

IEEE ComSoc MBMC-TC Meeting

Technical Committee on Molecular, Biological, and Multi-Scale
Communications

27 November 2024 / 9am-10:30am ET / Virtual (Zoom)

Agenda

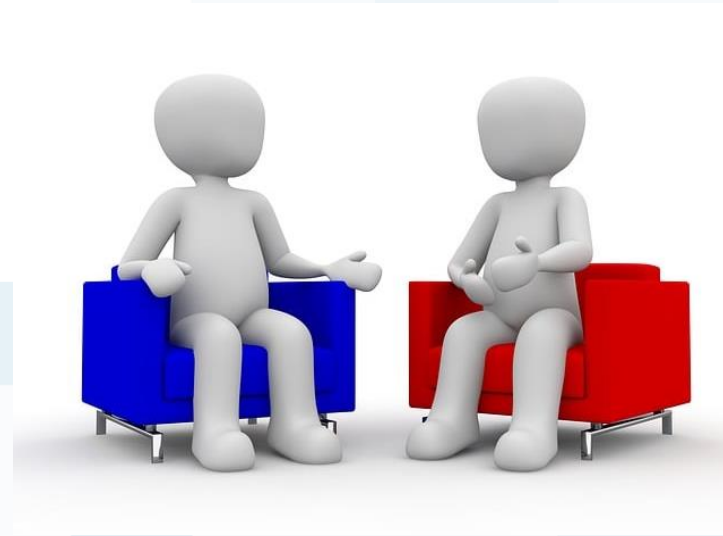
1. Call to Order
2. Chair's Report
 - a. Status of Policies and Procedures
 - b. Status of TC Certification
 - c. Status of TC restructuring
3. T-MBMC Report
4. Conference Reports
5. Educational Services Report
6. Social Media Report
7. New Business
8. Adjournment





1. Call to Order

Adam Noel, MBMC-TC Chair



2. Chair's Report

Adam Noel, MBMC-TC Chair

Chair's Report Outline



1. About the MBMC-TC

1. Purpose and History
2. New Logo
3. Membership
4. Officers
5. Links with ComSoc

2. Activities

3. Status of Policies and Procedures

4. TC Recertification

5. ComSoc TC Restructuring



About the MBMC-TC



What is the IEEE ComSoc Technical Committee on Molecular, Biological, and Multi-Scale Communications (MBMC-TC)?

- Focus on “nanoscale” (nano to micro) communication in different physical forms
 - Molecular Communication
 - Electromagnetic Communication
 - Quantum Communication
- Promote technical and professional activities
- Serve engineers, researchers, scientists, and educators
- <https://mbmc.committees.comsoc.org/>

Brief History

- Founded as an “Emerging Technical Initiative” in 2008
- Promoted to a “Technical Committee” at end of 2019





New Logo

Werner Haselmayr, MBMC-TC Secretary

Logo Competition – Winner



Timo Jakumeit

FAU Erlangen-Nürnberg, Germany

Logo Competition – Stats



- 5 submissions from Asia and Europe
- 86 participants in the poll
- 38.4% of votes for the winner
- Prize: Free registration for *Workshop on Molecular Communications*, (Catania, Italy, April 9-11, 2025)

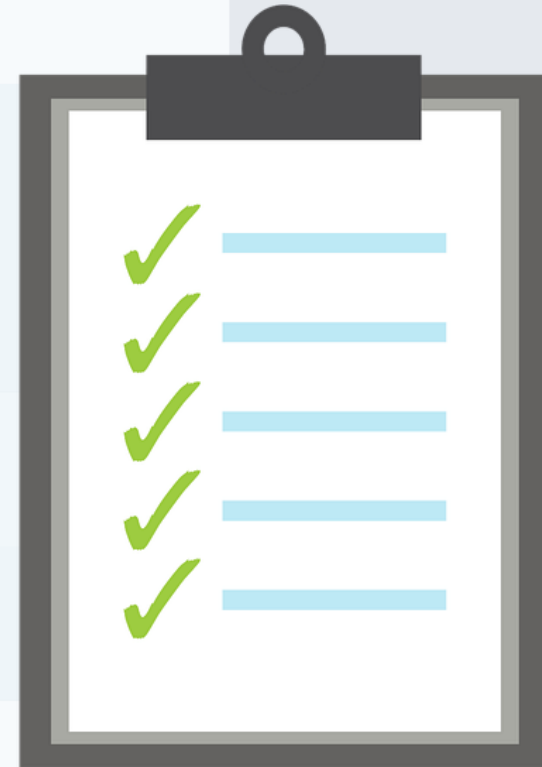
Many thanks to everyone who took part!

Who is a Member of MBMC-TC?



Membership requires the following:

- Join MBMC **mailing list**
- **ComSoc member** in good standing
- Participate in MBMC-TC **meetings**
- Been **active** in MBMC-TC
- Assist in conduct of MBMC-TC business



Officers 2024-2025



Elected:



Adam Noel (Memorial, Canada)
Chair



Nan Yang (ANU, Australia)
Vice-Chair



Werner Haselmayr (Linz, Austria)
Secretary

Appointed:



Prabhat Kumar Sharma (VNIT Nagpur, India)
Social Media Chair



Maximilian (Max) Schäfer (FAU, Germany)
Educational Services Coordinator

Links with ComSoc



The MBMC-TC is a TC within the IEEE Communications Society, so we:

- Report to the ComSoc **Technical Committees Board (TCB)**
- Can endorse ComSoc **Distinguished Lecturers** and **IEEE Fellows**
- Support **technical tracks** in ComSoc-organized events
- Can support applications for ComSoc **event co-sponsorship**
- Meet in alignment with ComSoc's flagship conferences
- Participate in ComSoc **Standards Development Board** meetings

... Generally, participate in any TCB activities (newsletters, funding, etc.)

MBMC-TC Activities



We have a broad scope of activities:

- **Support** the IEEE Transactions on Molecular, Biological, and Multi-Scale Communications
 - Report by Sasi in this meeting
- **Organize** the SAC MBMC Tracks at IEEE ICC and IEEE Globecom
 - Reports by Prabhat, Max, and Lin in this meeting
 - Contact the officers if you are interested in Chairing a future MBMC track
- **Endorse** other technical activities, e.g., for 2025:
 - 9th Workshop on Molecular Communications (MolCom) in Catania, Italy (April)
- **Promotion** via mailing list, website, and social media
 - Report by Prabhat in this meeting

Status of Policies and Procedures



Updated MBMC-TC Policies and Procedures

- **Member definitions** (member vs voting member) consolidated
- **Elections** process consolidated
- **Awards** process updated
- **Roles defined** for Educational Services Coordinator and Social Media Chair

Timeline

- May 2024 – Changes approved at TC meeting
- November 2024 – Changes approved by ComSoc Governance Committee
- January 2025 (expected) – Seek ratification by TC Board



TC Recertification with ComSoc



Recertification process:

- TCs require recertification every 3 years
- Submit report that documents:
 - TC Meeting participation
 - TC Membership statistics
 - Activities that TC supported (Events, lectures, publications, standardization, awards, distinguished lecturers)
 - Discussion of achievements, challenges, plan to address challenges, plan to increase participation

Timeline

- September 2024 – Documentation submitted
- November 2024 – Recertification passed
 - Feedback: **Increase the number of active members** and foster member engagement

ComSoc TC Restructuring



ComSoc is restructuring how TCs are configured

- Reducing number of TCs (from 26 to ~12)
- Creation of **Technical Working Groups** to be smaller and more flexible
 - Replacing old ETIs and SIGs
- Transition process on-going over 2024-2025
- Our **TC would most likely be converted into a TWG**, which would need a core TC
- TWG characteristics:
 - Can nominate a chair for a SAC track at ICC/Globecom
 - Can have awards (no paper awards; same as TCs)
 - Certified by Emerging Technologies Committee (every 2 years)
 - Elections and award reports would need approval by core TC
 - Chair, Vice-Chair, and Secretary to be elected; each role requiring at least 2 candidates
- Recertification risk: Member **growth expected**



Questions or Comments?



3. T-MBMC Report

Sasi Balasubramaniam, T-MBMC Editor-in-Chief

TMBMC- Update



- Impact factor - 2.4
- Journal performance (2024)
 - Submissions so far – 120
 - Hit all targets of minimum 100 papers/year and minimum 500 pages per year
 - Published (total 51 for 2024) – Acceptance rate is 42.5%
 - March – 15 papers
 - Special Feature 14th EAI Conference on Bio-inspired Info. and Comm. Tech. (Yifan Chen, Dezhong Yao, Tadashi Nakano)
 - Special issue – Microfluidic systems (Werner Haselmayr, Yansha Deng, Tuna Tugcu, Ali Salehi-Reyhani)
 - June – 13 papers
 - Special Issue – Ten Years of DNA-Based Data Storage (Han Mao Kiah; Paul H. Siegel; Eitan Yaakobi)

TMBMC- Update



- Journal performance (2024) (Cont'd)
 - September – 12 papers
 - Special Issue - Seeing Through the Crowd: Molecular Communication in Crowded and Multi-Cellular Environments (Adam Noel, Andrew W. Eckford, Radek Erban, Matteo Icardi, Gregory Reeves)
 - Special Feature – 8th Workshop on Molecular Communications (Chun Tung Chou, Mohammad Zoofaghari, Ozgur B. Akan, Mladen Veletic, Ilangko Balasingham)
 - December – 11 papers
 - Special Feature – Quantum Biology (Harun, Siljak)
- Special Issues to be published in March 2025
 - Understanding Communicable Diseases through the Lens of Molecular Communications (Prabhat Sharma, Mauro Femminella, Sudhir Kumar)
- Sub to Pub (Q2 data)
 - Average Weeks Submitted to First Decision for past 12 – 10.7 weeks (10.5 in 2023)
 - Average Weeks Submitted to Online Post for past 12 months – 24.2 weeks

TMBMC- Update



- Open Special Issues

- The Internet of BioNanoThings – Applications, Components, and Challenges - **deadline 15th April, 2025** (Maximilian Schäfer, Robert Schober, Laura Galluccio, Falko Dressler, Stefan Fischer, Cyrus Khandanpour)
- Interconnecting Molecular and Terahertz Communications for Future 6G/7G Networks - **deadline 1st April, 2025** (Miaowen Wen, Yu Huang, Xuan Chen, Nan Yang, Yao Wei, Hadeel Elayan, Tianqi Mao)
- Feedback Control in Multicellular Molecular Communication Systems - **deadline 15th February, 2025** (Yutaka Hori, Giulia Giordano, Christopher Rose, Ken Duffy)
- Microphysiological Systems to Study and Experiment Bio-molecular Communications and Computing – **deadline 1st February, 2025** (Michael Barros, Reinhold Scherer, Jari Hyttinen, Gabriella Panuccio)

- Editorial Board

- 40 Editorial Board Members (7 females)
 - 2 members from Industry (Sara Capponi, IBM Almaden Research Center; Francesca Ratti, Altos Lab)
- New editorial members
 - Sara Capponi, IBM Almaden Research Center, USA
 - Maximilian Schäfer, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
 - Eitan Yaakobi, Israel Institute of Technology, Israel

- **BIG THANK YOU TO ALL ASSOCIATE AND GUEST EDITORS AS WELL AS AUTHORS!**



Questions or Comments?



4. Conference Reports

SAC MBMC Track Chairs

IEEE GLOBECOM 2024



- **Track Chair:** Prabhat Sharma
- **Date:** December 8-12, 2024
- **Location:** Cape Town.
- **SAC:** Molecular, Biological, and Multi-Scale Communications
- **Total submission received:** 12
- **Total papers accepted:** 05 Oral + 01 Poster
- **Session Chair:** Dadi Bi

IEEE ICC 2025 – Update



Date: June 8 – June 14, 2025

Location: Montreal, QC, Canada

SAC: Molecular, Biological and Multi-Scale Communications

Submitted papers: 20!

(close to pre-covid numbers! **Thank you!**)

Review process started – Notification in January 2025



<https://www.istockphoto.com/de/fotos/montreal-canada>

2nd Workshop on MBMC



2nd Workshop on Molecular, Biological, and Multi-Scale Communications
(<http://mbmcworkshop.org/2025/>)

Date: June 12 – June 13 (immediately after ICC 2025)

Location: University of Montreal, Montreal, Canada

Organizers: Y. Deng, A. Eckford, A. Noel, M. Schäfer

Plenary speakers: Prof. Sylvain Martel (Polytechnique Montreal), Prof. Elebeoba E. May (University of Wisconsin)

Confirmed speakers: R. Schober, Y. Deng, W. Haselmayr, J. Jornet, S. Balasubramaniam, M. Magarini, M. Kuscu, N. Tuccitto

Opportunity for PhD students to pitch their work

IEEE GLOBECOM 2025



- **Track Chair:** Lin Lin
- **Date:** December 8-12, 2025
- **Location:** Taipei, Taiwan. **An interesting and enjoyable place!**
- **SAC:** Molecular, Biological, and Multi-Scale Communications
- **Paper submission deadline (initial):** April 1, 2025
- **Paper acceptance notification:** August 1, 2025

- Please prepare and submit papers!

9th Workshop on Molecular Communication 2025

Catania, Italy, April 9-11, 2025

<https://molecularcommunications.org/>



Università
di Catania



**9TH WORKSHOP ON MOLECULAR COMMUNICATIONS (MOLCOM)
9-11 APRIL 2025 Catania, Italy**



Università di Catania



MOLCOM 2025: submission deadline January 25, 2025

General Co-Chairs

- **Laura Galluccio & Nunzio Tuccitto**
Università degli Studi di Catania

Location

- **University of Catania, Cittadella Universitaria**

Keynote Speakers



**Prof. I.
Balasingham
NTNU, Norway**



**Prof. S. Harteis
Universität
Regensburg,
Germany**



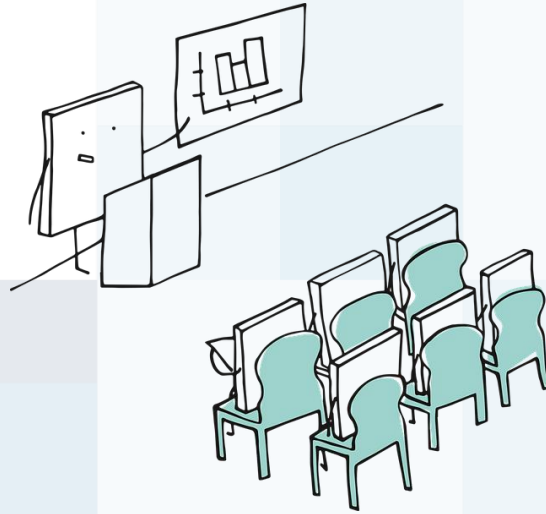
**Prof. C. Faulkner
The John Innes
Centre, UK**

See you next
year in the
beautiful Sicily!





Questions or Comments?



5. Educational Services Report

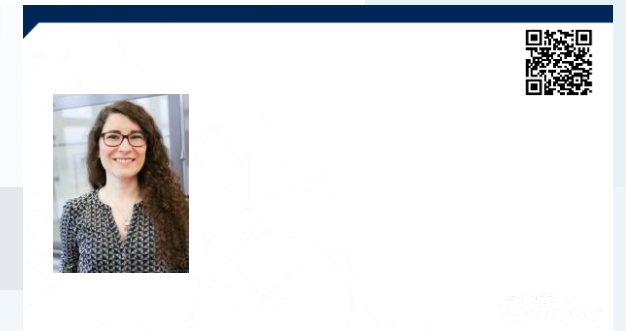
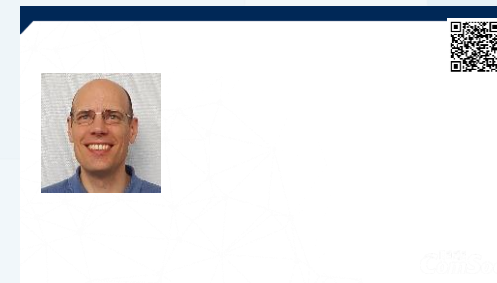
Maximilian Schaefer, MBMC-TC Educational Services Coordinator

Educational Services Update



Interdisciplinary Seminar Series: Molecular Communication Outside the Box: Breaking Disciplinary Boundaries

- Two well-attended events since June 2024
- Format is well accepted by the community
- Recordings on the MBMC-TC Youtube Channel (<https://www.youtube.com/@ieeecomsocmbmc-tc2112>)
- **Suggestions?** → mail to: max.schaefer@fau.de
- **Next Seminar: December, 19**



Webinar December 19, 2024, 3pm CET

(6am PST, 9am EST, 2pm GMT, 8am CST)

ZOOM
Link



Advances in monitoring Organ crosstalk and its impact on toxicology and personalized medicine

*Dr. Martin Frauenlob
Cell Chip Research Group
Vienna University, Austria*

Part of the Series "Molecular Communication Outside the Box: Breaking Disciplinary Boundaries"
Organized by the IEEE ComSoc Technical Committee on Molecular, Biological, and Multi-Scale Communications

Hosted by Dr. Maximilian Schäfer, TC MBMC Educational Services Coordinator





Questions or Comments?



6. Social Media Report

Prabhat Sharma, MBMC-TC Social Media Chair

TC Social Media Activities

- Active presence on LinkedIn, X, Youtube etc.
- Details:
 - X 102 followers
 - YouTube 27 videos, 75 subscribers, 2,291 views
 - LinkedIn 197 members



Questions or Comments?



7. New Business



8. Adjournment

Thank you for your participation!