

Official Rules

NO PURCHASE OR PAYMENT IS NECESSARY TO ENTER OR WIN. A PURCHASE WILL NOT IMPROVE YOUR ODDS OF WINNING.

Contest: “Future 6G NTN Systems” (the “Contest”)

Sponsor: The Institute of Electrical and Electronics Engineers, Incorporated, 445 Hoes Lane, Piscataway, New Jersey, USA, 08854 (“Sponsor”)

Eligibility: Contest is open to residents of the United States of America and other countries, where permitted by local law, who are the age from twenty (20) to thirty-five (35). Employees of Sponsor, its agents, affiliates and their immediate families are not eligible to enter Contest. Entrants may be subject to rules imposed by their institution or employer relative to their participation in contests and should check with their institution or employer for any relevant policies. Void where prohibited by law.

Agreement to Official Rules: By participating in this contest, entrants agree to abide by the terms and conditions thereof as established by Sponsor. Sponsor reserves the right to alter any of these Official Rules at any time and for any reason. All decisions made by Sponsor concerning the Contest including, but not limited to the cancellation of the Contest, shall be final and at its sole discretion.

Entry Period: This Contest commences **on May 20, 2024 and end on June 6, 2024** ("Entry Period"). Sponsor's server is the official clock for the Contest. Entries received before or after the entry period are void.

How To Enter:

The applicant must submit an innovative idea in the field of future 6G NTN systems in the form of a conference paper using the IEEE conference template. The required paper length is up to 5 pages, double-column (Times New Roman, 12-pt font size, and 20-pica column width), including references, tables, and figures of results. The submitted manuscript should not exceed 5000 words (including title, authors' names/info, abstract, body (introduction to conclusion), figures, tables, captions, footnotes, acknowledgments, and references).

The paper should cover one or more of the following topics:

- High Altitude Platform Station (HAPS) systems and HAPS constellations
- Integrated terrestrial-satellite networks, satellite–5G/6G coexistence
- 3GPP 6G standardization with satellite communications as a native technology
- Free Space Optical (FSO) communications for satellite networks, laser links
- Satellite networks for enhanced localization, navigation, and precision positioning
- Mobility/handover management in satellite networks
- Quantum key distribution (QKD) in satellite networks

- Satellite IoT
- Computation offloading through/from satellite networks
- Edge computing and caching in satellite networks
- Topology management and routing in satellite networks
- Random access techniques and dynamic spectrum sharing in satellite networks
- Multicasting techniques in satellite networks
- MIMO, massive MIMO, advanced antenna architectures, and dynamic beamforming
- Interference avoidance and mitigation in satellite networks
- Optical wireless communications for future satellite systems
- Routing in 3D multi-orbit non-terrestrial network (NTN) systems
- Physical layer security in satellite communications
- Security, privacy, and authentication in satellite networks
- Mobility enhancement for TN – NTN integration
- Testbeds for satellite networks and experimental studies
- AI/ML for satellite networks
- Simulation platforms for satellite networks
- IoT and M2M applications in satellite networks
- Advanced physical layer technologies for satellite communications.

There is a limit of max one paper submission (entry) per person.

The submission of the paper (entry) will be carried out via EDAS.

The first author of each submitted paper should be a full-time graduate student at the time of submission or should have received their Ph.D. in 2021, 2022, or 2023. The age of the first authors should be from twenty (20) to thirty-five (35) years. Only original papers submitted in accordance with these rules will be eligible for consideration. Already published papers cannot be considered.

There is a limit of one (1) entry per person.

The authors of the best ten submissions will be invited to present their works in the final workshop on July 8, 2024 (within ICCSPA main conference in Istanbul Medipol University and also on Zoom) organized by the ComSoc Satellite and Space Communications Technical Committee (SSCTC). The registration policy of ICCSPA (<https://2024.iccspa.org/>) will be adhered to. The final workshop will also be available online (free for student participants) and will include: a welcome message from the SSCTC chair to participants, a quick survey on SSCTC activities, a keynote presentation by a valuable speaker of the SSC community, presentations of the best ideas, final vote of the Technical Program Committee (TPC) members, and final ceremony with the prizes for the best ideas.

Only entries submitted in accordance with these Official Rules will be eligible for consideration. No alternate means of entry permitted. All entries become the exclusive property of Sponsor and will not be acknowledged or returned.

Selection of Winner:

The TPC members of this competition will review the submitted papers, select the best ten works to be invited to the workshop by June 20, 2024, and then provide the final ranking with the selection of the best five works after the presentations of the works during the workshop.

Prize: The prize(s) for the Contest are being sponsored by IEEE. The winner(s) (the “Prize Winner(s)”) shall receive a travel and accommodation reimbursement up to \$2000 for the winner of the challenge (the “Prize”); the second ranked idea shall receive a travel and accommodation reimbursement up to \$1400; the third ranked idea shall receive a travel and accommodation reimbursement up to \$1000; the fourth and fifth ranked ideas shall receive a travel and accommodation reimbursement up to \$250. These payments will be granted upon submission by the selected participants of receipt and reimbursement documents following IEEE rules. No cash in lieu of prize or substitution of prize permitted, except that Sponsor reserves the right to substitute a prize or prize component of equal or greater value in its sole discretion for any reason at time of award. Sponsor shall not be responsible for service obligations or warranty (if any) in relation to the prize(s). Prize may not be transferred prior to award. All other expenses associated with use of the prize, including, but not limited to local, state, or federal taxes on the Prize, are the sole responsibility of the winner. Winner(s) understand that delivery of a prize may be void where prohibited by law and agrees that Sponsor shall have no obligation to substitute an alternate prize when so prohibited.

Notification of Potential Prize Winners: The Prize Winners will be notified by e-mail within 14 days of the selection date. If a Prize Winner does not acknowledge acceptance of the Prize within 14 business days after being notified that he or she is a Prize Winner, or if a potential Prize Winner does not return the signed claim forms within the required time, or is otherwise found to be ineligible or not in full compliance with these Official Rules, another Prize Winner will be chosen using the same procedure specified above. Potential Prize Winner may be asked to execute and return to Sponsor a declaration of eligibility and liability/publicity release, where lawful, within fourteen (14) days of attempted notification. Winner may waive the right to receive the prize. The decisions of Sponsor are final and binding in all respects.

Release, Publicity, and Privacy: By receipt of the Prize and/or, if requested, by signing an affidavit of eligibility and liability/publicity release, the Prize Winner consents to the use of his or her name, likeness, business name and address by Sponsor for advertising and promotional purposes, including but not limited to on Sponsor’s social media pages, without any additional compensation, except where prohibited. No entries will be returned. All entries become the property of Sponsor. The Prize Winner agrees to release and hold harmless Sponsor and its officers, directors, employees, affiliated companies, agents, successors and assigns from and against any claim or cause of action arising out of participation in the Contest.

Sponsor assumes no responsibility for computer system, hardware, software or program malfunctions or other errors, failures, delayed computer transactions or network connections that are human or technical in nature, or for damaged, lost, late, illegible or misdirected entries; technical, hardware, software, electronic or telephone failures of any kind; lost or unavailable network connections; fraudulent, incomplete, garbled or delayed computer transmissions

whether caused by Sponsor, the users, or by any of the equipment or programming associated with or utilized in this Contest; or by any technical or human error that may occur in the processing of submissions or downloading, that may limit, delay or prevent an entrant's ability to participate in the Contest.

Sponsor reserves the right, in its sole discretion, to cancel or suspend this contest and award a prize from entries received up to the time of termination or suspension should virus, bugs or other causes beyond Sponsor's control, unauthorized human intervention, malfunction, computer problems, phone line or network hardware or software malfunction, which, in the sole opinion of Sponsor, corrupt, compromise or materially affect the administration, fairness, security or proper play of the contest or proper submission of entries. Sponsor is not liable for any loss, injury or damage caused, whether directly or indirectly, in whole or in part, from downloading data or otherwise participating in this Contest.

Entrant acknowledges and agrees that Sponsor may collect, store, share, and otherwise use personally identifiable information provided during the registration and application process and the Contest, including, but not limited to, name, mailing address, phone number, and email address. Sponsor will use this information with accordance with its Privacy Policy (https://www.ieee.org/security_privacy.html), including for administering the Contest and verifying Entrant's identity, postal address, and telephone number in the event an entry qualifies for a prize. Entrant's information may also be transferred to countries outside the country of Entrant's residence, including the United States. Such other countries may not have privacy laws and regulations similar to those of the country of Entrant's residence. If an Entrant does not provide the mandatory data required at registration, Sponsor reserves the right to disqualify the entry.

Right to Use Entries: By entering the Contest, entrants grant Sponsor a non-exclusive, irrevocable, royalty-free, perpetual, worldwide right and license to reproduce, publish, display, edit and otherwise use the submitted Entries, and entrant's full name and city and state/province/country of residence, photograph, likeness, voice and institutional affiliation, in print or any offline or online and other media for purposes of editorials, exhibition, advertising, publicity and promotion without additional compensation or permission, unless prohibited by law.

Representations and Warranties Regarding Entries: By submitting an Entry, you represent and warrant that your Entry does not and shall not comprise, contain, or describe, as determined in Sponsor's sole discretion: (A) false statements or any misrepresentations of your affiliation with a person or entity; (B) personally identifying information about you or any other person; (C) statements or other content that is false, deceptive, misleading, scandalous, indecent, obscene, unlawful, defamatory, libelous, fraudulent, tortious, threatening, harassing, hateful, degrading, intimidating, or racially or ethnically offensive; (D) conduct that could be considered a criminal offense, could give rise to criminal or civil liability, or could violate any law; (E) any advertising, promotion or other solicitation, or any third party brand name or trademark; or (F) any virus, worm, Trojan horse, or other harmful code or component. By submitting an Entry, you represent and warrant that you own the full rights to the Entry and have obtained any and all necessary consents, permissions, approvals and licenses to submit the Entry and comply with all

of these Official Rules, and that the submitted Entry is your sole original work, has not been previously published, released or distributed, and does not infringe any third-party rights or violate any laws or regulations.

Limitations of Liability/Reserved Rights: Neither Sponsor, its parent, subsidiary or affiliated companies, nor its advertising or promotional agencies shall have any obligation, liability or responsibility with regard to (i) entries that contain incorrect or inaccurate information or do not comply with these Official Rules, (ii) entries, prize claims or notifications that are lost, late, incomplete, illegible, unintelligible, damaged or otherwise not received by the intended recipient, in whole or in part, due to computer, technical or other error of any kind, (iii) telephone, electronic, hardware, software, network, Internet or computer malfunctions, failures or difficulties of any kind, (iv) any condition caused by events beyond the control of Sponsor that may cause the Contest to be disrupted or delayed, (v) any printing or typographical errors in these Official Rules or any other materials associated with the Contest, or (vi) any damages or losses of any kind caused by any prize or resulting from participation in the Contest, accessing, uploading or downloading data in connection with the Contest, or acceptance, possession or use of any prize. Sponsor, in its sole discretion, reserves the right to disqualify any entrant tampering with or abusing the entry process or the operation of the Contest or otherwise violating these Official Rules. Sponsor, in its sole discretion, further reserves the right to cancel, terminate, suspend or modify the Contest if the Contest cannot be completed as planned because of infection by computer virus, bugs, tampering, unauthorized intervention or technical failures of any sort and to select a winner from among eligible entries unaffected by such event, if any.

Disputes: EACH ENTRANT AGREES THAT: (1) ANY AND ALL DISPUTES, CLAIMS, AND CAUSES OF ACTION ARISING OUT OF OR IN CONNECTION WITH THIS CONTEST, OR ANY PRIZES AWARDED, SHALL BE RESOLVED INDIVIDUALLY, WITHOUT RESORTING TO ANY FORM OF CLASS ACTION, PURSUANT TO ARBITRATION CONDUCTED UNDER THE COMMERCIAL ARBITRATION RULES OF THE AMERICAN ARBITRATION ASSOCIATION THEN IN EFFECT, (2) ANY AND ALL CLAIMS, JUDGMENTS AND AWARDS SHALL BE LIMITED TO ACTUAL OUT-OF-POCKET COSTS INCURRED, INCLUDING COSTS ASSOCIATED WITH ENTERING THIS CONTEST, BUT IN NO EVENT ATTORNEYS' FEES; AND (3) UNDER NO CIRCUMSTANCES WILL ANY ENTRANT BE PERMITTED TO OBTAIN AWARDS FOR, AND ENTRANT HEREBY WAIVES ALL RIGHTS TO CLAIM, PUNITIVE, INCIDENTAL, AND CONSEQUENTIAL DAMAGES, AND ANY OTHER DAMAGES, OTHER THAN FOR ACTUAL OUT-OF-POCKET EXPENSES, AND ANY AND ALL RIGHTS TO HAVE DAMAGES MULTIPLIED OR OTHERWISE INCREASED. ALL ISSUES AND QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, INTERPRETATION AND ENFORCEABILITY OF THESE OFFICIAL RULES, OR THE RIGHTS AND OBLIGATIONS OF ENTRANT AND SPONSOR IN CONNECTION WITH THE CONTEST, SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW JERSEY, WITHOUT GIVING EFFECT TO ANY CHOICE OF LAW OR CONFLICT OF LAW, RULES OR PROVISIONS (WHETHER OF THE STATE OF NEW JERSEY OR ANY OTHER JURISDICTION) THAT WOULD CAUSE THE APPLICATION OF THE LAWS OF ANY JURISDICTION OTHER THAN THE STATE OF NEW JERSEY. SPONSOR IS NOT RESPONSIBLE FOR ANY TYPOGRAPHICAL OR

OTHER ERROR IN THE PRINTING OF THE OFFER OR ADMINISTRATION OF THE CONTEST OR IN THE ANNOUNCEMENT OF THE PRIZES.

Contest Results and Official Rules: To obtain the identity of the Prize Winner and/or a copy of these Official Rules, send a self-addressed stamped envelope to Tara McNally (t.mcnally@ieee.org), The Institute of Electrical and Electronics Engineers, Incorporated (“IEEE”), 445 Hoes Lane, Piscataway, New Jersey, USA, 08854.