Welcome and Introduction

Chairs: Nick Feamster, Andra Lutu
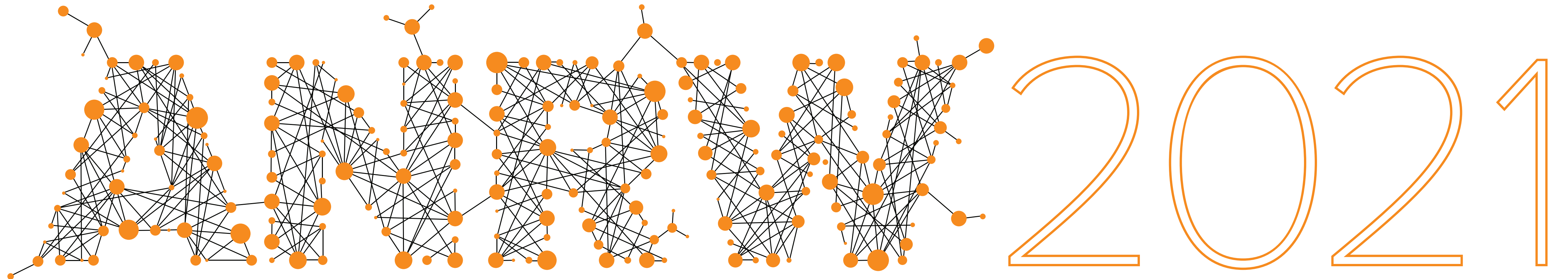
Thanks to the Program Committee!

Amreesh Phokeer   Anna Brunstrom   Anna Maria Mandalari   Benno Overeinder   Brian Larish   Chris Wood   David Choffnes   Diana Andreea Popescu   Diego Perino

Edmundo de Souza e Silva   Eric Rescola   Italo Cunha   Jana Iyengar   Josiah Chavula   Kevin Borgolte   Matt Tooley   Melinda Shore   Michio Honda

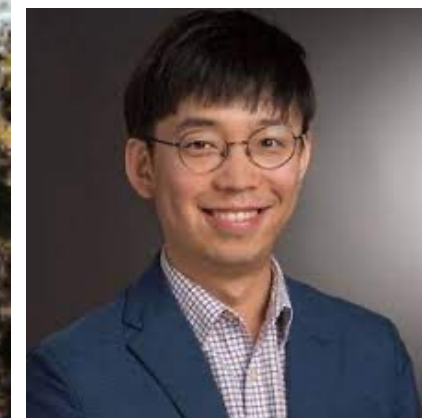Mirja Kühlewind   Oliver Hohlfeld   Ozgu Alay   Romain Fontugne   Sara Dickinson   Simone Ferlin-Reiter   Taejoong Chung   Theresa Enghardt   Willem Toorop

Thanks to the Review Task Force!

Hamed Haddadi
Imperial College London

Jason Livingood
Comcast

Allison Mankin
Salesforce

Helped oversee the review process to ensure that the reviews are high quality, constructive and overall useful

Built the link with the IETF/IRTF

Thanks to the Sponsors!

Logistics and Links

Slack Channel ***#anrw2021*** active in SIGCOMM workspace
https://join.slack.com/t/sigcomm/shared_invite/zt-erk5tjkg-bsoSc1UXlOY03uU~E2zPVA

Program, Paper PDFs and Presentation Videos
https://irtf.org/anrw/2021/program.html

Proceedings
Proceedings of the Applied Networking Research Workshop 2021 are available from the ACM Digital Library.

All session are recorded, and recordings will be made available on YouTube after the workshop.
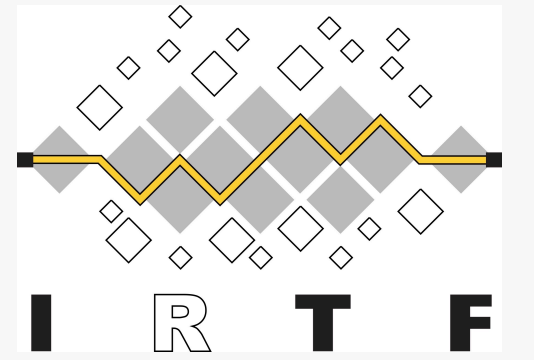
Note Well – Intellectual Property

The IRTF intellectual property rights disclosure rules (the "Note Well") **do not apply** to contributions made to the ACM/IRTF Applied Networking Research Workshop

Note Well – Audio and Video Recordings

The IRTF routinely makes recordings of online and in-person meetings, including audio, video and photographs, and publishes those recordings online

If you participate in person and choose not to wear a red "do-not-photograph" lanyard, then you consent to appear in such recordings, and if you speak at a microphone, appear on a panel, or carry out an official duty as a member of IRTF leadership then you consent to appearing in recordings of you at that time

If you participate online, and turn on your camera and/or microphone, then you consent to appear in such recordings

Note Well – Privacy & Code of Conduct
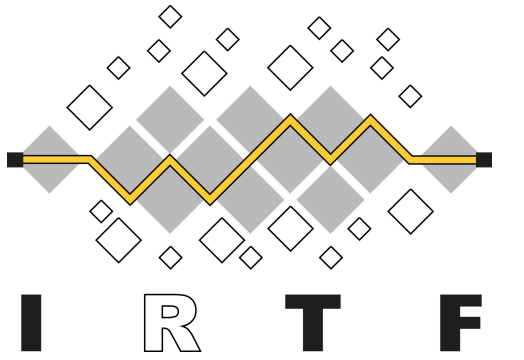
As a participant in, or attendee to, any IRTF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public

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

Notes on Meetecho

- Presentation videos are pre-recorded, so we will take questions at the end of each presentation (5-min slot)

- Each session end with a 15-min panel for Q&A with all authors presenting in a session

- To ask a question, enter the queue (mic +hand logo), then the session chair will call you out and enable your audio!
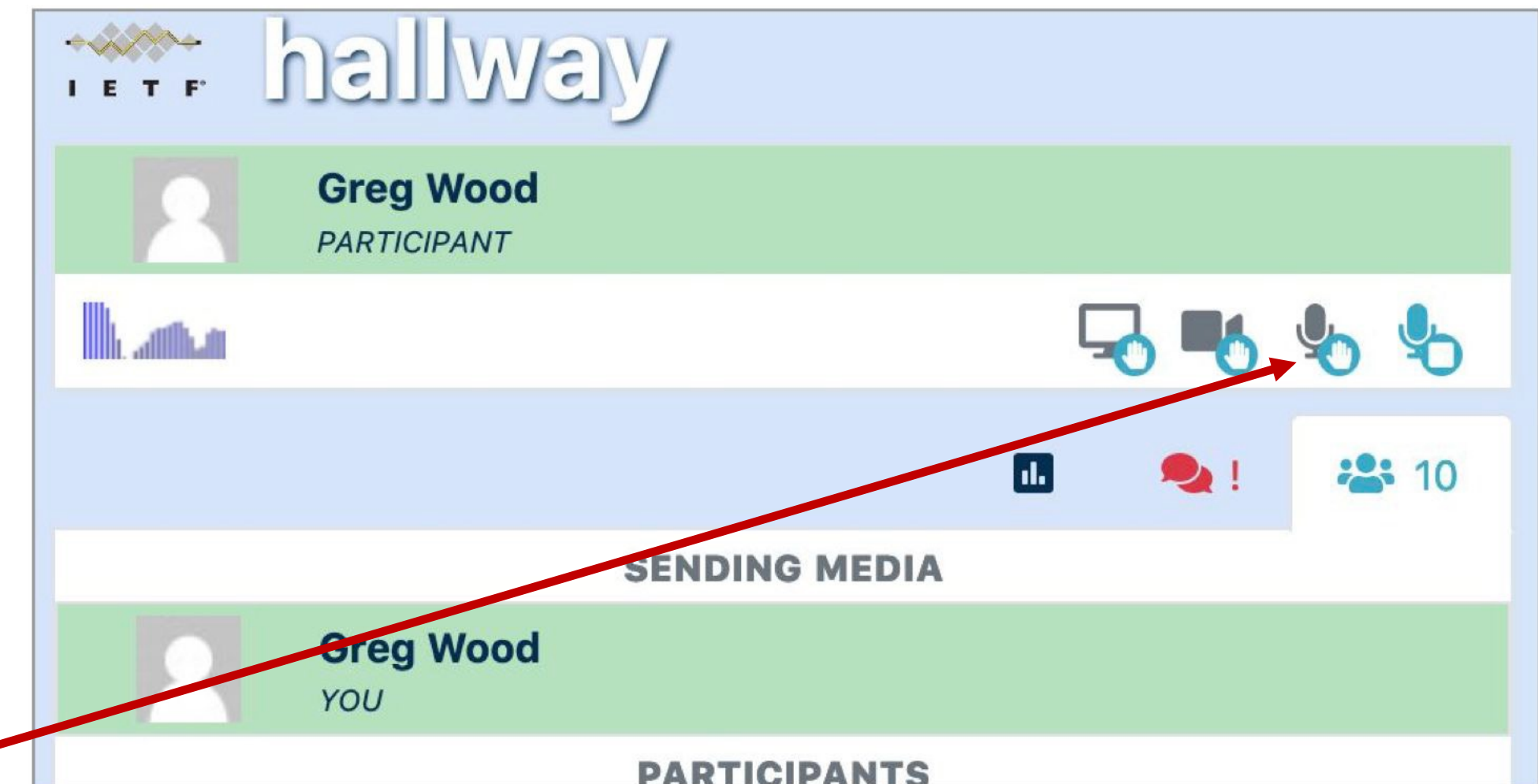
Screenshot of media controls when sending audio..

More documentation on how to use Meetecho:
https://www.ietf.org/media/documents/IETF-Meetecho-Documentation.pdf

ANRW'21 Program Overview

Monday, July 26, 2021 19:00-21:00 UTC (120 min)
   19:00-20:15 UTC: New Internet Protocols (chair: Anna Brunstrom)
   20:15-21:00 UTC: Practical Congestion Control (chair: Theresa Enghardt)

Tuesday, July 27, 2021 19:00-21:00 UTC (120min)
   19:00-19:45 UTC: Interconnection and Routing (chair: Amreesh Phokeer)
   19:45-21:00 UTC: Monitoring Internet Traffic (chair: Edmundo de Souza e Silva)

Wednesday, July 28, 2021 19:00-21:00 UTC (120min)
   19:00-20:00 UTC: DNS and Privacy (chair: Nick Feamster)
   20:00-21:00 UTC: Applications and Specifications (chair: Andra Lutu)

Session 1: New Internet Protocols

- [Adaptive Cheapest Path First Scheduling in a Transport-Layer Multi-Path Tunnel Context](#)
  Marcus Pieska, Anna Brunstrom, Andreas Kassler, Markus Amend, and Alexander Rabitsch

- [Leveraging the 0-RTT Convert Protocol to improve Wi-Fi/Cellular convergence](#)
  Matthieu Baerts, Nicolas Keukeleire, and Olivier Bonaventure

- [Cooperative Performance Enhancement Using QUIC Tunneling in 5G Cellular Networks](#)
  Zsolt Krämer, Mirja Kühlewind, Marcus Ihlar, and Attila Mihály

Session 2: Practical Congestion Control

- [CCID5: An implementation of the BBR Congestion Control algorithm for DCCP and its impact over multi-path scenarios](#)
  Nathalie Romo Moreno, Markus Amend, Anna Brunstrom, Andreas Kassler, and Veselin Rakocevic

- [Toward greater scavenger congestion control deployment: implementations and interfaces](#)
  Tong Meng, Christopher Cai, Brighten Godfrey, and Michael Schapira

Session 3: Interconnection and Routing

- Hunting BGP Zombies in the Wild
  Porapat Ongkanchana, ***Romain Fontugne***, Hiroshi Esaki, Job Snijders, Emile Aben

- Meta-Peering: Towards Automated ISP Peer Selection
  Prasun Kanti Dey, Shahzeb Mustafa, and Murat Yuksel

Session 4: Monitoring Internet Traffic

- [Towards Cross-Layer Telemetry](#)
  Justin Iurman, Frank Brockners, and Benoit Donnet

- [L, Q, R, and T - Which Spin Bit Cousin is here to stay?](#)
  Ike Kunze, Jan Rüth, and Klaus Wehrle

- [Detecting Consumer IoT Devices Through the Lens of an ISP](#)
  Said Jawad Saidi, Anna Maria Mandalari, Hamed Haddadi, Daniel J. Dubois, David Choffnes, Georgios Smaragdakis, and Anja Feldmann

- [On the Evolution of Internet Flow Characteristics](#)
  Simon Bauer, Benedikt Jaeger, Fabian Helfert, Philipe Barias, and Georg Carle

Session 5: DNS and Privacy

- [Encryption without Centralization: Distributing DNS Queries Across Recursive Resolvers](#)
  Austin Hounsel, Paul Schmitt, Kevin Borgolte, and Nick Feamster

- [Institutional Privacy Risks in Sharing DNS Data](#)
  Basileal Imana, Aleksandra Korolova, and John Heidemann

- [DNS over TCP Considered Vulnerable](#)
  Tianxiang Dai, Haya Shulman, and Michael Waidner

Session 6: Applications and Specifications

- Tools for Disambiguating RFCs
  Jane Yen, Ramesh Govindan, and **Barath Raghavan**

- [Manus Manum Lavat: Media Clients and Servers Cooperating with Common Media Client/Server Data](#)
  Ali C. Begen