

11th Annual IMDEA Networks Workshop

Networking Research: Present, Future and Beyond

2019 | Madrid, Spain



HOME

PROGRAM

ATTENDEES

INVITED SPEAKERS

WORKSHOP CHAIR

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11th Annual IMDEA Networks Workshop

Networking Research: Present, Future and Beyond

In this workshop a group of renowned experts will deliver keynotes and participate in panels to assess where networking research stands today, and more important, where it is heading in the future. We will discuss developments in both traditional networking application domains such (SDN, 5G, and IoT) and new tools for them (Machine Learning, Blockchain) as well as new direction going beyond traditional networking (data protection, algorithmic discrimination & bias, news & (dis)information spread).

The workshop will also include invited talks covering the broader environment in which networking research exists, including business trends and development in telcos and ICT services in general, policy issues, as well as innovation and tech transfer.



WORKSHOP INFORMATION

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 VENUE

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 CONTACT

Data Transparency Lab Call For Proposals

April 2015

The Data Transparency Lab is a collaborative effort between universities, businesses and institutions to support research in tools, data, and methodologies for shedding light on the use of personal data by online services, and to empower users to be in control of their personal data online. In order to support research in these areas, DTL will award research grants to academic institutions worldwide. Such grants come in the form of a lump sum of up to 50K euro that is awarded to successful applicants for pursuing DTL related research in any of the following topics:

Topics

Tools, Platforms, Measurements, and Methodologies for:

Reverse-Engineering Personal Data Usage in Online Services (e.g., advertising, recommender services, pricing and availability of goods & information):

- Behavioral targeting
- Context / Location-based targeting
- Social graph-based targeting
- Involuntary (or implicit) customization / targeting

Detecting Personal Data Gathering by Online Services:

- Techniques for finger-printing and tracking users
- In-app tracking and targeting
- Information leakage from applications and platforms
- Cross-platform/domain information/profile trading, aggregation, fusion

Privacy-preserving Personal Data Analytics/Management:

Participants included:

Northeastern University, MIT Human Dynamics Lab, Microsoft, Telefonica Innovation, Max Planck Institute for Software Systems, Mozilla, and more.



Downloads:

[DTL2014 Workshop Summary Report](#)

[DTL Vision](#)

[DTL Organization](#)





Review

Networking research — A reflection in the middle years

Henning Schulzrinne 

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<https://doi.org/10.1016/j.comcom.2018.07.001>

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Abstract

Networking is no longer a new area of [computer science](#) and engineering – it has matured as a discipline and the major [infrastructure](#) it supports, the Internet, is long past being primarily a research [artifact](#). I believe that we should consider ourselves as the [civil engineers](#) of the Internet, primarily helping to understand and improve a vast and critical infrastructure. This implies that implementing changes takes decades, not conference cycles, and that implementation is largely driven by compatibility with existing infrastructure and considerations of cost effectiveness, where resources that research focuses on, such as bandwidth and compute cycles, often play a much smaller role than limited organizational capacity for change.

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Feedback 

Objectives

- Reflect on the status of networking research
- Discuss what is worth doing next and why
 - In traditional networking
 - In networking “beyond” networking
- Have some input from industry
- Provide useful food for thought for IMDEA faculty, students and collaborators
- Connect
- Exchange ideas
- Celebrate what we are doing at IMDEA
- Have fun while doing it!

Workshop Program

20/05/2019 — 14:00 - 17:45

- 14:00 - 14:15 | **Welcome and opening remarks**
Nikos Laoutaris, IMDEA Networks Institute (Spain)
- 14:10 - 14:30 | **In Memoriam Mario Gerla**
Marco Ajmone Marsan, Politecnico di Torino (Italy) & IMDEA Networks Institute (Spain)
- 14:30 - 15:15 | **Networking research — A reflection in the middle years** [Keynote]
Henning Schulzrinne, Columbia University (USA)
- 15:15 - 16:00 | **What's hot in networking?** [Panel]
Ghassan Karame, NEC Labs (Germany)
Jon Crowcroft, University of Cambridge (UK)
- 16:00 - 16:30 | *Coffee break*
- 16:30 - 17:15 | **What's hot in networking?** [Panel]
Diego Perino, Telefónica (Spain)
Georgios Smaragdakis, Technische Universität Berlin (Germany)
- 17:15 - 17:20 | **Alumni Network Award Ceremony**
- 17:20 - 17:45 | **Alumni Outlook** [Panel]
- 17:45 | **Closing remarks**
Nikos Laoutaris, IMDEA Networks Institute (Spain)
- 20:00 - 22:00 | **Social event in Madrid City Center**

21/05/2019 — 09:00 -13:30

09:00 - 09:15 | **Opening remarks**

Nikos Laoutaris, IMDEA Networks Institute (Spain)

09:15 - 10:00 | **A view to the real world** [Keynote]

Carlos Gavilanes, Universidad Carlos III de Madrid (Spain)

10:00 - 10:45 | **Beyond networking 1** [Keynote]

Krishna Gummadi, Max Planck Institute for Software Systems (MPI-SWS) (Germany)

10:45 - 11:00 | *Coffee break*

11:00 - 11:45 | **Beyond networking 2** [Keynote]

Suman Banerjee, University of Wisconsin-Madison (USA), IMDEA Networks Institute (Visiting Researcher) and University Carlos III of Madrid (Chair of Excellence)

11:45 - 12:30 | **Thinking big and small** [Keynote]

Pablo Rodriguez, Telefonica Innovation Alpha (Spain)

12:30 - 13:30 | **Breakout Session: Let's design our next flagship project**

All workshop participants

13:30 | **Closing remarks**

Nikos Laoutaris, IMDEA Networks Institute (Spain)

THE
STRUCTURE
OF
SCIENTIFIC
REVOLUTIONS

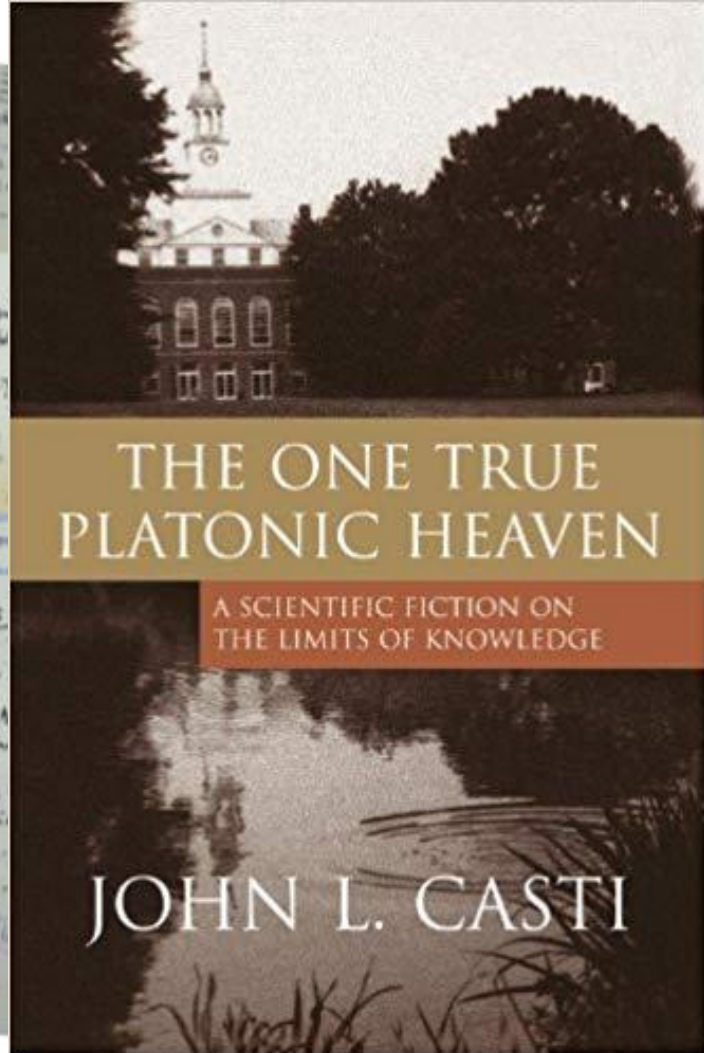
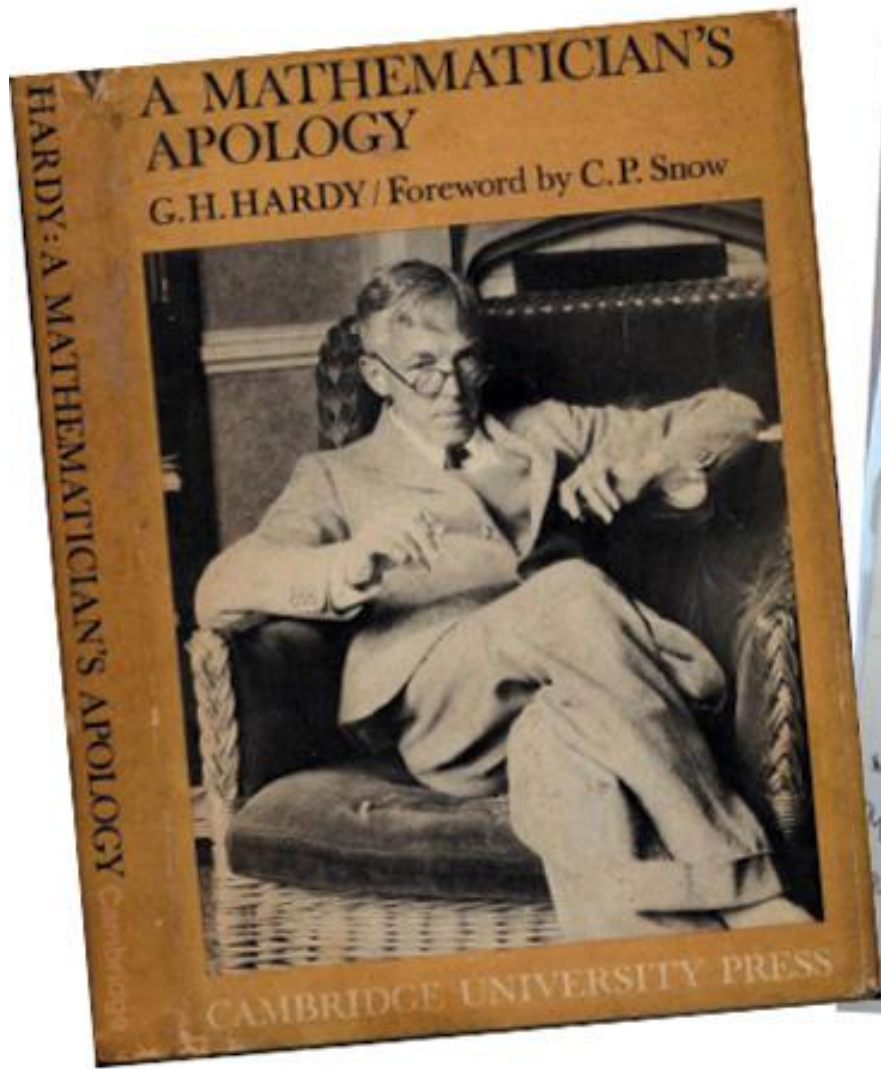
THIRD EDITION



THOMAS S. KUHN







Robert De Niro

Billy Crystal



New York's most powerful gangster is about to get in touch with his feelings.

analyze this

100% by telling him his 30 minutes are up.

and Lisa Kudrow

2001 HBO





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 - how deep is your love
 - how to train your dragon 3
 - how far i'll go
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 - how to draw
- Report search predictions*



ANGRY

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IMDEA workshop

Networking Research: Present, Future and Beyond

Program

<https://www.networks.imdea.org/whats-new/events/2019/11th-imdea-networks-annual-international-workshop-networking-research-present>

Objectives

- Reflect on the status of networking research
- Discuss what is worth doing next and why
 - In traditional networking
 - In networking “beyond” networking
- Have some input from industry
- Provide useful food for thought for IMDEA faculty, students and collaborators
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Keynote: Networking research — A reflection in the middle years [Henning]

- 45 mins: 30-35mins talk + 10 mins Q&A (applies to ALL keynotes)
- An elaboration based on <https://www.sciencedirect.com/science/article/pii/S0140366418304043?dgcid=author>
- Sets the stage for the remaining talks and discussions
- Networking is a mature field ... hurrah!!! 😄😄😄😄😄
- ... no more free lunch and easy wins 😄😄😄🐱🐱🐱

“What’s hot in networking?” panel

- 45 mins: 10 mins each speaker + 25 mins Q&A
- 2 panels with 2 speakers each
- Why is X \in {ML, Blockchain, SDN, Policy} is an important catalyzer for networking?
 - Is it incremental or disruptive (both have good and bad aspects)
 - What is the most important thing that has been achieved with X and what is the greatest thing not achieved yet?
- ML for networks and networks for ML [Jon Crowcroft]
- Blockchain and protocol design [Ghassan Karame]
- Software based networking / virtualisation [Diego Perino]
- Policy, Governance and Networking [Georgios Smaragdakis]

Alumni Outlook panel

- Let's hear and celebrate IMDEA alumni
- 45 mins: 2 mins per person + 20 mins Q&A
- 1 slide each
 - Name and current position
 - Your research at IMDEA Networks
 - Your current research
 - Name a hot topic in networking (beyond your current area of work)
- Discuss why you think what you think is hot

Keynote: A view to the real world [Carlos Gavilanes]

- A compact summary of:
 - where Telco is going
 - where ICT is going.
- Covered aspects:
 - technological trends
 - business trends
- policy & regulatory framework
- financial aspects.

Keynote: Beyond networking 1 [Krishna Gummadi]

- Coverage of research fields beyond classical networking where networking researchers are moving and are having an impact.
 - Data protection, privacy, and transparency.
 - Algorithmic discrimination and bias
 - Social news, spread of information and disinformation.
- What is it that we are good at that can be useful elsewhere?
 - Tools
 - Mindset
 - What are the areas we should hijack (colonise, disrupt, revolutionise, make friends and enemies, get a kick from :-))????

Keynote: Beyond networking 2 [Suman Banerjee]

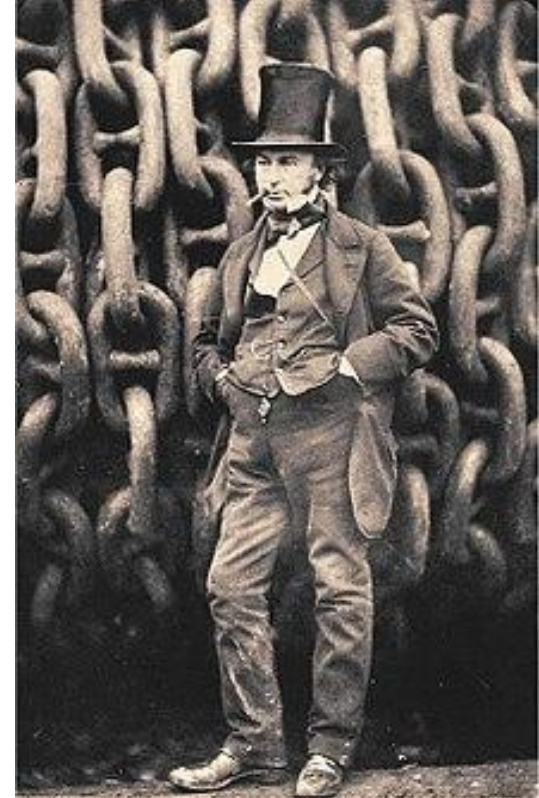
- Same as before but covering:
 - Smart cities
 - Mobility and self driving cars

Keynote: Thinking big and small [Pablo Rodriguez]

- time scales for research & innovation? Months, years, decades.
- what is the role of a research in research endeavors ranging from
 - writing a paper
 - ... to a flying balloon moonshot,
 - with everything else in between (internal innovation project for existing product or service, new product or service, think-tank/strategy/policy contribution)
- how does size affects things (startup, large corporation, government, university)
- where is the line between research & innovation
- incentives (how do you keep researchers happy, how do you incentivise tech transfer)

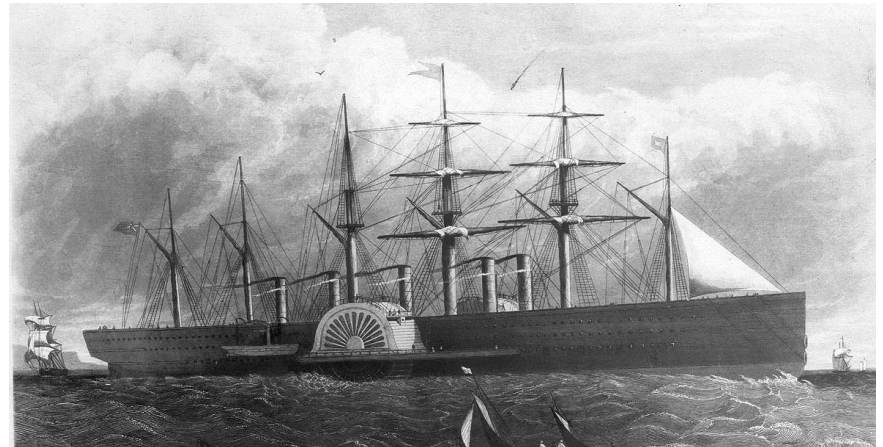
Breakout Session: Let's design our next flagship project!

- Having heard what we've heard
- And given the people and the resources of IMDEA
- What should be our next big stake?
- A topic, area, initiative, where:
 - We would have a chance to make a big splash in research & innovation
 - That would require at least 3 of the existing faculty and their teams to come together
 - Has to produce a concrete PoC in < 1 year
 - Establish an area in < 3 years
 - Be in the spotlight and last at least 5 to 10 years



We will break in 4 groups

- Discuss for 30-40mins + 5 mins presentation (2-3 slides) from each group
- Decide on:
 - What?
 - Why?
 - Can tell us the how as well if you like but dont stress about it
 - Paper to write after 1 year
 - Tech to have working in 3 years
 - Expertise missing that we should develop or attract



Groups

(A) - MR-2C5 [Dijkstra]

Joerg

Henning

Ghassan

Gustavo

Ioannis

Vincenzo

Maurizio

(B) - MR-2C7 [Hopper]

Sergey

Jon

Carlos

Heiner

Gonzalo

Domenico

Alvaro

(C) - MR-2E7 [Marconi]

Arturo

Pablo

Krishna

Marco

Kirill

Paolo

Adriana

(D) - MR-0E42 [Turing]

Antonio

Suman

Georgios

Diego

Ralf

Narseo

Pelayo