

CLOWDR

Conferences Located Online With Digital Resources

Virtual conference platform

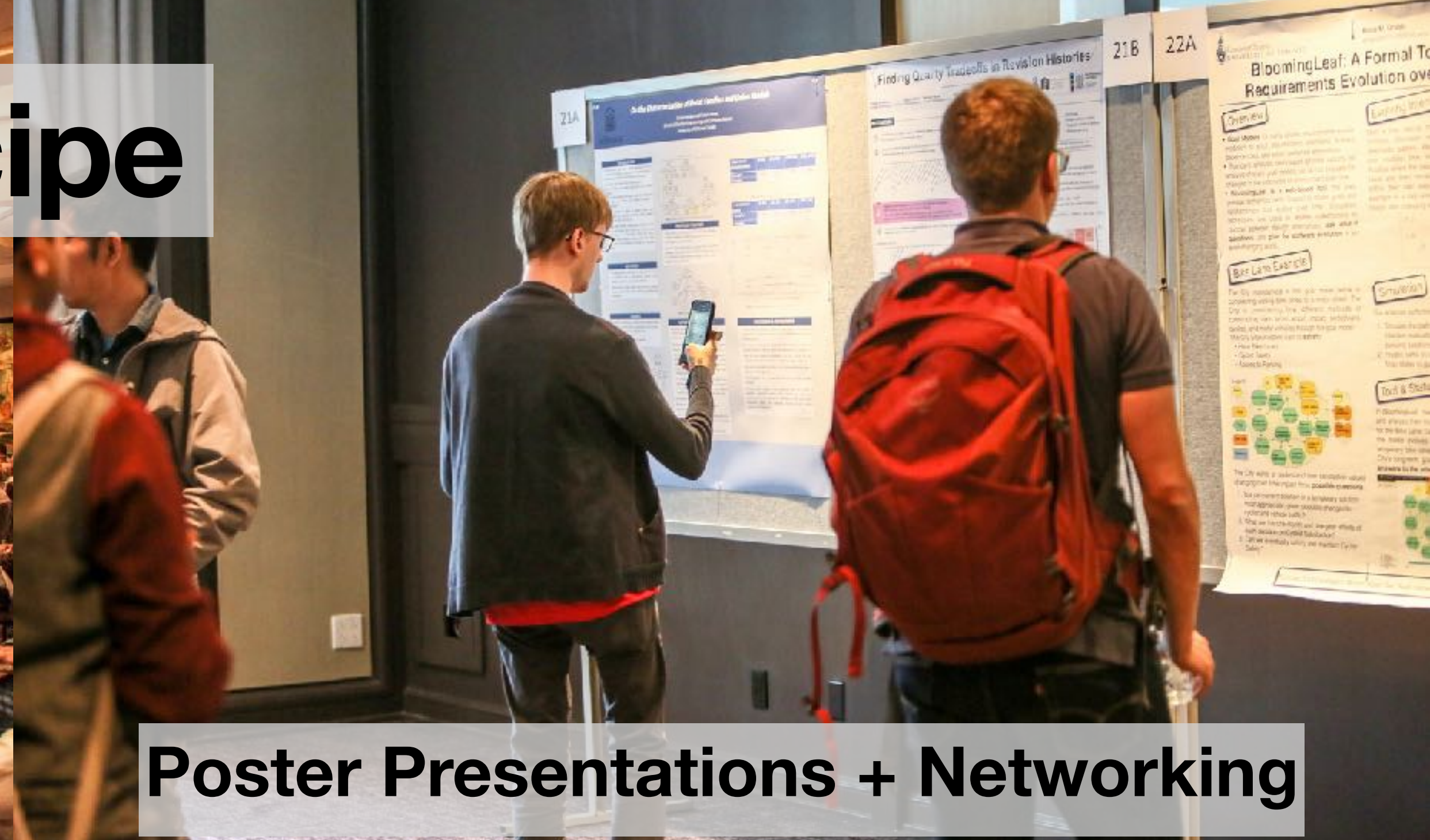
Jonathan Bell, Crista Lopes and Benjamin Pierce

CLOWDR is supported by the National Science Foundation under awards CCF-2035003, CCF-2035101 and CCF-203500

Physical Conference Recipe



Paper Presentations



Poster Presentations + Networking



Snacking + Networking



Tourism + Networking

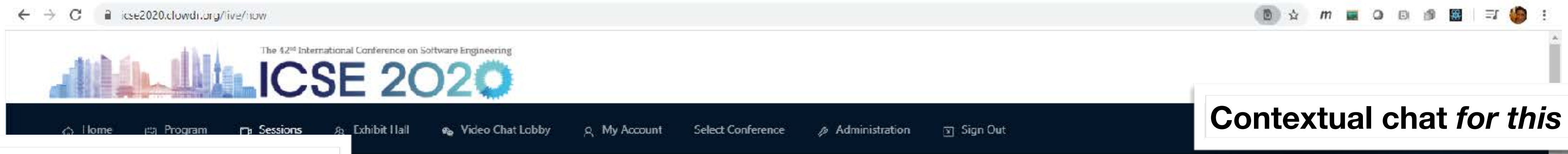
Academic Communities Meeting Virtually

A socio-technical problem with unique academic challenges

- Technology:
 - How to provide opportunities to discover who else is attending and interact?
 - How to organize all of the synchronous and asynchronous video in one place?
 - How to organize chat around the technical program?
- Social:
 - What is the barrier to introducing yourself?
 - When should you be online?
 - Cameras on/off?
 - How to have casual interactions?
 - How to keep the discussion going after the conference?

CLOWDR: A Successful Beta Deployment @ ICSE

~1500 logged on to the platform overall



Contextual chat for this room

10 most recent participants to join this room

The 'Lobby' section displays a list of participants: Mohammed SAYAGH, Abdulrahman Alshamari, Cindy Rubio Gonzalez, Danny Diq, Tri Minh Triet Pham, Zhenhao Li, Tingting Yu, Abdullahi Bokhari (Hiring), Akinori Ihara, and Sebastian Proksch. Below the list are sections for 'Chats' (showing 2/6 total) and 'Video Breakout Rooms' (listing Hallway 2 through Hallway 7).

The 'Baekje Atlantic Day 1' room shows 61 participants. Sessions include: 'Today at 8:00 AM: Paper Presentations: A1-Autonomous Driving Systems' and 'Today at 9:05 AM: Paper Presentations: A4-Cyber-Physical Systems'. An 'Enter' button is visible at the bottom.

The 'Goguryeo Atlantic Day 1' room shows 00 participants. Sessions include: 'Today at 8:00 AM: Paper Presentations: A2-Testing and Debugging 1' and 'Today at 9:05 AM: Paper Presentations: A5-Testing and Debugging 2'. An 'Enter' button is visible at the bottom.

The 'Practice Room' is for practicing presentations. It includes the Zoom logo and the text: 'Practice for presenters! Enter this test room at any time to practice your talk.' An 'Enter' button is at the bottom.

Globally-available direct messaging 1-click to video chat

The chat window shows a conversation between Iftekhar ahmed and Darko Marinov. Messages include: 'hi :-)', 'Are we meeting for award-related discussion?', 'at 11, yes?', 'Good morning btw :D my bad, I thought it was at 9', and 'three sessions starting minutes: https://icse2020.clowdr.org/live/now'. A 'Send a message' button is at the bottom.

The 'Silla Atlantic Day 1' room shows 74 participants. A session is listed: 'Presenting and Evaluating the Impact of Experimental Learning in Computing Accessibility Education' by Weish Shi, Yasmine El-Ghizy, Gamuel Malachowsky, Qi Yu, and Daniel Krutz. An 'Enter' button is visible at the bottom.

We are in the Lobby: overview of all 3 live rooms with sessions right now

Hallway Track

Watching talks

10 most recent participants to join this room. Still see all 169 by expanding

Contextual Chat

icse2020.cldwdr.org/live/now/O'Hearn%20Keynote%20Atlantic%20Day%203

The 42nd International Conference on Software Engineering
ICSE 2020

Exhibit Hall Video Chat Lobby My Account Select Conference Administration Sign Out

O'Hearn Keynote Atlantic Day 3

- Danny Groenewegen
- Denys Poshyvanyk
- Janet Burge **Hiring**
- Andreas Zeller **Hiring**
- Massimiliano Di Penta **DC Hiring**
- Kevin Moran **Presenter**
- Bruno Lima **Presenter**
- Michal Dolezal
- Sarah Elder
- Shahar Maoz **Hiring**

169 total

A stark lesson (2014)

- post land batch:
~0% fix rate
- diff time continuous :
~70% fix rate
- same analysis (Infer)

Chat: O'Hearn Keynote Atlantic Day 3

- Anita Barma **DC Presenter**
8:10 AM
👏👏👏👏👏
- Joao F. Ferreira **Presenter**
8:13 AM
👏
- Andreas Zeller **Hiring**
8:13 AM
clap clap clap
- Darko Marinov **DC**
8:14 AM
#1 reminder: you can use this area for chat/comments during talks; for questions for the presenter, you can use the Slide widget on the left (may need some scrolling up and down to find)
analyzing Emacs :)
- José Miquel Rojas **DC SV**
8:16 AM
lost cause
Darko, was there a #? reminder coming?
- Darko Marinov **DC**
8:18 AM
e keynote, sorry: it's for a paper session
- Miguel Rojas **DC SV**
when you can upvote / downvote questions on slide :)

Send a message

ant Day 3

Sof Greenispan

Globally-available direct messaging

Chat centered around the program NOT centered around slack's interface!

Slack-based conference (NOT Clowdr)

#day1-1050-fuzzing
You created this channel on July 11th. This is the very beginning of the #day1-1050-fuzzing channel.

Jonathan Bell 11:30 AM
joined #day1-1050-fuzzing.

Jonathan Bell 11:58 AM
Pinned by you
Please post questions for "WEIZZ: Automatic Grey-box Fuzzing for Structured Binary Formats" by replying to this thread

Jonathan Bell 11:58 AM
Pinned by you
Please post questions for "Active Fuzzing for Testing and Securing Cyber-Physical Systems" by replying to this thread

Jonathan Bell 11:58 AM
Pinned by you
Please post questions for "Learning Input Tokens for Effective Fuzzing" by replying to this thread

Mattia Fazzini 12:24 PM
joined #day1-1050-fuzzing along with 5 others.

Jonathan Bell 5:24 AM
cleared the channel topic

Jonathan Bell 10:49 AM
joined #day1-1050-fuzzing along with 7 others.

Improving the Effectiveness of Traceability Link Recovery using Hierarchical Bayesian Networks

William & Mary
Department of Computer Science
Cisco Systems
Advanced Security Research Group

42nd International Conference on Software Engineering (ICSE'20)
Wednesday, July 8th, 2020

Silla Atlantic Day 2
1 here now

07/08/2020: Paper Presentations: A9-Traceability Testing

07/08/2020: Pausing Hierarchical Bayesian Networks (4 members)

A Novel Approach to Tracing Safety Requirements and State-Based Design Models

Establishing Multilevel Test-to-Code Traceability Links

Practical Fault Detection

Empirical Assessment of RTJ: a Java Framework

Chat: Silla Atlantic Day 2

Neil Ernst
11:58 AM
Kevin can you repost that short URL?

Jane Cleland-Huang DC
11:59 AM
Thanks to all the presenters. Its great to actually have an (almost) entire session on Traceability!

David Nader Palacio SV
11:59 AM
URL of the project here:
<https://semeru-code-public.gitlab.io/Project-Websites/comet-website/>

Neil Ernst
11:59 AM
thanks!

Jane Cleland-Huang DC
12:00 PM
Hope to see lots of Traceability papers next year too!

Kevin Moran Presenter
12:06 PM
@Neil, we are still adding READMEs and making everything a bit easier to reproduce, but do let us know if you have any questions in the meantime :-)

Abcullah Aldaej
12:53 PM
example of process merti

Anderson Oliveira SV
11:59 AM
Q: How were links between source artifacts were determined, for computing the transitive links with target artifacts?

CLOWDR: Each paper/poster gets its own chat channel, cross-linked to program/authors/live sessions, can be archived.

Hallway & Posters Tracks

Participants can make their own public/private vid

The screenshot shows the ICSE 2020 lobby website. At the top, there's a navigation bar with 'Home', 'Program', and 'Sessions'. Below that, a search bar and 'My status' section are visible. The main content area is divided into several sections: 'Lobby' with a list of participants, 'Chats', 'Video Breakout Rooms', 'BOF - Static Analysis', 'Awards session', 'ESEC-FSE2020-Coorgs', 'SRC Poster Area', and 'Poster Areas'. A white callout box with a black border is overlaid on the 'Awards session' section, containing the text: 'Important: participants can see where others are'. Another white callout box with a black border is overlaid on the 'Poster Areas' section, containing the text: 'Same for posters!'. The website also features a sidebar with 'Administration' and 'Sign Out' options.

ACM Student Research Competition

A grid of research posters from the ACM Student Research Competition. The posters include: 'Studying and Suggesting Loggi...' by Zhenhao Li, 'An Automated Framework For Gaming Platform To Test Multiple Games' by Zihe Song, 'Empirical Study on the Secret Life of Test Smells', 'Efficient test execution in End to End testing' by Cristian Augusto, 'An Empirical Study on the Evolu...' by Dong Jae Kim, 'Generation of Simulink Models to Find Bugs in Cyber-Physical System Tool Chain using Deep Learning', and 'Machine Translation Testing via Patholo...'. Each poster features a title, author name, and a visual abstract.



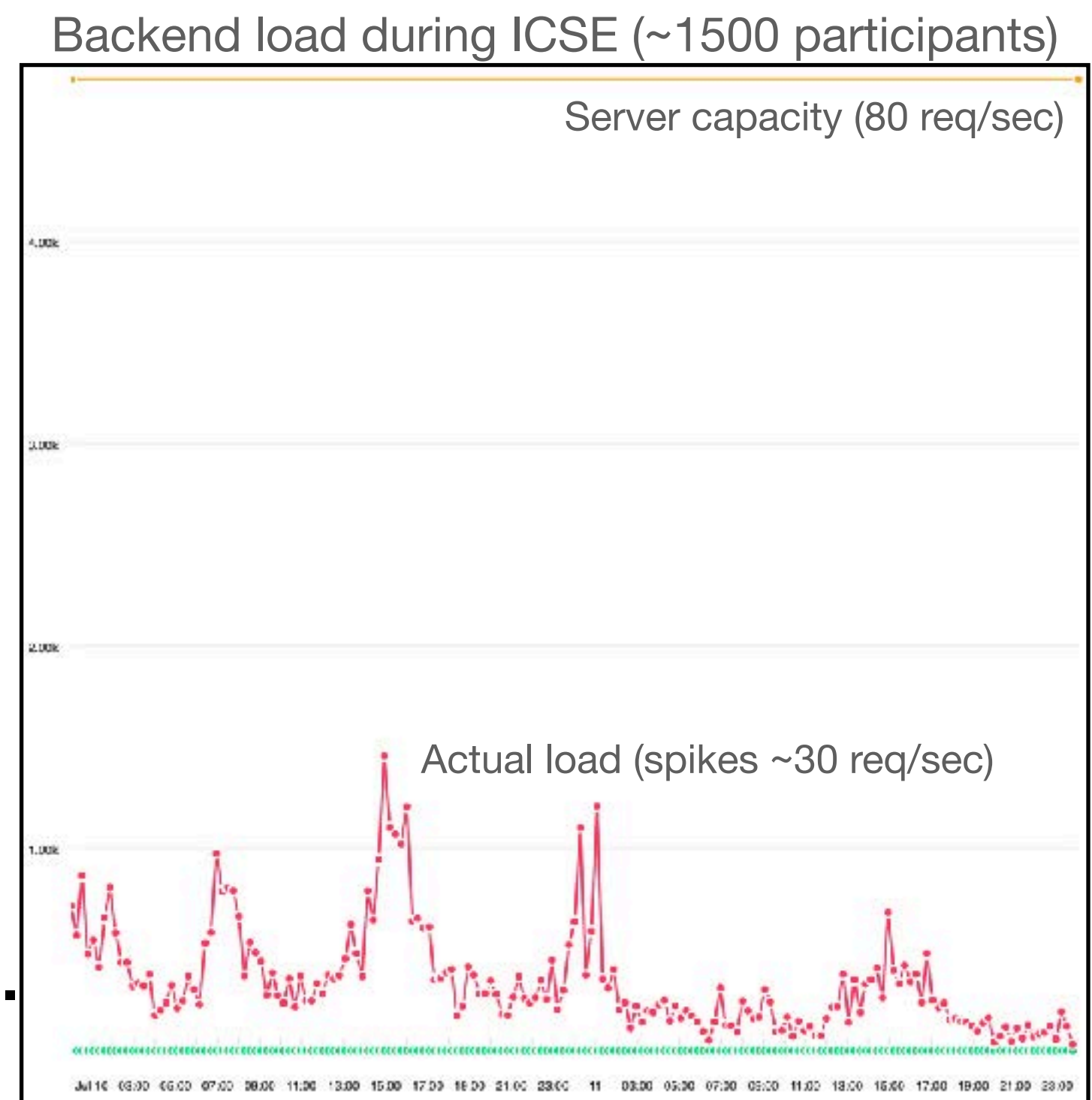
Hallway & Posters Tracks

364 users used this; 146 spent over 20 mins, 77 over 1 hour, total: 250 hours!

The screenshot displays the ICSE 2020 video chat lobby. At the top, the ICSE 2020 logo and navigation menu are visible. The main area shows a video chat room titled "BoF: Flaky Tests (everyone welcome!)". The room status indicates it is connected with 7/50 participants and is ephemeral. A "Delete Room" button is present. Below the title, a grid of video feeds shows participants: Reyhaneh Jabbarvand, August Shi, Premkumar Thomas Devanbu, Angello Astorga, Jonathan Bell, and Anand Ashok Sawant. A chat window on the right shows messages from José Miguel Rojas and Darko Marinov. A bottom chat window shows a message from Wing Lam and Jonathan Bell. The bottom of the screen shows a control bar with icons for microphone, video, and chat, and the names of participants: Crista Lopes, Caroline Lemieux, Paige Rodeghero, and August Shi.

Deployment costs and infrastructure

- Conference maintains complete ownership of the data. App is open source.
- Frontend: react, “almost” no backend - [ParsePlatform](#), we used hosting from [Back4App](#)
 - <\$100, could have chosen a cheaper plan. Replicated across multiple continents, good fault tolerance story. Installation easily shared among multiple conferences
- Program - imported from [conf.researchr.org](#), can make live edits
- Video:
 - Live sessions - Zoom, YouTube, IQYI
 - Breakout sessions - Twilio (Unlimited rooms, less than 1 cent/min/person)
 - Chat - Twilio (Unlimited channels, \$0.02/active user/month)
- \$500 free credits available from Twilio for non-profits impacted by COVID-19. Total deployment cost to ICSE was ~\$100 (just hosting).



Open technical problems

HUGE feature wishlist, looking for contributors!

How do best mix P2P video + chat + content?

The image shows a GitHub repository page for `clowdr-app / clowdr-web-app`. The left pane displays a list of 38 open issues, with a callout box highlighting the question: "How do best mix P2P video + chat + content?". The right pane shows the "Insights" section, featuring a main area chart for "Contributions to master, excluding merge commits" from May 17, 2020, to July 17, 2020. Below this are four smaller area charts for individual contributors: crista, jon-bell, bingfeizh, and anniejingchen, each showing their commit activity over time.

Open Issues:

- Add push-to-talk to video chats (#74 opened 2 days ago by jon-bell)
- Posters / Poster "UI card" images (#71 opened 3 days ago by bcpierce00)
- Zoom-hosted chat rooms (#70 opened 3 days ago by bcpierce00)
- Pie in the sky / Push notifications for messages (#69 opened 3 days ago by bcpierce00)
- Pie in the sky / Watch parties (#68 opened 3 days ago by bcpierce00)
- Pie in the sky / Add emotes on live rooms (#67 opened 3 days ago by bcpierce00)
- Emoji nits (#66 opened 3 days ago by bcpierce00)
- Admin / user-defined flairs (#65 opened 3 days ago by bcpierce00)
- User-created public channels (#64 opened 3 days ago by bcpierce00)
- Admin / Add profile field for hobbies

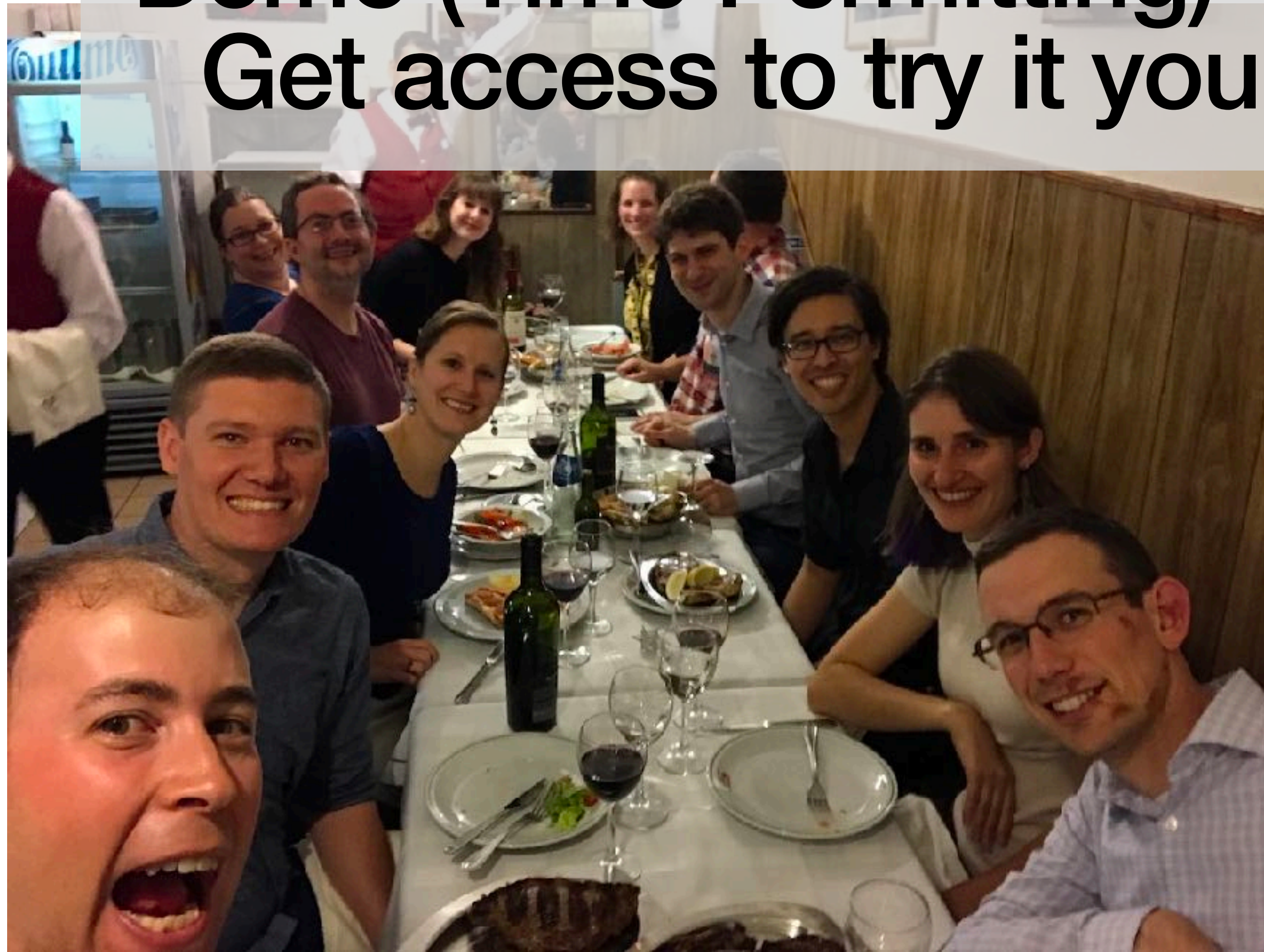
Contributors:

- crista** (#1): 165 commits, 6,550 ++, 2,520 --
- jon-bell** (#2): 101 commits, 59,819 ++, 28,351 --
- bingfeizh** (#3): 18 commits, 32,963 ++, 64,051 --
- anniejingchen** (#4): 14 commits, 724 ++, 169 --

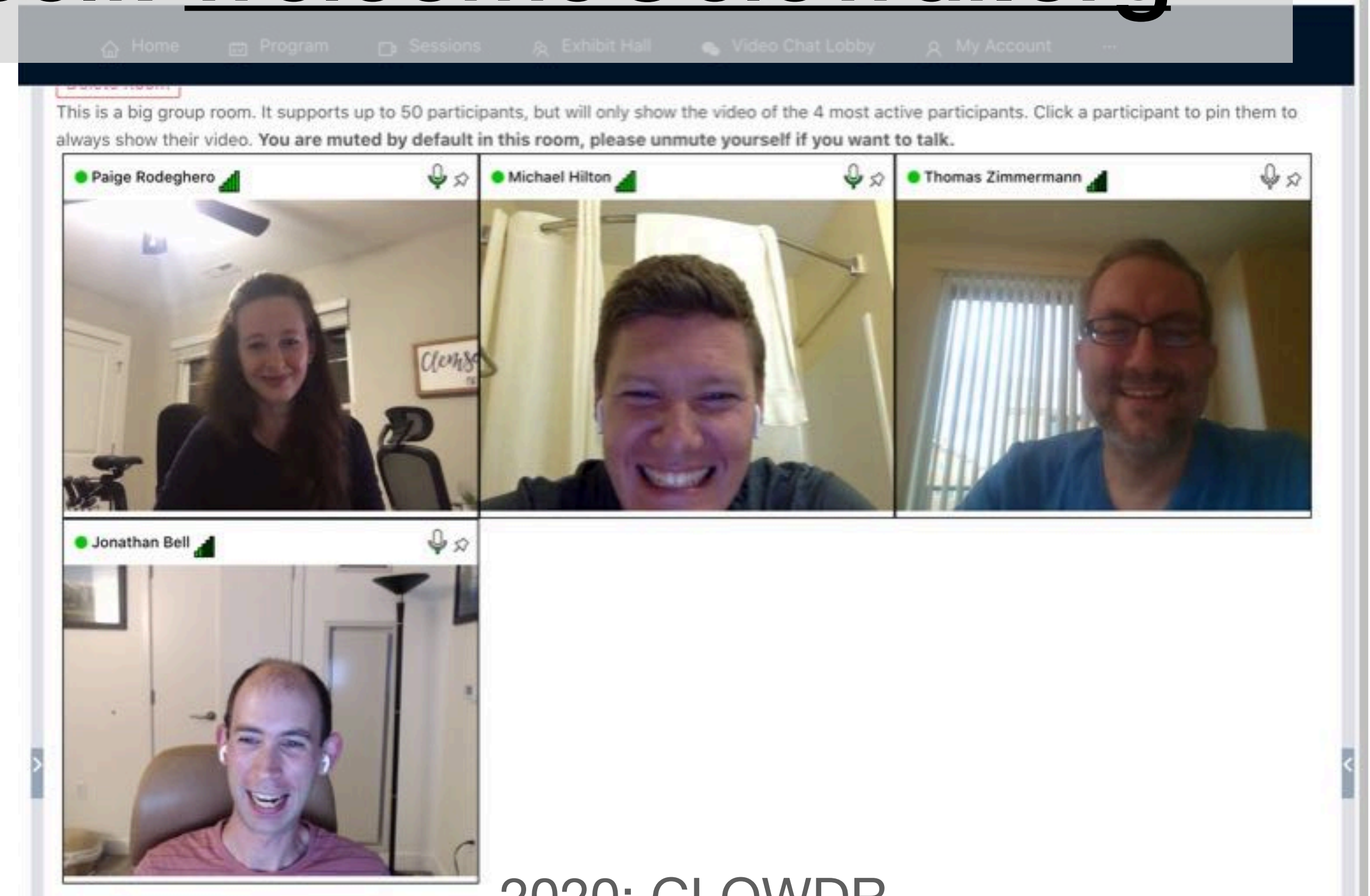
Open social problems

How do we encourage casual conversation?

Demo (Time Permitting) - <https://icse2020.clowdr.org>
Get access to try it yourself: welcome@clowdr.org



2017: Buenos Aires

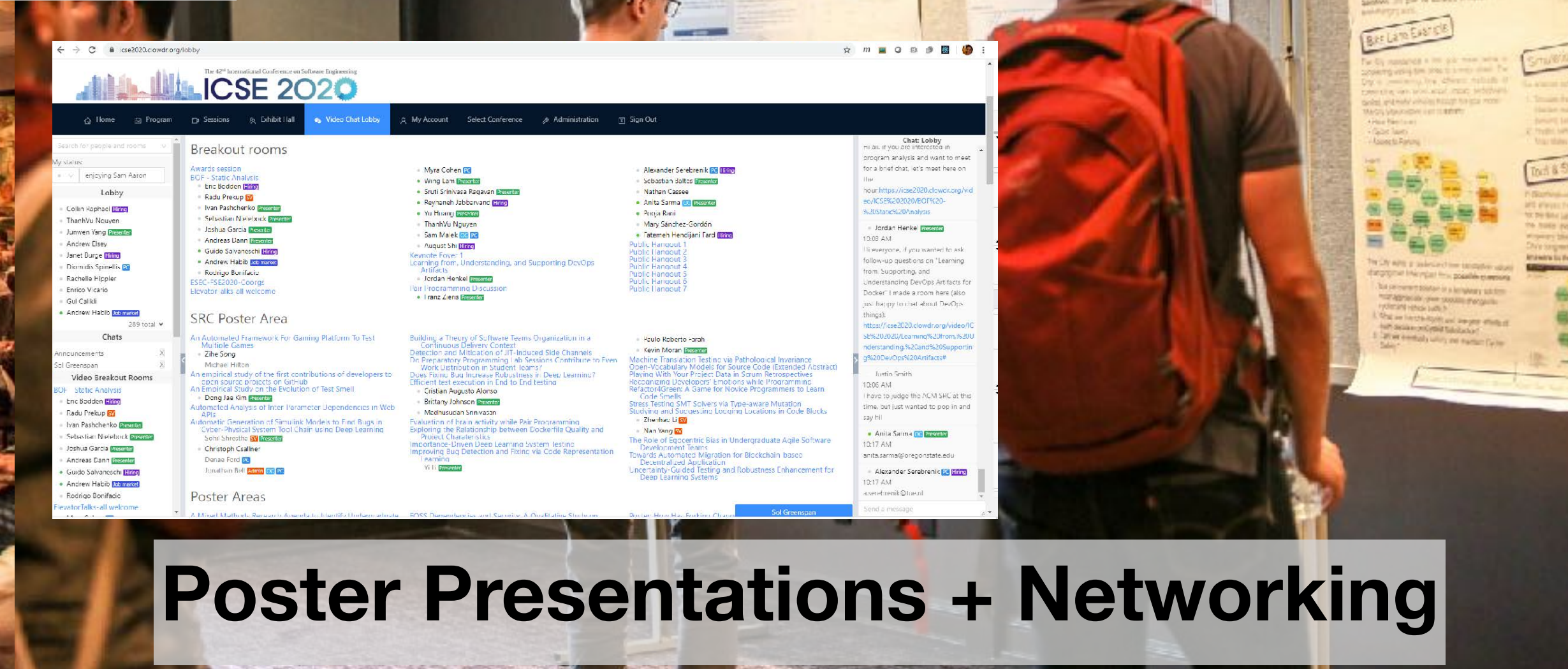


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