The logo for ANRW 2019 features the letters 'ANRW' in a stylized, interconnected network of black lines and orange dots, representing a network topology. The year '2019' is displayed in a simple, orange-outlined font to the right of the network graphic.

ANRW 2019
Applied Networking Research Workshop

<https://irtf.org/anrw/2019/program.html>

ANRW' 19 Chair's Welcome

Phillipa Gill (U Massachusetts -- Amherst)

Jana Iyengar (Fastly)

Note about IPR

The IRTF intellectual property rights disclosure rules (the “[Note Well](#)”) **do not apply** to contributions made to the Applied Networking Research Workshop.

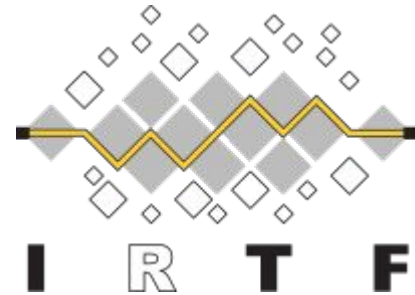
The IPR disclosure rules **do apply** during IRTF research group meetings and IETF activities taking place this week

We're Streaming

Streaming live – please use microphones when asking questions

Talks will be recorded and posted on the IETF YouTube channel
(<https://www.youtube.com/user/ietf>)

Thank you sponsors!



Goals of ANRW '19

1. Inform practitioners at IETF of research that may apply to them
2. To help find relevant research results to transition into practice
 - By disseminating results to practitioners at IETF
 - Folks that run the core Internet are here at this meeting
 - As a gateway to the IETF standards process
 - The co-located IETF meeting is where decisions are made about the design of TCP, DNS, BGP, NTP, TLS, certificate transparency, ...
 - To encourage longer-term networking research
 - That bring results closer to practice

Organizing Committee

Program Committee

Phillipa Gill	Chair	UMass Amherst
Jana Iyengar	Chair	Fastly
Mark Allman		ICSI
Grenville Armitage		Netflix
Theophilus Benson		Brown University
Zachary Bischof		Internet Initiative Japan
Lars Eggert		NetApp
Simone Ferlin		Ericsson
Romain Fontugne		Internet Initiative Japan
Daniel Kahn Gillmor		ACLU
Gonca Gürsun		Özyegin University
Mirja Kühlewind		Ericsson
Allison Mankin		Salesforce
David Oran		
Jennifer Rexford		Princeton University

Michael Shapira	Hebrew University of Jerusalem
Nick Sullivan	Cloudflare
Thyla van der Merwe	Mozilla
Chris Wood	Apple
Noa Zilberman	University of Cambridge

Steering Committee

Lars Eggert	NetApp
Sharon Goldberg	Boston University
Jörg Ott	Technische Universität München
Colin Perkins	University of Glasgow
Portia Wenz-Danley	IETF LLC

ANRW '19 Statistics

Invited talks: PC nominated 13 papers, 2 accepted

Submissions: 26 papers submitted, 13 accepted

ANRW '19 Statistics

Invited talks: PC nominated 13 papers, 2 accepted

Submissions: 26 papers submitted, 13 accepted

Note: If you are presenting please email your slides to irtf-chair@irtf.org (PDF format) to be included on the workshop web page

A bit about the IETF and the IRTF

IETF is the engineering body that publishes standards and standards-track RFCs.

IRTF is the applied research body that provides a home for research relevant to (or requested by) IETF working groups. Also publishes RFCs (not standards).



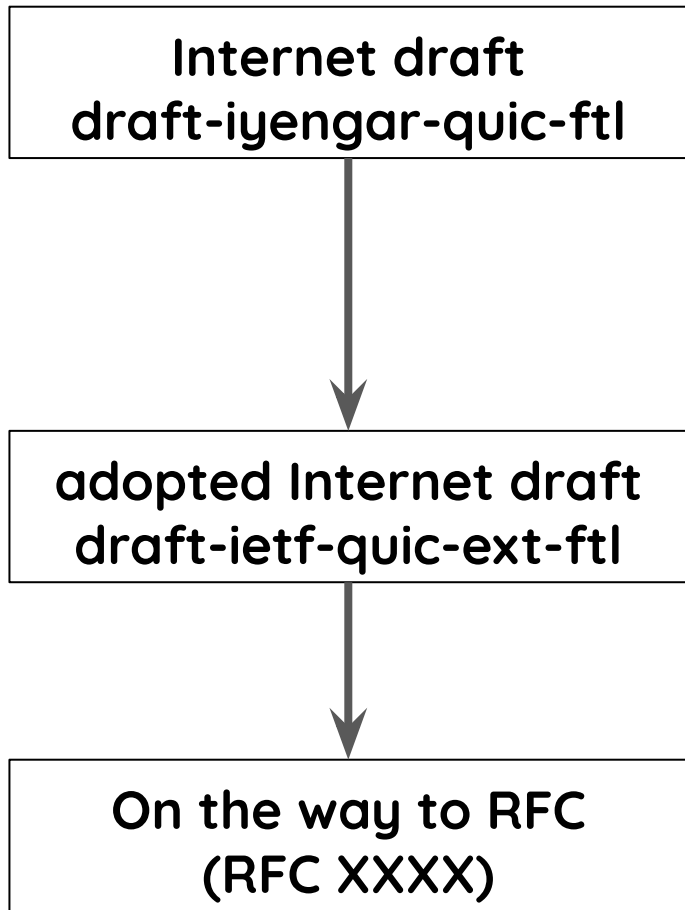
IRTF Research Groups

The Internet Research Task Force (IRTF) focuses on longer term research issues related to the Internet while the parallel organization, the Internet Engineering Task Force (IETF), focuses on the shorter term issues of engineering and standards making.

Topics in Internet protocols, applications, architecture and technology

Open participation – developing research ideas prior to standardisation

IETF standards process: informal overview (thx, Sharon!)



Anyone can write one!

- find a home working group (WG)
- post to WG mailing list
- present to WG at IETF
- revise, post, present, revise, post, present, ...
- ask for “working group adoption”

“Rough consensus + running code”

- authors write with feedback from the WG
- revise, post, present, revise, post, present
- get to “working group last call (WGLC)”

review by area directors and rest of IETF
(you are winning if you get here!)

RFC 7413 - TCP Fast Open

https://datatracker.ietf.org/doc/rfc7413/

IETF Datatracker Groups Documents Meetings Other User Document search

TCP Fast Open

RFC 7413

Status [IESG evaluation record](#) [IESG writeups](#) [Email expansions](#) [History](#)

Versions [00](#) [01](#) [02](#) [03](#) [04](#) [05](#) [06](#) [07](#) [08](#) [09](#) [10](#)

draft-cheng-tcpm-fastopen [00](#) [01](#) [02](#)

draft-ietf-tcpm-fastopen [00](#) [01](#) [02](#) [03](#) [04](#) [05](#) [06](#) [07](#) [08](#) [09](#) [10](#)

rfc7413

Document **Type** RFC - Experimental (December 2014; [Errata](#))
Was [draft-ietf-tcpm-fastopen](#) (tcpm WG)

Last updated 2015-10-14

Replaces [draft-cheng-tcpm-fastopen](#)

Stream IETF

Formats [plain text](#) [pdf](#) [html](#) [bibtex](#)

Reviews [GENART Telechat Review \(of -09\): Ready](#)
[GENART Last Call Review \(of -09\): Ready with Nits](#)
[SECDIR Early Review \(of -08\): Has Nits](#)

Sharon's rules for academics navigating the process

Rule #0: Develop the research ideas in the IRTF

Great venue to get practical feedback on the ideas

Rule #1: Find at least one “IETF native coauthor”

They help you write the initial draft; help introduce the idea to the right people/groups; keep you in the process and help build consensus

Rule #2: You can have up to five coauthors. Choose wisely!

Rule #3: Drafts need to be watered and fed.

Drafts expire after 6 months. Don't let them!

Rule #4: Building consensus is key

Use hallway track to talk to WG members about your draft

Don't just wait/hope others will standardize your work, get involved!