

# Measurement and Analysis for Protocols

Research Group (maprg)

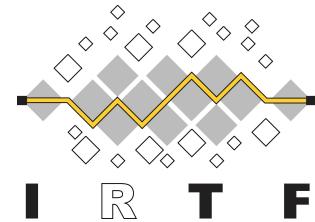
6 November 2025, IETF124 in Montreal

co-chairs <[maprg-chairs@ietf.org](mailto:maprg-chairs@ietf.org)>:

Mirja Kühlewind <[mirja.kuehlewind@ericsson.com](mailto:mirja.kuehlewind@ericsson.com)>

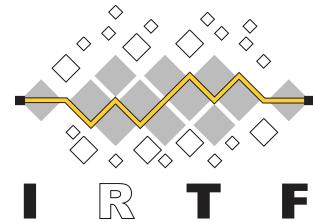
Dave Plonka <[plonka@wiscnet.net](mailto:plonka@wiscnet.net)>

# Note Well – Privacy & Code of Conduct



- As a participant in, or attendee to, any IRTF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public
- Personal information that you provide to IRTF will be handled in accordance with the Privacy Policy at <https://www.ietf.org/privacy-policy/>
- As a participant or attendee, you agree to work respectfully with other participants; please contact the ombudsteam (<https://www.ietf.org/contact/ombudsteam/>) if you have questions or concerns about this
- See [RFC 7154](#) (Code of Conduct) and [RFC 7776](#) (Anti-Harassment Procedures), which also apply to IRTF
- Also see [RFC 9775](#) (IRTF Code of Conduct)

# Goals of the IRTF



- The Internet Research Task Force (IRT) focuses on longer term research issues related to the Internet while the parallel organisation, the IETF, focuses on shorter term issues of engineering and standards making
- **The IRTF conducts research; it is not a standards development organisation**
- While the IRTF can publish informational or experimental documents in the RFC series, its primary goal is to promote development of research collaboration and teamwork in exploring research issues related to Internet protocols, applications, architecture, and technology
- See “An IRTF Primer for IETF Participants” – [RFC 7418](#)

# Administrivia

- Charter: <https://datatracker.ietf.org/group/maprg/charter/>
- Mailing List: [maprg@irtf.org](mailto:maprg@irtf.org)  
Subscriptions: <https://www.irtf.org/mailman/listinfo/maprg>
- Today's slides: <https://datatracker.ietf.org/meeting/124/session/maprg/>
- Meetecho: <https://meetings.conf.meetecho.com/ietf124/?session=34727>
  - Please join Meetecho (lite or full version) from the room to be counted in attendance (and to enter queue for questions/comments)!
- *You can find the above via the maprg meeting links in the agenda.*

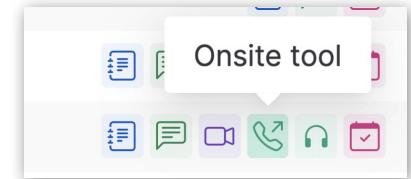
# Meeting Tips

## In-person participants

- Make sure to sign into the session via Datatracker or the QR Code in this session.
- Use Meetecho (usually the "Meetecho lite") client to:
  - join the mic queue
  - participate in shows of hands
- *Keep audio and video off if not using the onsite version.*

## Remote participants

- Make sure your audio and video are off unless you are chairing or presenting during a session.
- Use of a headset is strongly recommended.

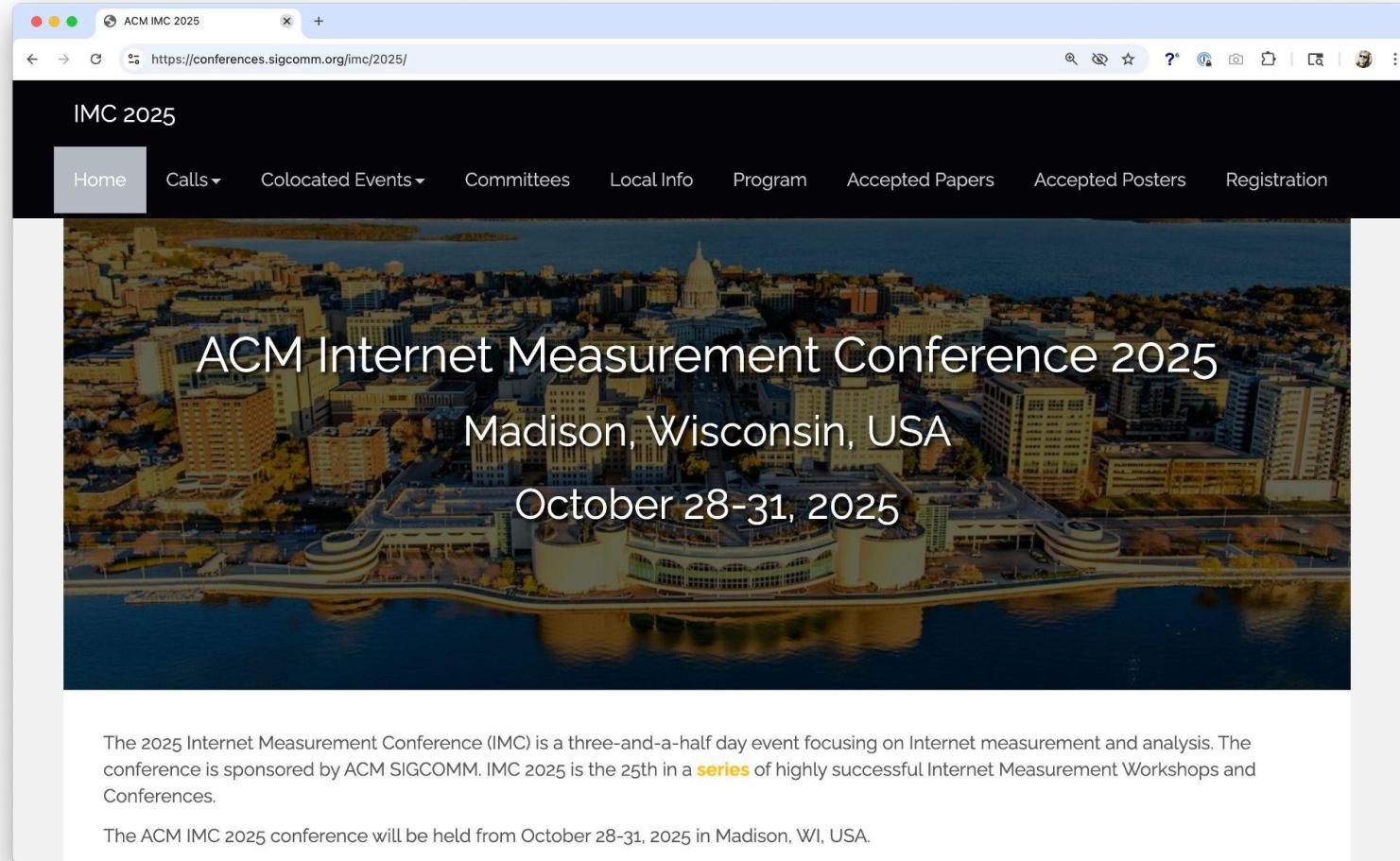


**This session is being recorded**

# Agenda

- 9:30** Overview and Status - *Mirja/Dave*
- 9:35** A Longitudinal Study of the Prevalence of WiFi Bottlenecks in Home Access Networks - Ranya Sharma
- 9:50** VPN or Vpwn? How Afraid Should You be of VPN Traffic Identification? - Tanmay Rajore
- 10:05** The Threat Landscape of IP Leasing in the RPKI Era - Weitong Li
- 10:15** Lazy Eye Inspection: Capturing the State of Happy Eyeballs Implementations - Johannes Zirngibl
- 10:25** Observations and Measurements of HTTP/2 During Large-Scale Web Crawls - Thom Vaughan
- 10:35** An overview of connection characteristics at Cloudflare's servers - Syed Suleman Ahmad (remote)
- 10:45** Measuring Trends in Server Support for Post-Quantum TLS - Tommy Pauly

<https://conferences.sigcomm.org/imc/2025/>



The screenshot shows a web browser window for the ACM IMC 2025 conference. The title bar reads "ACM IMC 2025". The address bar shows the URL "https://conferences.sigcomm.org/imc/2025/". The page header "IMC 2025" is displayed above a navigation bar with links: Home (highlighted in grey), Calls, Colocated Events, Committees, Local Info, Program, Accepted Papers, Accepted Posters, and Registration. The main content area features a large, scenic aerial photograph of Madison, Wisconsin, USA, with the text "ACM Internet Measurement Conference 2025" overlaid in large white letters. Below this, the text "Madison, Wisconsin, USA" and "October 28-31, 2025" are displayed. At the bottom of the page, a descriptive paragraph and a footer message are visible.

ACM Internet Measurement Conference 2025

Madison, Wisconsin, USA

October 28-31, 2025

The 2025 Internet Measurement Conference (IMC) is a three-and-a-half day event focusing on Internet measurement and analysis. The conference is sponsored by ACM SIGCOMM. IMC 2025 is the 25th in a **series** of highly successful Internet Measurement Workshops and Conferences.

The ACM IMC 2025 conference will be held from October 28-31, 2025 in Madison, WI, USA.

# <https://conferences.sigcomm.org/imc/2025/>

Dave's "not an exhaustive reading list" w.r.t. IETF interest!

- *Lazy Eye Inspection: Capturing the State of Happy Eyeballs Implementations*  
<https://arxiv.org/abs/2412.00263>
- *How I learned to stop worrying and love IPv6: Measuring the Internet Readiness for DNS over IPv6*  
[https://pure.mpg.de/pubman/faces/ViewItemOverviewPage.jsp?itemId=item\\_3670144\\_1](https://pure.mpg.de/pubman/faces/ViewItemOverviewPage.jsp?itemId=item_3670144_1)
- *The Developer, the RFC, and the Middlebox: An HTTP/2 Compliance Story*  
<https://repository.kaust.edu.sa/items/a5a9e844-f644-41e2-ad35-724c5d7180e3>
- *ru-RPKI-ready: the Road Left to Full ROA Adoption*  
<https://deepakgouda.github.io/assets/pdf/IMC-2025-ru-RPKI-ready.pdf>
- *From GEO to LEO: First Look Into Starlink In-Flight Connectivity*
- *Decoding DNSSEC Errors at Scale: An Automated DNSSEC Error Resolution Framework using Insights from DNSViz Logs*  
<https://taejoong.github.io/files/publications/ashiq-2025-dnssec.pdf>
- *Measuring the deployment of DNSSEC Bootstrapping Using Authenticated Signals*  
[https://pure.mpg.de/rest/items/item\\_3673827\\_1/component/file\\_3673828/content](https://pure.mpg.de/rest/items/item_3673827_1/component/file_3673828/content)

# Mirja's reading list from IMC 2025 :)

## HTTP, Transport and Performance

- **Have you SYN what I see? Analyzing TCP SYN Payloads in the Wild**
- ***The Developer, the RFC, and the Middlebox: An HTTP/2 Compliance Story***
- **A first look into long-lived BGP zombies**
- ***From GEO to LEO: First Look Into Starlink In-Flight Connectivity***

## Routing/BGP

- **Prefix2Org : Mapping BGP Prefixes to Organizations**
- **LACeS: an Open, Fast, Responsible and Efficient Longitudinal Anycast Census System**

## IPv6

- ***How I learned to stop worrying and love IPv6: Measuring the Internet Readiness for DNS over IPv6***
- **Towards a Non-Binary View of IPv6 Adoption**
- **Time To Scan: Digging into NTP-based IPv6 Scanning**
- **Protocol Compliance in Popular RTC Applications**

# Mirja's reading list from IMC 2025 :)

## Security (incl. DNSSEC and NTP)

- **Analyzing Compliance and Complications of Integrating Internationalized X.509 Certificates**
- **Attacks Come to Those Who Wait: Long-Term Observations in an SSH Honeynet**
- **Measuring the Time Source Vulnerabilities in the NTP Ecosystem**
- ***Decoding DNSSEC Errors at Scale: An Automated DNSSEC Error Resolution Framework using Insights from DNSViz Logs***
- ***Measuring the deployment of DNSSEC Bootstrapping Using Authenticated Signals***

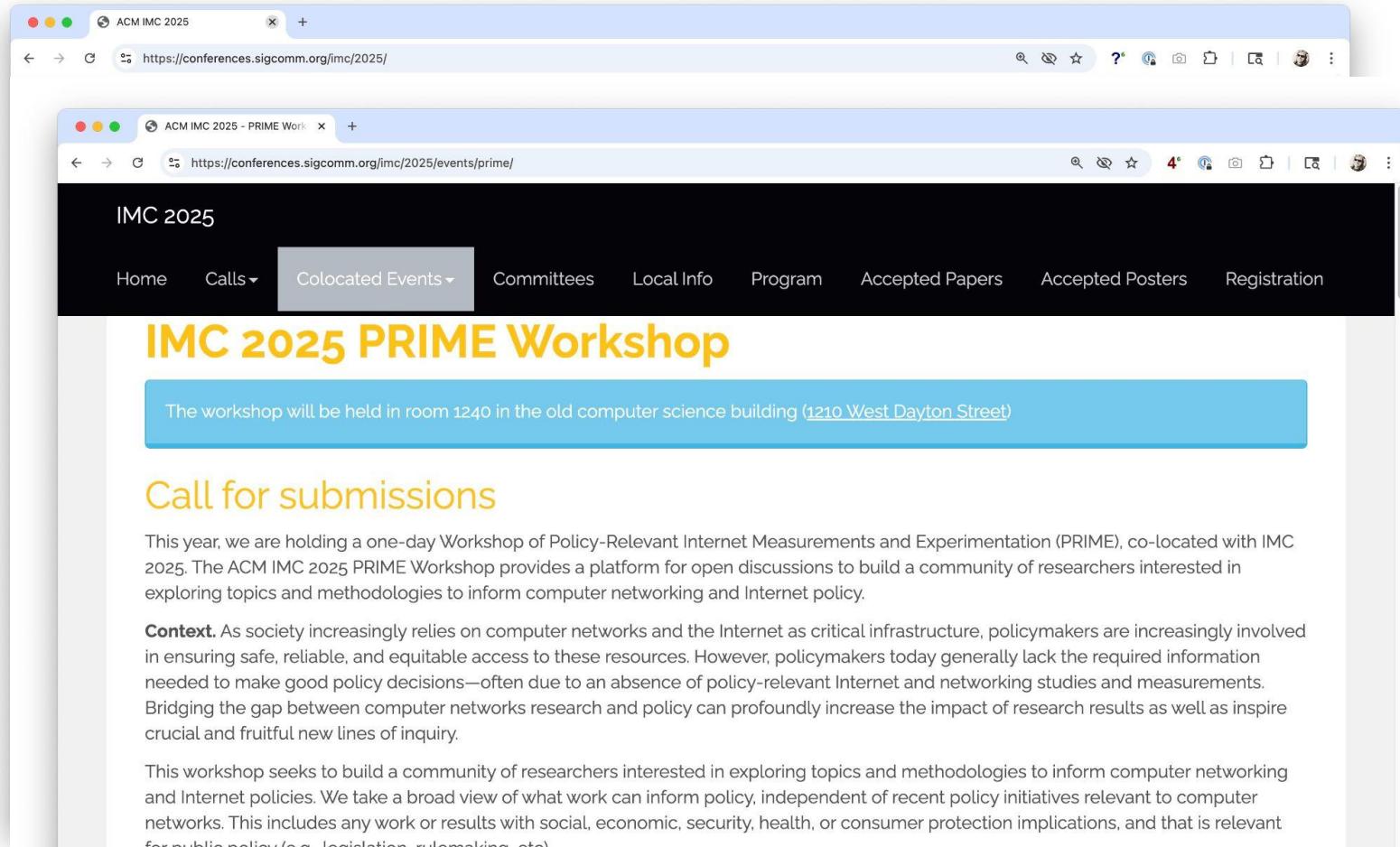
## Email

- **Understanding and Characterizing Intermediate Paths of Email Delivery: The Hidden Dependencies**

## Crawling

- **Scrapers selectively respect robots.txt directives: evidence from a large-scale empirical study**

<https://conferences.sigcomm.org/imc/2025/events/prime/>



The screenshot shows a web browser with two tabs. The top tab is titled 'ACM IMC 2025' and the bottom tab is titled 'ACM IMC 2025 - PRIME Work'. Both tabs have the URL <https://conferences.sigcomm.org/imc/2025/events/prime/>. The main content area is for the 'IMC 2025 PRIME Workshop'. It features a dark header with the 'IMC 2025' logo and a navigation bar with links: Home, Calls, Colocated Events (highlighted in grey), Committees, Local Info, Program, Accepted Papers, Accepted Posters, and Registration. The main title 'IMC 2025 PRIME Workshop' is in large yellow text. Below it, a blue box contains the text: 'The workshop will be held in room 1240 in the old computer science building ([1210 West Dayton Street](#))'. The 'Call for submissions' section follows, with a detailed description of the workshop's purpose and context. The text is in a standard black font on a white background.

ACM IMC 2025

ACM IMC 2025 - PRIME Work

https://conferences.sigcomm.org/imc/2025/events/prime/

IMC 2025

Home Calls Colocated Events Committees Local Info Program Accepted Papers Accepted Posters Registration

## IMC 2025 PRIME Workshop

The workshop will be held in room 1240 in the old computer science building ([1210 West Dayton Street](#))

### Call for submissions

This year, we are holding a one-day Workshop of Policy-Relevant Internet Measurements and Experimentation (PRIME), co-located with IMC 2025. The ACM IMC 2025 PRIME Workshop provides a platform for open discussions to build a community of researchers interested in exploring topics and methodologies to inform computer networking and Internet policy.

**Context.** As society increasingly relies on computer networks and the Internet as critical infrastructure, policymakers are increasingly involved in ensuring safe, reliable, and equitable access to these resources. However, policymakers today generally lack the required information needed to make good policy decisions—often due to an absence of policy-relevant Internet and networking studies and measurements. Bridging the gap between computer networks research and policy can profoundly increase the impact of research results as well as inspire crucial and fruitful new lines of inquiry.

This workshop seeks to build a community of researchers interested in exploring topics and methodologies to inform computer networking and Internet policies. We take a broad view of what work can inform policy, independent of recent policy initiatives relevant to computer networks. This includes any work or results with social, economic, security, health, or consumer protection implications, and that is relevant for public policy (e.g., legislation, rulemaking, etc.).

<https://conferences.sigcomm.org/imc/2025/events/prime/>

Dave's “*not* an exhaustive reading list” w.r.t. IETF interest!

- **Is Protective DNS Blocking the Wild West?**  
<https://arxiv.org/abs/2510.25352>
- **The Policy Implications of Early Termination in Internet Speed Testing, TURBOTEST: Learning When Less is Enough through Early Termination of Internet Speed Tests**  
<https://arxiv.org/pdf/2510.21141>
- **A First Look at Starlink's Impact on Internet Equity**  
[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=5376300](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5376300)  
<https://pulse.internetsociety.org/blog/a-first-look-at-starlinks-impact-on-internet-equity>
- **Measured Approaches to IPv6 Address Anonymization and Identity Association**  
<https://research.wiscnet.net/~plonka/papers/ipv6anon.pdf>
  - **Related: Publishing End-Site Prefix Lengths**  
<https://datatracker.ietf.org/doc/draft-ietf-opsawg-prefix-lengths/>

# Later today...



agenda-124-iabopen-01

https://datatracker.ietf.org/meeting/124/materials/agenda-124-iabopen

## IABOPEN @ IETF 124

*Chairs:* Jana Iyengar & Tommy Pauly

*When:* Thursday 6 November 2025, 11:30-13:00 UTC-5

*Where:* Place du Canada (Meetecho: <https://meetings.conf.meetecho.com/ietf124/?session=34834>)

- IAB Update (Chairs, 15 min)
- ETSI Discussion (Diego Lopez, 15 min)
- Age Restriction Workshop Summary (Mark, 30 min)
- Invited Talk (Raffaele Sommese, University of Twente, 20 mins)
- Open Mic (remaining time)

about the IP blocking in the Italian Piracy Shield

# Later today...

16:00-17:00: Second ARMOR x +

https://trello.com/c/p4fjRkcl

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Thursday November 6 - DULUTH

16:00-17:00: Second ARMOR Meeting

Labels Due date

Duluth Nov 6, 4:00 PM

Description

Time: 16:00-17:00  
Room: Duluth  
Meeting Title: Second ARMOR Meeting  
IETF Webex: <https://ietf.webex.com/meet/sidemeetings2>  
Meeting Organizer, email address: Nick Sullivan, [nicholas.sullivan+ietf@gmail.com](mailto:nicholas.sullivan+ietf@gmail.com)  
Meeting Description: Co-hosted by Dirk Kutscher. This session will continue conversations from the previous meeting. There will be no presentations  
Additional Resources: ARMOR Side-meeting Session 1: <https://ietf.webex.com/recordingservice/sites/ietf/recording/fc6ac6113226466982b9791bf70b46ac/playback>

Custom Fields

IETF Area: IRTF calendared? needs update

Comments and activity

MC Morgan Condie added this card to Thursday November 6 - DULUTH Oct 7, 2025, 11:03 AM