, ITC 28*, Wurzburg, Germany, Sept 2016.
21. P. Karimi, I. Seskar and D. Raychaudhuri, "Achieving High Performance Cellular Data Services with Multi-Network Access", *Proc. IEEE Globecom*, Dec 2016.
22. S. Mukherjee, F. Bronzino, S. Srinivasan, J. Chen and D. Raychaudhuri, "Achieving Scalable Push Multicast Using Global Name Resolution Services", *Proc. IEEE Globecom*, Dec 2016.
23. K. Nakauichi, F. Bronzino, Y. Shoji, I. Seskar and D. Raychaudhuri, "vMCN: Virtual Mobile Cloud Network for Realizing Scalable Real Time Cyber Physical Systems", *Proc. Workshop on Distributed Cloud Computing (DCC)*, Chicago, July 2016.
24. M. Tavan, R. Yates and D. Raychaudhuri, "Connected Vehicles under Information Centric Architectures", *Proc. IEEE VTC*, Columbus, OH, Dec 2016.
25. Y. Hu, F. Zhang, K.K. Ramakrishnan, and D. Raychaudhuri, "GeoTopo: A PoP Level Topology Generator for Evaluation of Future Internet Architectures", *Proc. ICNP*, 2-15, San Francisco, CA, Nov. 2015
26. 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. *Commun. ACM* 58(6): 78-89 (2015)
27. Akash Baid, Dipankar Raychaudhuri: Understanding Channel Selection Dynamics in Dense Wi-Fi Networks. *IEEE Communications Magazine* 53(1): 110-117 (2015)
28. Kai Su, Francesco Bronzino, K.K. Ramakrishnan, Dipankar Raychaudhuri: MFTP: A Clean-Slate Transport Protocol for the Information Centric MobilityFirst Network. *ICN 2015*: 127-136
29. Shreyasee Mukherjee, Akash Baid, Dipankar Raychaudhuri: Integrating Advanced Mobility Services into the Future Internet Architecture. *COMSNETS 2015*: 1-8
30. Shweta Sagari, Samuel Bausting, Dola Saha, Ivan Seskar, Wade Trappe, Dipankar Raychaudhuri: Coordinated Dynamic Spectrum Management of LTE-U and Wi-Fi Networks. *DySPAN 2015*: 209-220 [**Best Paper Award**]
31. Mitomo Isomura, Kazunori Miyoshi, Tutomu Murase, Masato Oguchi, Akash Baid, Shweta Sagari, Ivan Seskar, Dipankar Raychaudhuri: Measurement and Analysis on QoS of Wireless LAN Densely Deployed with Transmission Rate Control. *WCNC 2015*: 1865-1870
32. Arun Venkataramani, James F. Kurose, Dipankar Raychaudhuri, Kiran Nagaraja, Morley Mao, Suman Banerjee: MobilityFirst: A Mobility-Centric and Trustworthy Internet Architecture. *Computer Communication Review* 44(3): 74-80 (2014)
33. Mark Berman, Jeffrey S. Chase, Lawrence H. Landweber, Akihiro Nakao, Max Ott, Dipankar Raychaudhuri, Robert Ricci, Ivan Seskar: GENI: A Federated Testbed for Innovative Network Experiments. *Computer Networks* 61: 5-23 (2014)
34. Dipankar Raychaudhuri, Akash Baid: NASCOR: Network Assisted Spectrum Coordination Service for Coexistence between Heterogeneous Radio Systems. *IEICE Transactions* 97-B(2): 251-260 (2014)

35. Adrian Lara, Byrav Ramamurthy, Kiran Nagaraja, Aravind Krishnamoorthy, Dipankar Raychaudhuri: Using OpenFlow to Provide Cut-Through Switching in MobilityFirst. *Photonic Network Communications* 28(2): 165-177 (2014)
36. Dipankar Raychaudhuri, Narayan B. Mandayam: *Frontiers of Wireless and Mobile Communications*. Proceedings of the IEEE 100(4): 824-840 (2012) [**Awarded IEEE Donald Fink Prize Paper Award, 2014**]
37. Francesco Bronzino, Chao Han, Yang Chen, Kiran Nagaraja, Xiaowei Yang, Ivan Seskar, Dipankar Raychaudhuri: In-Network Compute Extensions for Rate-Adaptive Content Delivery in Mobile Networks. *ICNP 2014*: 511-517
38. Shreyasee Mukherjee, Kai Su, Narayan B. Mandayam, K.K. Ramachandran, Dipankar Raychaudhuri, Ivan Seskar: Evaluating Opportunistic Delivery of Large Content with TCP over WiFi in I2V Communication. *LANMAN 2014*: 1-6
39. Feixiong Zhang, Yi Hu, Yanyong Zhang, Dipankar Raychaudhuri: Poster: Enabling Mobile Content-Oriented Networking in the MobilityFirst Future Internet Architecture. *MobiHoc 2014*: 441-442
40. Shreyasee Mukherjee, Akash Baid, Ivan Seskar, Dipankar Raychaudhuri: Network-Assisted Multihoming for Emerging Heterogeneous Wireless Access Scenarios. *PIMRC 2014*: 1520-1524
41. Sugang Li, Yanyong Zhang, Dipankar Raychaudhuri, Ravishankar Ravindran: A Comparative Study of MobilityFirst and NDN Based ICN-IoT Architectures. *QSHINE 2014*: 158-163
42. Adrian Lara, Byrav Ramamurthy, Kiran Nagaraja, Aravind Krishnamoorthy, Dipankar Raychaudhuri: Cut-through Switching Options in a MobilityFirst Network with OpenFlow. *IEEE ANTS 2013*: 1-6
43. Arun Venkataramani, Abhigyan Sharma, Xiaozheng Tie, Hardeep Uppal, David Westbrook, Jim Kurose, Dipankar Raychaudhuri: Design Requirements of a Global Name Service for a Mobility-Centric, Trustworthy Internetwork. COMSNETS 2013: 1-9
44. Jun Li, Yanyong Zhang, Yih-Farn Chen, Kiran Nagaraja, Sugang Li, Dipankar Raychaudhuri: A Mobile Phone Based WSN Infrastructure for IoT over Future Internet Architecture. *GreenCom/iThings/CPScom 2013*: 426-433
45. Francesco Bronzino, Kiran Nagaraja, Ivan Seskar, Dipankar Raychaudhuri: Network Service Abstractions for a Mobility-Centric Future Internet Architecture. *MobiArch@MobiCom 2013*: 5-10 [**Best Paper Award**]
46. Zhuo Chen, Roy D. Yates, Dipankar Raychaudhuri: EDMAC: An Enhanced Directional Medium Access Control Protocol for 60 GHz Networks. PIMRC 2013: 1726-1730
47. Shweta Sagari, Akash Baid, Ivan Seskar, Tutomu Murase, Masato Oguchi, Dipankar Raychaudhuri: Performance Evaluation of Mobile Hotspots in Densely Deployed WLAN Environments. PIMRC 2013: 2935-2939
48. Akash Baid, Shreyasee Mukherjee, Tam Vu, Sandeep Mudigonda, Kiran Nagaraja, Junichiro Fukuyama, Dipankar Raychaudhuri: Enabling Vehicular Networking in the MobilityFirst Future Internet Architecture. WOWMOM 2013: 1-3
49. Abhishek Chanda, Cédric Westphal, Dipankar Raychaudhuri: Content Based Traffic Engineering in Software Defined Information Centric Networks. CoRR abs/1301.7517 (2013)
50. Dipankar Raychaudhuri, Kiran Nagaraja, Arun Venkataramani, "MobilityFirst: a robust and trustworthy mobility-centric architecture for the future internet," *ACM Mobile Computing and Communications Review* 16(3): 2-13 (2012).

51. Abhishek Chanda, Samuel C. Nelson, Gautam D. Bhanage, Dipankar Raychaudhuri: ByPass: Towards an Unified Transport Protocol for the Internet. Mobile Computing and Communications Review 16(4): 2-3 (2012)
52. Nehal Somani, Abhishek Chanda, Samuel C. Nelson, Dipankar Raychaudhuri: Storage Aware Routing Protocol for Robust and Efficient Services in the Future Mobile Internet. ICC 2012: 5849-5853
53. Tam Vu, Akash Baid, Yanyong Zhang, Thu D. Nguyen, Junichiro Fukuyama, Richard P. Martin, Dipankar Raychaudhuri: DMap: A Shared Hosting Scheme for Dynamic Identifier to Locator Mappings in the Global Internet. ICDCS 2012: 698-707
54. Akash Baid, Tam Vu, Dipankar Raychaudhuri: Comparing Alternative Approaches for Networking of Named Objects in the Future Internet. INFOCOM Workshops 2012: 298-303
55. Jun Li, Yan Shvartzshnaider, John-Austen Francisco, Richard P. Martin, Kiran Nagaraja, Dipankar Raychaudhuri: Delivering Internet-of-Things Services in MobilityFirst Future Internet Architecture. IOT 2012: 31-38
56. Jun Li, Yanyong Zhang, Kiran Nagaraja, Dipankar Raychaudhuri: Supporting Efficient Machine-to-Machine Communications in the Future Mobile Internet. WCNC Workshops 2012: 181-185
57. Akash Baid, Michael Schapira, Ivan Seskar, Jennifer Rexford, Dipankar Raychaudhuri: Network Cooperation for Client-AP Association Optimization. WiOpt 2012: 431-436
58. Jun Li, Yan Shvartzshnaider, John-Austen Francisco, Richard P. Martin, Dipankar Raychaudhuri: Enabling Internet-of-Things Services in the MobilityFirst Future Internet Architecture. WOWMOM 2012: 1-6
59. Akash Baid and D. Raychaudhuri, "Wireless Access Considerations for the MobilityFirst Future Internet Architecture", IEEE Sarnoff Symposium, 2012, 1-5
60. T. Vu, Akash Baid, Yanyong Zhang, Thu D. Nguyen, Junichiro Fukuyama, Richard P. Martin, Dipankar Raychaudhuri, "DMap: A Shared Hosting Scheme for Dynamic Identifier to Locator Mappings in the Global Internet," in Proceedings of ICDCS, 2012.
61. A. Baid, T. Vu, D. Raychaudhuri, "Comparing Alternative Approaches for Networking of Named Objects in the Future Internet," 2012 IEEE Infocom NOMEN workshop.
62. D. Raychaudhuri, M. Gerla: Emerging Wireless Technologies and the Future Mobile Internet. Cambridge University Press, 2011, ISBN 978-0-521-11646-6 [edited book]
63. Gautam D. Bhanage, Dipankar Raychaudhuri, Ivan Seskar: Backlogged Queue Based MAC Frame Aggregation. Pervasive and Mobile Computing 7(4): 449-466 (2011)
64. Gautam D. Bhanage, Ivan Seskar, Dipankar Raychaudhuri: A Virtualization Architecture for Mobile WiMAX Networks. Mobile Computing and Communications Review 15(4): 26-37 (2011)
65. Ivan Seskar, Kiran Nagaraja, Samuel C. Nelson, Dipankar Raychaudhuri: MobilityFirst Future Internet Architecture Project. AINTEC 2011: 1-3
66. Gautam D. Bhanage, Abhishek Chanda, Jun Li, Dipankar Raychaudhuri: Storage-Aware Routing Protocol for the MobilityFirst Network Architecture. EW 2011
67. Lijun Dong, Dan Zhang, Yanyong Zhang, Dipankar Raychaudhuri: Optimal Caching with Content Broadcast in Cache-and-Forward Networks. ICC 2011: 1-5
68. George C. Hadjichristofi, Christoforos N. Hadjicostis, Dipankar Raychaudhuri: Security in the Cache and Forward Architecture for the Next Generation Internet. ICDCN 2011: 328-339



69. Lijun Dong, Yanyong Zhang, Dipankar Raychaudhuri: Enhance Content Broadcast Efficiency in Routers with Integrated Caching. ISCC 2011: 320-322
70. Shweta Sagari, Gautam D. Bhanage, Dipankar Raychaudhuri: Adaptive Geolocation Based Interference Control for Hierarchical Cellular Network with Femtocells. PIMRC 2011: 132-136
71. Gautam D. Bhanage, Yanyong Zhang, Dipankar Raychaudhuri: Virtual Wireless Network Mapping: An Approach to Housing MVNOs on Wireless Meshes. PIMRC 2011: 187-191
72. Gautam D. Bhanage, Ivan Seskar, Dipankar Raychaudhuri: A Service Oriented Experimentation Framework for Virtualized WiMAX Systems. TRIDENTCOM 2011: 152-161
73. Kuo-Chun Huang, Dipankar Raychaudhuri: MAC Protocol Adaptation in Cognitive Radio Networks. WCNC 2011: 245-250
74. Yumi Hirano, Shweta Jain, Dipankar Raychaudhuri: Chain Effect of Route Recoveries and MAC Layer Collisions in Wireless Multi-Hop Networks. WCNC 2011: 452-457
75. Akash Baid, Suhas Mathur, Ivan Seskar, Sanjoy Paul, Amitabha Das, Dipankar Raychaudhuri: Spectrum MRI: Towards Diagnosis of Multi-Radio Interference in the Unlicensed Band. WCNC 2011: 534-539
76. Lijun Dong, Dan Zhang, Yanyong Zhang, Dipankar Raychaudhuri: Performance Evaluation of Content Based Routing with In-Network Caching. WOCC 2011: 1-6
77. Shweta Jain, Snehapreethi Gopinath, Dipankar Raychaudhuri: STAR: Storage Aware Routing Protocol for Generalized Delay Tolerant Networks. WOWMOM 2011: 1-4
78. S. C. Nelson, G. Bhanage, and D. Raychaudhuri, "GSTAR: generalized storage-aware routing for MobilityFirst in the future mobile internet," in Proceedings of MobiArch, 2011, pp. 19–24.
79. D. Raychaudhuri, "MobilityFirst: A Trustworthy and Robust Mobility-Centric Architecture for the Future Mobile Internet", Keynote Talk, IEEE PIMRC 2011, Toronto, Canada.
80. Dipankar Raychaudhuri: Architectures and Technologies for the Future Mobile Internet. IEICE Transactions 93-B(3): 436-441 (2010)
81. Gautam D. Bhanage, Dipti Vete, Ivan Seskar, Dipankar Raychaudhuri: SplitAP: Leveraging Wireless Network Virtualization for Flexible Sharing of WLANs. GLOBECOM 2010: 1-6
82. Gautam D. Bhanage, Ronak Daya, Ivan Seskar, Dipankar Raychaudhuri: VNTS: A Virtual Network Traffic Shaper for Air Time Fairness in 802.16e Systems. ICC 2010: 1-6
83. Snehapreethi Gopinath, Shweta Jain, Shivesh Makharia, Dipankar Raychaudhuri: An Experimental Study of the Cache-and-Forward Network Architecture in Multi-Hop Wireless Scenarios. LANMAN 2010: 1-6
84. Gautam D. Bhanage, Ivan Seskar, Yanyong Zhang, Dipankar Raychaudhuri, Shweta Jain: Experimental Evaluation of OpenVZ from a Testbed Deployment Perspective. TRIDENTCOM 2010: 103-112
85. Lijun Dong, Dan Zhang, Yanyong Zhang, Dipankar Raychaudhuri: Optimized Content Caching and Request Capture in CNF Networks. WICON 2010: 1-9
86. Gautam D. Bhanage, Dipankar Raychaudhuri, Ivan Seskar: Using a Backlogged Queue Approach for Adaptive MAC Frame Aggregation. WOWMOM 2010: 1-9.

### Most Cited Papers:

1. D. Raychaudhuri, I. Seskar, M. Ott, S. Ganu, K. Ramachandran, H. Kremo, R. Siracusa, H. Liu and M. Singh, "Overview of the ORBIT Radio Grid Testbed for Evaluation of Next-Generation Wireless Network Protocols," *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC'05)*, March 2005.
2. D. Raychaudhuri, et al, "WATMnet: A Prototype Wireless ATM System for Multimedia Personal Communication", *IEEE Journal of Selected Areas in Communications*, January 1997, pp. 83-95.
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### Recent Keynote & Industry/Government Talks (present ~2015)

1. Laboratory for Information and Communication Sciences (LINCS), Paris, "Future Directions in Wireless Technology", June 2017
2. ACM MobiArch 2016, "5G Network Architecture and the Future Mobile Internet", New York, Oct 2016
3. NGP (Next Generation Protocol) Forum, Hague at SDN World Congress, Oct 2016.
4. Huawei Strategic Technology Workshop (STW), "MobilityFirst Future Internet Architecture", Shenzhen, China May 2016.
5. NGMN (Next Generation Mobile Network) Verticals Meeting, "Internet-of-Things Requirements and Architecture", Feb 2016, San Jose, CA
6. IEEE Sarnoff Symposium, "High Performance Dynamic Spectrum Management via Internetwork Cooperation", Sept 2015, Newark, NJ
7. White House Office of Science and Technology Policy (OSTP), "5G Technology Briefing", July 2015
8. IEEE 5G Symposium, "5G Network Architecture and the Future Mobile Internet", Princeton, NJ, May 2015.
9. MIT Workshop on New Frontiers in Networking, "Future Trends in Wireless Networking", April 2015
10. IEEE ComsNets 2015, "Integrating Advanced Mobility Services into the Future Internet Architecture", Bangalore, India, Jan 2015