

# Measurement and Analysis for Protocols

Research Group (maprg)

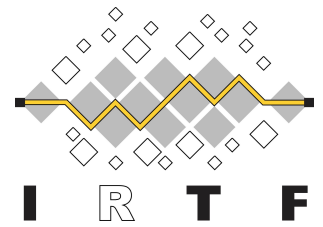
6 November 2025, IETF124 in Montreal

co-chairs <maprg-chairs@ietf.org>:

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

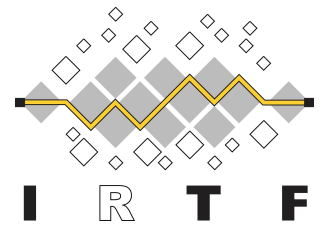
Dave Plonka <[plonka@wiscnet.net](mailto:plonka@wiscnet.net)>

# 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 (IRTF) 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](#)

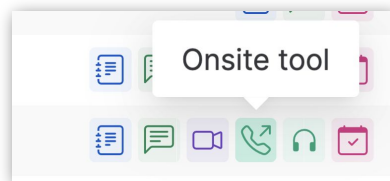
# Administrivia

- 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

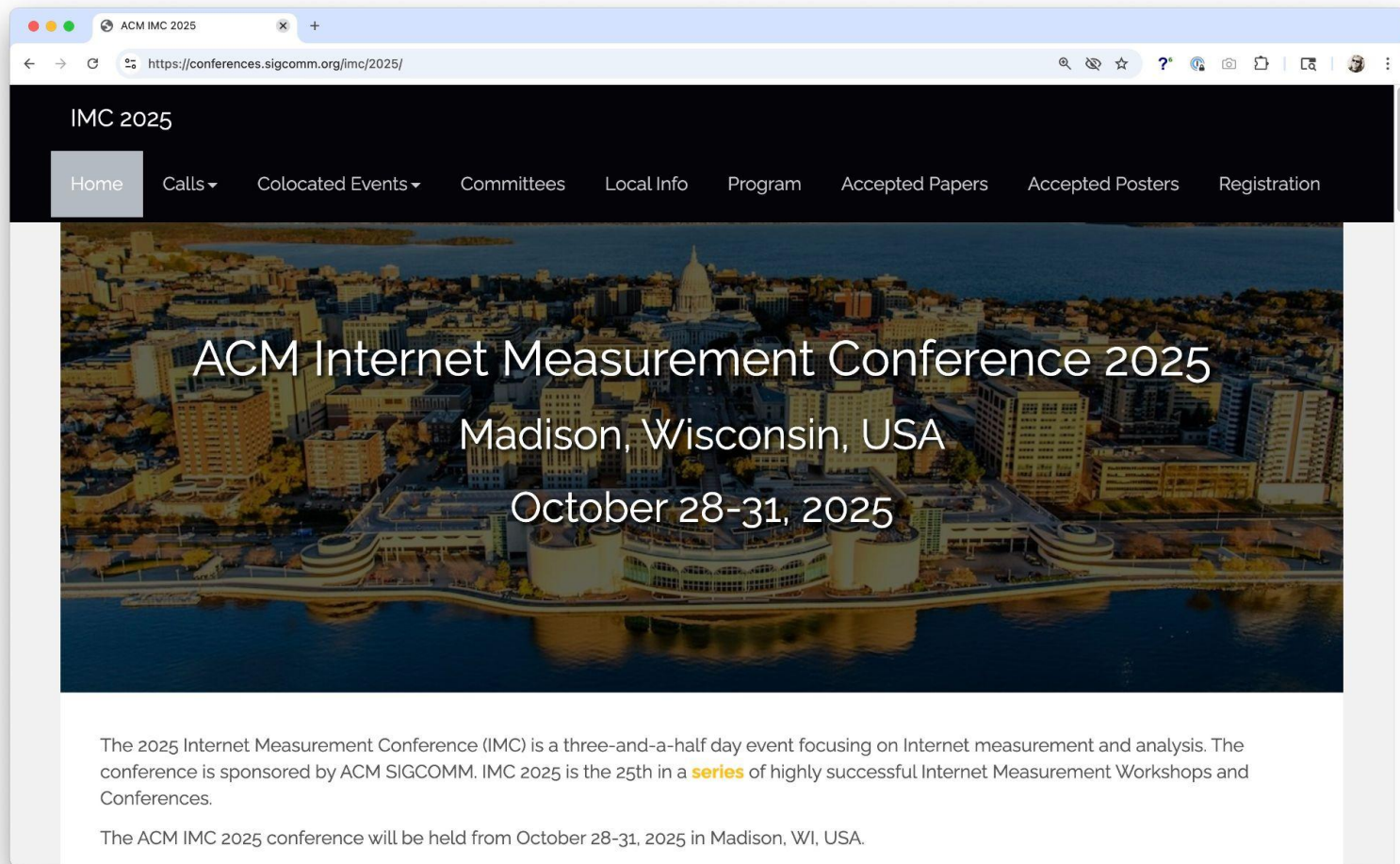
- Make sure your audio and video are off unless you are chairing or presenting during a session.
- Use of a headset is strongly recommended.

**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/>

A screenshot of a web browser displaying the ACM IMC 2025 website. The browser's address bar shows the URL 'https://conferences.sigcomm.org/imc/2025/'. The website has a dark navigation bar with the text 'IMC 2025' and a menu of links: 'Home', 'Calls', 'Colocated Events', 'Committees', 'Local Info', 'Program', 'Accepted Papers', 'Accepted Posters', and 'Registration'. The main content area features a large aerial photograph of Madison, Wisconsin, with the text 'ACM Internet Measurement Conference 2025', 'Madison, Wisconsin, USA', and 'October 28-31, 2025' overlaid. Below the image, there is a paragraph of text describing the conference and its history, followed by a line stating the conference dates and location.

IMC 2025

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

## 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. DNSEC 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***

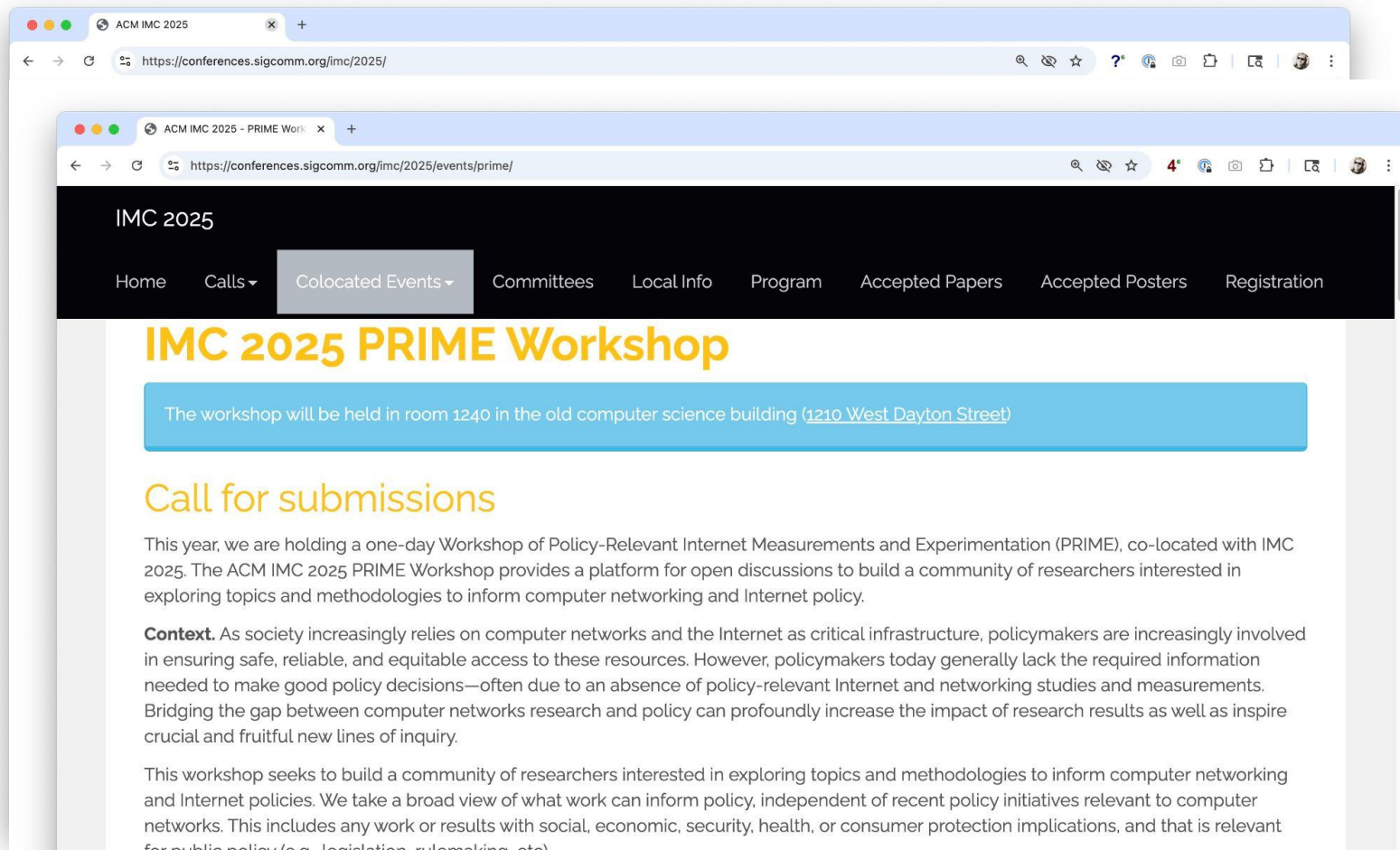
## Email

- **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/>



# <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...

The screenshot shows a web browser window with the Trello interface. The address bar shows the URL `https://trello.com/c/p4fjRkcl`. The Trello header includes navigation links for Features, Solutions, Plans, Pricing, and Resources, along with a 'Log in' button and a 'Get Trello for free' button. A cookie notice from Atlassian is visible on the left. The main content area displays a card titled '16:00-17:00: Second ARMOR Meeting' for 'Thursday November 6 - DULUTH'. The card has an orange 'Duluth' label and a due date of 'Nov 6, 4:00 PM'. The card's description includes the time, room, meeting title, IETF Webex link, meeting organizer information, and meeting description. The 'Custom Fields' section shows 'IETF Area' as 'IRTF' and 'calendared?' as 'needs update'. The right sidebar shows the 'Comments and activity' section with a comment from Morgan Condie.

16:00-17:00: Second ARMOR Meeting

Labels: Duluth Due date: 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/recording/service/sites/ietf/recording/fc6ac6113226466982b9791bf70b46ac/playback>

Custom Fields

IETF Area: IRTF calendared?: needs update

Comments and activity

Morgan Condie added this card to Thursday November 6 - DULUTH  
[Oct 7, 2025, 11:03 AM](#)