COMMUNICATION THEORY
TECHNICAL COMMITTEE

ICC MAY 2016
KUALA LUMPUR

Chair: Matthew Valenti
Vice-Chair: Erik Perrins
Secretary: Maite Brandt-Pearce
1. Welcome and Introduction
2. Approval of Minutes from 2016 IEEE ICC meeting (available at http://committees.comsoc.org/comt/)
3. Chair Remarks
4. Workshop Reports:
   - CTW 2016 (Marios Kountouris)
   - CTW 2017 (Matt Valenti for Stephen Hanly)
   - CTW 2018 (Matt Valenti for David Love)
5. Communication Theory Symposium Reports:
   - ICC 2016 (Marios Kountouris)
   - Globecom 2016 (Petar Popovski)
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6. New Business
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We hold meetings twice per year:
- At ICC and Globecom.

Become a member by joining the mailing list.
- [http://committees.comsoc.org/comt/mailinglist.html](http://committees.comsoc.org/comt/mailinglist.html)

You are an active member if:
- Attend 2 of the past 5 meetings; or
- Attend last two CTWs; or
- Provide significant service to the committee.

Currently, ~400 members, ~150 of which are active.

Be sure to SIGN IN, so that we log your attendance.
OFFICERS

- **Chair**
  - Matthew Valenti
  - West Virginia University

- **Vice-Chair**
  - Erik Perrins
  - University of Kansas

- **Secretary**
  - Maite Brandt-Pearce
  - University of Virginia
OTHER POSITIONS

Standards Liaison
- George Alexandropolous
- Huawei Technologies Co., Ltd.

Student Competition Program
- Hideki Ochiai
- Yokohama National University
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6. New Business
Communication Theory Technical Committee (CTTC)
Globecom 2015, San Diego, CA, USA
7 December 2015
ATTENDANCE = 64

EXECUTIVE SUMMARY

1. The minutes from the ICC 2015 meeting were approved.

2. Reports were given for Globecom 2015, ICC 2016, Globecom 2016, CTW 2016, and CTW 2017. A proposal for CTW 2018 was presented.

3. CTTC awards were presented to Sergio Benedetto and John Proakis.

4. A change to the Early Achievement Award was passed. Eligibility is now “within 10 years of Ph.D.”.
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The Communication Theory Technical Committee (CTTC) of the IEEE Communications Society is primarily interested in fundamental problems associated with the transmission of information.

- Oversight of the Communication Theory Workshop
- Sponsorship of GC and ICC symposia
  - Primary symposium: Comm Theory
- Recognize member accomplishment through:
  - IEEE Fellow and Senior Member endorsement
  - IEEE Distinguished Lecturer endorsement
  - Nomination for other IEEE and ComSoc awards
  - CTTC Awards in Technical Achievement, Outstanding Service, and Early Achievement
CTTC gives out 3 distinct awards:
- Technical Achievement Award
- Outstanding Service Award
- Early Achievement Award

Usually 1, sometimes 2, of each award given annually

Nominations are due on June 30th
- A short sentence on the outstanding contribution and one page of supporting material.
- Send nomination to Erik Perrins, awards chair.

Usually awarded at Globecom
- Next ICC or CTW, by request.
EARLY ACHIEVEMENT AWARD

- Recognizes young members of the CTTC who have achieved early career visibility in the field through research and service and who (i) have participated in the CTTC (e.g., attended CTTC meetings, attended CTW, served the CTTC in a significant capacity, been a member of the TPC for ICC/GLOBECOM) and (ii) are within 10 years of their Ph.D.
- Officially adopted in 2011 (ICC, Kyoto), but has never been given
Recognizes members of the CTTC who have a distinguished record of service to the communication theory community, including CTTC-sponsored symposia and workshop organization, leadership roles within the committee, and promoting committee activities and interests in the broader research community.

Past recipients:
- 2015: Sergio Benedetto
- 2014: Ender Ayanoglu
- 2013: Michael Rice
- 2012: Costas Georghiades
- 2011: Len Cimini
- 2010: Richard Gitlin and Larry Milstein
Recognizes members of the CTTC who have been involved with the committee, have done outstanding work in communication theory, and have achieved a high degree of visibility in the field.

Past recipients:

- 2015: John Proakis
- 2014: Reinaldo Valenzuela and Norm Beaulieu
- 2013: Andrea Goldsmith
- 2012: Larry Milstein
- 2011: Sergio Benedetto
- 2010: Gerald Foschini and Dariush Divsalar
UPCOMING OFFICER ELECTIONS

- Offices are for two year terms
  - Current officer’s terms expire Dec. 2016
- Chair is the only elected office
  - Vice Chair and Secretary are appointed by the chair
- Chair election procedure
  - A Nomination and Election (N&E) committee will be formed
  - Nominations (including self-nominations) given to N&E committee by Oct. 31
  - Committee endorses one nominee for Chair
  - Election at the Globecom 2016 meeting
  - Nominations from the floor taken in addition to N&E candidate
  - Vote by show of hands unless secret ballot requested
MAILING LIST GUIDELINES

- Email list is comm-theory@ieee.org
  - Must be subscribed to send
  - Moderated: Must be approved by Maite or Matt
- Is a “quiet” list with few postings per year
- Standard acceptable uses:
  - CTTC-business: Meeting announcements, minutes, etc.
  - CFP for CTTC sponsored events: CTW and CT Symposia
- Special uses:
  - CT-related job openings posted by CT members: Postdoc & faculty
  - Niche workshops targeted to the CT community
- Not-acceptable:
  - CFP’s for conferences and workshops that are widely known
  - Advertising of graduate programs and announcements of fellowships
Best Readings is a curated collection of previously published books, articles, and papers on a featured topic

- Published quarterly at http://www.comsoc.org/best-readings
- Modeled after the old IEEE series of compendiums
- Links to the source reference with short descriptions
- Helpful to those who wants to acquire a background on the topic

Examples

- Massive MIMO
- Cognitive Radio
- Multi-Tier Cellular
- Green Communication
- Nanoscale Communication

Matt is EiC

- Give me ideas for topics
- Let me know if you would like to guest edit
WANT TO BECOME MORE INVOLVED?

- Volunteer to be on the TPC for an upcoming Comm Theory Symposium
  - ICC’17: Contact Fulvio
- Volunteer to be a symposium chair
  - We have made nominations through ICC’18
  - We have a (short) waiting list --- could use more volunteers
  - Contact Matt, and include your bio
- Standards liaison or student award rep
- Get involved w/ the organization of a CTW
  - Need proposals for CTW’19 onwards
  - Positions available for CTW’18
- Organize a Best Readings
AGENDA

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<td>CTW’16</td>
<td>Nafplio, Greece</td>
<td>15-18 May 2016</td>
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<td>CTW’17</td>
<td>Natadola Bay, Fiji</td>
<td>11-14 June 2017</td>
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<td>CTW’18</td>
<td>Puerto Rico</td>
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Communication Theory Workshop 2016
Nafplio, Greece

Marios Kountouris (Huawei Technologies, France)
Constantinos Papadias (AIT, Greece)
CTW 2016 Summary

• Venue
  • Naplia Palace Luxury Hotel
  • Nafplio, Greece

• Attendance
  • 64 registrations (including student volunteers)

• Financial Data
  • Registration revenue: $30,710
  • Sponsorships: $19,000
  • Expenses: $37,200
  • Surplus: $12,510
    • 34% of the expenses
    • Profit: 25%
CTW 2016 Technical Program

- **Plenaries**
  - "5G: from Service Requirements to Candidate Technologies" Merouane Debbah (Huawei)
  - "Cloud Radio-Access Networks: Coding Strategies, Capacity Analysis, and Optimization Techniques", Wei Yu (Univ. of Toronto)
  - "Coding for Distributed Storage and Caching" Michael Gastpar (EPFL)

- **Technical Sessions**
  - Cloud vs. Decentralized RAN
  - Starting-up with Communication Theory
  - MIMO beyond Multiple Antennas
  - Low-Latency and Short-Packet Communication
  - Nano/Molecular/Bio-inspired Communication

- **Panels (w/ mojitos)**
  - Communication Theory Entrepreneurship: Yes We Can!” (Andrea Goldsmith)
  - mmWave communications: Hope or Hype? (Reinaldo Valenzuela)

- **15 Posters (by the swimming pool)**
  - Best Poster Award:
    M. Leinonen, M. Codreanu and M. Juntti, "Rate-Distortion Lower Bound for Compressed Sensing via Conditional Remote Source Coding"
CTW 2016 Social Program

- Welcome Reception (Sunday night)
- Poster Sessions & Drinks (Monday evening)
- Banquet (Tuesday night)
  - 1h Boat ride
  - Dinner with traditional food + live music at a local tavern
  - Drinks at Beach Bar
- Lunches Monday + Tuesday
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2017 IEEE CTW
June 11-14
Intercontinental Fiji
Natadola Bay, FIJI
LOCATION & DATE

- CTW 2017 will be held June 11-14, 2017 at the superb Intercontinental Resort on the beautiful Natadola bay in tropical Fiji

2 weeks AFTER ICC
2 weeks PRIOR to ISIT
CTW 2017 VENUE

- Intercontinental Fiji Golf Resort and Spa (5*)
  - Conference Rooms (theatre style)
    - 72 m², 50 people OR
    - 151.2 m², 110 people
  - Posters in smaller room
  - Private open-air breakout area
CTW 2017 FUNCTIONS

– Welcome Reception

– Banquet area

– Entertainment
HOTEL ACCOMMODATION

• Garden rooms:
  – Double occupancy: $485 FJ / night = $230 US/night
  – Single occupancy: $425 FJ/night = $201 US/night
  • All rates in breakfast, taxes and fees, and in-room WiFi
HOTEL ACCOMMODATION UPGRADES

• Single occupancy Upgrade Rate
  – Pool King View Room Single FJ$525/Double FJ$585.00
  – Lagoon King View Room Single FJ$625/Double FJ$685.00
  – Lagoon King View Suite Single FJ$725/Double FJ$785.00
  – Beachfront King Room Single FJ$825/Double FJ $885.00
  – Beachfront King View Suite Single FJ$925/Double FJ$985.00

• Luxury club suites are also available
Organizing Committee:

General Chair: Stephen Hanly (Macquarie University)

Technical Program:
- Iain Collings (Macquarie University)
- Phil Whiting (Macquarie University)

Finance: Robby McKilliam (University of South Australia)

Fundraising: Salman Avestimehr (USC)

Poster Session:
- Jamie Evans (Monash University)
- Philippa Martin (University of Canterbury)

Publicity:
- Harpreet Dhillon (Virginia Tech)
- Chunshan Liu (Macquarie University)

Advisory:
- Jeff Andrews, David Gesbert, Robert Heath, Angel Lozano, Matthew Valenti
PROGRAM

• Technical
  – 3 Plenary talks
  – 5 Technical sessions
  – 2 Panel discussions
  – Poster session

• Social functions
  – Welcome reception
  – Cocktail (during Poster Session)
  – Banquet + Best poster award

Session/Panel Topics (under consideration)

• Internet-of-things; Wireless sensor networks; Localization
• Heterogeneous Networks; Mm-wave; Cloud processing;
• Satellite networks; Spectrum Sharing
Registration Fees

- IEEE ComSoc, early: $450
- IEEE Student member, early: $300
GETTING THERE:
Centrally situated in the South Pacific, Fiji is one of the main airline hubs of the Pacific region.

Fiji is serviced by major carriers in the Pacific region including its national carrier Fiji Airways, Air New Zealand, Jetstar, Korean Airlines, Qantas, Pacific Blue, Air Niugini and Aircalin.

There will also be a direct flight to San Francisco.
• Natadola Bay is 60 km from Nadi airport

- By TAXI: ~ 1h, cost: $100 FJD = $47 USD
- *By Express shuttle* ~ 1h, $200 FJD = $94 USD (if more than 4 people, $50 FJD pp)
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Communication Theory Workshop 2018

Organizers:
David J. Love, Purdue
Bert Hochwald, Notre Dame
Erik Perrins, Kansas
Overview

- Globecom 2015 presented proposal for CTW 2018 in Puerto Rico
- CTW last in PR in 2006
- In talks with El Conquistador-Waldorf Astoria Resort
- Contract has not been finalized yet.
- Tourism in PR seems depressed right now, hoping for a good deal
Puerto Rico Overview

- Puerto Rico, Spanish and English are the official languages; most Puerto Ricans speak English.
- Puerto Rico is a U.S. commonwealth-U.S. citizens don’t need a passport to travel.
- U.S. dollar is official currency.
- Puerto Rico has a population of approx 2M.
- San Juan is the capital.
Puerto Rico Tourism Overview

• 270 miles of coastline
• More than 70% of the rum sold in the U.S. comes from Puerto Rico; sample our favorite local brands and enjoy a tour of our rum distilleries.
• Toro Verde features one of the longest Zip Lines on Earth: La Bestia
• Bioluminescence exists around the world, but there are only a few biobays on our planet. Puerto Rico has three of them, a kayak or boat-ride away from our shores, they must be seen to be appreciated.
Puerto Rico Travel

- Luis Munoz Marin International Airport (SJU), conveniently located 9 mi (14km) northeast of San Juan.

- Nonstop Flights:
  - New York, Miami ~$300
  - Chicago, Atlanta ~$350
  - Philadelphia, Boston ~$400
  - Dallas ~$500
  - Madrid (nonstop) ~$800
  - Houston, Baltimore, Orlando, Tampa

- One Stop Flights
  - San Francisco ~$350
  - Stockholm ~$1300
  - Berlin ~$800
  - Beijing ~$1600
  - Seoul ~$2000
Venue Selection

• Beach venue vs Old city San Juan
• Prefer beach venue
• Varying levels of seclusion
• Possibilities
  • El Conquistador – Waldorf Astoria Resort
  • Dorado Beach Resort
  • Caribe Hilton
  • Hyatt Dorado Beach Resort Dorado (CTW 2006)
El Conquistador - Location

- Approx 45 min drive from airport
- Shuttle service provided by hotel available
El Conquistador – View of Hotel and Beach
El Conquistador – Hotel Water Park
El Conquistador – Meeting Rooms
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# UPCOMING CONFERENCE VENUES

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<tr>
<td>GC’16</td>
<td>Washington, DC</td>
<td>4-8 Dec 2016</td>
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<tr>
<td>ICC’17</td>
<td>Paris</td>
<td>21-25 May 2017</td>
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<tr>
<td>GC’17</td>
<td>Singapore</td>
<td>4-8 Dec 2017</td>
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<tr>
<td>ICC’18</td>
<td>Kansas City</td>
<td>20-24 May 2018</td>
</tr>
<tr>
<td>GC’18</td>
<td>Abu Dhabi</td>
<td>9-13 Dec 2018</td>
</tr>
<tr>
<td>ICC’19</td>
<td>Shanghai</td>
<td>20-24 May 2019</td>
</tr>
<tr>
<td>GC’19</td>
<td>Hawaii (Waikoloa, Big Island)</td>
<td>9-13 Dec 2019</td>
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Co-chairs
- Marco Chiani (University of Bologna, Italy)
- Marios Kountouris (Huawei Technologies, France)
- Xu (Judy) Zhu (University of Liverpool, UK)

Statistics
- Submissions: 134 (40% decrease compared to ICC’15)
- Accepted Papers: 54 (final papers: 53)
- Acceptance rate: 40.3 %
- TPC members: 159
- Average TPC member load = 3.7 papers

Sessions
- 9 oral sessions & 2 interactive sessions (15% posters)
The Best Paper Award in the Communication Theory Symposium

Y. Deng, A. Noel, M. Elkashlan, A. Nallanathan, and K. C. Cheung

“Molecular Communication with a Reversible Adsorption Receiver”

Session CT 8: “Molecular Communication”
Thursday 2:00 - 3:30
Room 303, Level 3
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Co-chairs
- Petar Popovski (Aalborg U., Denmark)
- Philippa Martin (U. Canterbury, New Zealand)
- Jinhong Yuan (U. NSW, Australia)

Stats
- # Submissions: 142
- # TPC members: 130
- Average TPC member load = 3.5 papers
- Anticipated acceptance rate: 37-40%

Dates
- Acceptance notification: Jul. 1, 2016
- Camera Ready: Aug. 1, 2016
- Conference: Dec. 4-8, 2016

Notes:
- Several TPC members accepted invitation, but fully inactive afterwards.
- If no action will be taken during the review process, they will be removed from the list.
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Co-chairs

- Ender Ayanoglu (UC Irvine, USA)
- Fulvio Babich (U Trieste, Italy)
- Steven Weber (Drexel U, USA)

Dates

- Submission Deadline: October 15, 2016
- Conference: 21-25 May, 2017
- Location: Palais des Congrès - Porte Maillot, Paris

To volunteer for serving as a TPC member, please send an email to one of the above co-chairs.
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See you in Washington, DC

Tentatively, our meeting will be:
- Monday, Dec 5, at 6:30 PM.