

Amreesh D. Phokeer

Research Manager

African Network Information Centre (AFRINIC)

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AFRINIC-Labs: <https://github.com/afrinic-labs>
Google scholar: <https://scholar.google.com/citations?user=kUrZ2U4AAAAJ>
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- ABOUT
- Internet Engineer and Researcher with more than 10 years experience in software engineering, information security and data analysis.
 - Strong data analytical, visualization and programming skills especially with Python.
 - Insightful and result-driven with notable success in implementing diverse Internet core security frameworks such as RPKI and DNSSEC.
 - Extensive knowledge of core Internet protocols and a frequent participant at the IETF.
 - Strong team-work spirit with experience of working in highly international environments for years.
 - Excellent English/French writing and oral presentation skills.

AREAS OF EXPERTISE Internet measurements, Data Visualization, Statistical analysis, Internet protocols, Network and system security, Project Management.

WORK EXPERIENCE

AFRINIC

Research Manager	January 2017 to present
Research Engineer	July 2015 to January 2017
Applications Unit Manager	October 2011 to June 2015
Software Engineer	January 2011 to October 2011

1. Currently responsible of Internet security and Internet measurement research projects. Principal investigator on the "Measuring Internet Resilience in Africa" project with ISOC.
2. Collaborating with a team of international researchers to conduct Internet measurement campaigns to better understand the African Internet Infrastructure development and challenges - from security, performance and economic perspectives.
3. Developed and implemented multiple information portals with both African and international collaborators namely AIRRS with the RIPE NCC, WIDER with the Internet Society South Africa Chapter and AFRINIC Stats internally.
4. Chaired the AFRINIC Measurement Working Group and organized Internet Measurement workshop and hackathons at NOG events.
5. Organized a scientific workshop on Internet Measurement Research for Africa (IMRA) at AFRICOMM.
6. Managed the AFRINIC Research Collaboration (ARC) program to foster relationship with academic institutions.

7. Participated in the formulation of the AFRINIC Research agenda and authored multiple publications on Internet performance, security and policy.
8. Designed and implemented core Internet security frameworks namely RPKI for AFRINIC resource certification and DNSSEC for signing AFRINIC Reverse zones.

National Institute of Standards and Technology (NIST)

Guest Researcher September 2008 to August 2010

1. Assisted Computational biologists in developing tools and techniques for better image analysis.
2. Integrated legacy applications into modern image processing tools.
3. Developed a project management portal to help researchers keep track of project deliverables, finance and other resources.

COMMUNITY
WORK

Global Forum for Cyber Expertise (GFCE)

Research Committee Member August 2020 to present

Member of the GFCE's Research Committee and working closely with the "Internet Standards" WG to formulate research projects related to cyber capacity building.

Academic/operator's community engagement

General Chair EAI AFRICOMM 2020	Jan 2020 to Dec 2020
ACM Internet Measurement Conference TPC Member	2020 edition
AFPIF Program Committee	Ongoing
Africa Internet Summit (AIS) Program committee	Ongoing

EDUCATION

University of Cape Town, South Africa

Ph.D., Computer Science, *Expected:* July 2021

Thesis: *Unveiling content delivery challenges in Africa*

Royal Holloway, University of London, UK

MSc, Information Security, December 2013, *Pass with Distinction*

Thesis: *Deployment of RPKI: motivation and challenges*

Telecom Nancy, University of Lorraine, France

MSc., Computer Science, June 2008

JOURNAL
PUBLICATIONS

1. Sen, Rijurekha; Ahmad, Sohaib; **Phokeer, Amreesh**; Farooq, Zaid Ahmed; Qazi, Ihsan Ayyub; Choffnes, David; Gummadi, Krishna P; Inside the walled garden: Deconstructing facebook's free basics program ACM SIGCOMM Computer Communication Review 47 5 Dec-24 2017 ACM

1. Kristoff, John; Bush, Randy; Kanich, Chris; Michaelson, George; **Phokeer, Amreesh**; Schmidt, Thomas C; Whlisch, Matthias; On Measuring RPKI Relying Parties, Proceedings of the ACM Internet Measurement Conference 484-491 2020
2. **Phokeer, Amreesh**; Chavula, Josiah; Johnson, David; Densmore, Melissa; Tyson, Gareth; Sathiaselalan, Arjuna; Feamster, Nick; On the potential of Google AMP to promote local content in developing regions, 2019 11th International Conference on Communication Systems & Networks (COMSNETS) 80-87 2019 IEEE
3. Isah, Musab; **Phokeer, Amreesh**; Chavula, Josiah; Elmokashfi, Ahmed; Asrese, Alemnew Sheferaw; State of internet measurement in Africa-A survey, International Conference on e-Infrastructure and e-Services for Developing Countries, 121-139, 2019 Springer, Cham
4. Formoso, Agustin; Chavula, Josiah; **Phokeer, Amreesh**; Sathiaselalan, Arjuna; Tyson, Gareth; Deep diving into africa's inter-country latencies, IEEE INFOCOM 2018-IEEE Conference on Computer Communications 2231-2239 2018 IEEE
5. Calandro, Enrico; Chavula, Josiah; **Phokeer, Amreesh**; Internet development in Africa: a content use, hosting and distribution perspective, International Conference on e-Infrastructure and e-Services for Developing Countries 131-141 2018 Springer, Cham
6. Chavula, Josiah; **Phokeer, Amreesh**; Calandro, Enrico; Performance barriers to cloud services in Africa's public sector: A latency perspective, International Conference on e-Infrastructure and e-Services for Developing Countries 152-163 2018 Springer, Cham
7. Singh, Siddharth; Nanda, Vedant; Sen, Rijurekha; Ahmad, Sohaib; Sengupta, Satadal; **Phokeer, Amreesh**; Farooq, Zaid Ahmed; Khan, Taslim Arefin; Kumaragaguru, Ponnuramam; Qazi, Ihsan Ayyub; An empirical analysis of facebook's free basics, Proceedings of the 2017 ACM SIGMETRICS/International Conference on Measurement and Modeling of Computer Systems 37-38 2017
8. Chavula, Josiah; **Phokeer, Amreesh**; Formoso, Agustin; Feamster, Nick; Insight into Africa's country-level latencies, 2017 IEEE AFRICON 938-944 2017 IEEE
9. **Phokeer, Amreesh**; Aina, Alain; A survey of anti-spam mechanisms and their usage from a Regional Internet Registry's perspective, 2016 IST-Africa Week Conference 01-Nov 2016 IEEE
10. Sen, Rijurekha; Pirzada, Hasnain Ali; **Phokeer, Amreesh**; Farooq, Zaid Ahmed; Sengupta, Satadal; Choffnes, David; Gummadi, Krishna P; On the free bridge across the digital divide: Assessing the quality of facebook's free basics service, Proceedings of the 2016 Internet Measurement Conference 127-133 2016
11. Hadzic, Senka; **Phokeer, Amreesh**; Johnson, David; TownshipNet: A localized hybrid TVWS-WiFi and cloud services network, 2016 IEEE International Symposium on Technology and Society (ISTAS) 01-Jun 2016 IEEE
12. **Phokeer, Amreesh**; Densmore, Melissa; Johnson, David; Feamster, Nick; A first look at mobile internet use in township communities in south africa, Proceedings of the 7th Annual Symposium on Computing for Development 01-Oct 2016
13. **Phokeer, Amreesh**; Aina, Alain; Johnson, David; DNS Lame delegations: A case-study of public reverse DNS records in the African Region, International Conference on e-Infrastructure and e-Services for Developing Countries 232-242 2016 Springer, Cham

POSTERS

1. Phokeer, Amreesh; Hadzic, Senka; Nitschke, Eric; Van Zyl, Andre; Johnson, David; Densmore, Melissa; Chavula, Josiah; iNethi Community Network: A first look at local and Internet traffic usage, Proceedings of the 3rd ACM SIGCAS Conference on Computing and Sustainable Societies 342-344 2020
 2. Calandro, Enrico; Chavula, Josiah; Phokeer, Amreesh; The impact of remote hosting on Internet performance, 2018 CPRSOUTH
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HONOURS

Awards

- ACM SIGCOMM Best CCR Award 2018
- IEEE INFOCOM 2018 Best-in-Session Presentation Award 2018
- IEEE AFRICON 2017 Most Outstanding Paper Award 2017

Scholarships

- PhD Scholarship from Hasso-Plattner Institute, Germany 2016
 - Royal Holloway Scholarship for MSc in Information Security 2012
 - Merit French Government postgraduate Scholarship 2005
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PRESENTATIONS

Workshops and Conferences (latest)

- AfPIF Virtual series - IXP Traffic Behavior During the Pandemic in Africa Oct 2020
- LINX Virtual series - Building a resilient Internet Infrastructure in Africa Oct 2020
- ITU Cyberdrill 2020 - Cybersecurity lessons learned from the pandemic Sep 2020
- SADC IXP Workshop - RIPE Atlas platform and Internet Measurements Sep 2020
- AFRINIC Webinar - State of DNS in Africa Aug 2020
- ISOC/AFRINIC - Measuring Internet Resilience in Africa Jul 2020
- AFRINIC/CAPF - Network Traffic during COVID-19 Apr 2020

TUTORIALS

DELIVERED

- Zone signing with OpenDNSSEC
 - Routing Security (IRR and RPKI)
 - RIPE Atlas Measurement platform
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SOFTWARE SKILLS

- Python, Perl, Java, JavaScript, UNIX shell scripting and others
 - REST API, MySQL, noSQL
 - OpenDNSSEC, OpenSSL, LunaSA700
 - Jupyter, pandas, numpy R, matplotlib, d3
 - Apache Superset, Kibana
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MEMBERSHIPS

- IEEE Membership
 - IEEE Communication Society Membership
 - Internet Society Membership
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LANGUAGES

- English Fluent
- French Native