



2024

ANNUAL REPORT

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**Celebrating 75 years of  
Vehicular Technology**

[VTSOCIETY.ORG](http://VTSOCIETY.ORG)



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# A MESSAGE FROM **THE PRESIDENT**



Welcome reception at VTC2024–Fall & VPPC 2024

## **Dear VTS members,**

It is a pleasure to write to you one last time as my term as VTS President comes to an end. To serve in this role during the 75<sup>th</sup> anniversary of the Society and the 100<sup>th</sup> edition of the IEEE Vehicular Technology Conference (VTC) has been a great honor. I am pleased to share this report about the achievements and progress that VTS has made toward its strategic goals to better serve you, our members.

Here are some highlights of VTS in 2024.

### **75<sup>th</sup> Anniversary**

We celebrated the VTS 75<sup>th</sup> anniversary with an exciting museum-style exhibit, commissioned with the IEEE History Center, and on display at VTC2024–Fall and VPPC 2024 in Washington, DC, USA. The centerpiece of the exhibit was an interactive timeline game, where conference delegates could test their knowledge on the history of vehicular technology and mobile communications.

We also hosted the Awards Luncheon & VIP Recognition during the conferences. It was an honor to recognize past Society presidents, Editors-in-Chief of VTS publications, and General Chairs and Technical Program Chairs of VTS conferences at the Luncheon. Those who traveled to Washington, DC, received a token of appreciation from the Society.

## MEMBERSHIP GROWTH

As of this writing, we have 9,950 members, and this is the largest number in the history of the Society, with a year-over-year growth of 22.1% from 8,149 in December 2023. We have seen the increase in membership reflected in chapter activities and volunteer engagement, as well as more interest in technical activities, standards activities, and program initiatives.

## CONFERENCES

2024 was a special year for the VTS conferences. In addition to celebrating the 100<sup>th</sup> edition of the VTC and the 20<sup>th</sup> year of the Vehicular Power & Propulsion Conference (VPPC), we saw the first female Conference General Chair in VTS history. Sumei Sun led a successful VTC2024-Spring in Singapore. Our conference leadership teams have worked diligently to engage volunteers from across the globe, and we are pleased to share the VTC lineup for the next three years. I encourage you to visit the **VTS Conferences webpage** to explore important details and to begin planning your paper submissions in advance. Stay tuned for more updates, and I look forward to your contributions to these upcoming events!

In 2025, we will see the return of the Wireless Africa conference after an extended hiatus due to Covid-19, as well as a new approach to the Joint Rail Conference.

## PUBLICATIONS

Nearly all IEEE technical journals saw a decreased Impact Factor this year, but we are proud that the IEEE Transactions on Vehicular Technology remains a Q1 journal and the second ranked publication on Google Scholar Metrics under Computer Networks & Wireless Communications. Both the VT Magazine and the Open Journal of Vehicular Technology continue to thrive with new editors-in-chief at the helm.

## TECHNICAL COMMITTEES

The VTS currently has ten technical committees in motor vehicles, land transportation, and mobile radio. We have initiated an online process for VTS members to register with the technical committees of interest, and our call for participation has received fantastic responses.

## YOUNG PROFESSIONALS

The VTS Young Professionals Committee collaborated with the Education Committee and the Women & Diversity Committee to host a panel focusing on Diversity, Equity, and Inclusion (DEI) at VTC2024-Fall. The YP Committee also initiated a YP Ambassador program. The program follows a structure similar to the successful VTS Distinguished Lecturer program, in which Ambassadors are invited to give virtual talks in their field of interest at VTS chapters.

## RESOURCE CENTER

To date, the VTS Resource Center has had 2,679 users and over 4,000 content views. This year, 14 videos have been uploaded to the Resource Center with additional 6 queued up to publish before the end of the year. The Resource Center is a free resource for VTS members, and I hope you will take advantage of the video content available to view.



VPPC 2024 Conference Delegates



VTS Hall of Fame Award winner Ted Rappaport and Awards Committee Chair Gordon Stuber

## AWARDS

The new Student Scholarship Award was given to two recipients in 2024; each recipient received USD \$5,000 to support their work. The Student Scholarship Award is endowed with the IEEE Foundation and VTS looks forward to selecting many more recipients for this Award in the coming years.

The Hall of Fame Award is given only when a qualified recipient is identified by the Awards Committee. This year, Professor Theodore (Ted) Rappaport received the prestigious IEEE VTS Hall of Fame Award. He shared with the luncheon audience how influential his involvement in the Society has been to his life and his professional journey at the co-located VTC2024-Fall and VPPC 2024.

I would like to thank the VTS Board of Governors for their strong leadership and all VTS volunteers for their dedication and contributions that result in all VTS achievements in 2024. They are:

- » Gerhard Bauch, Executive Vice President
- » JR Cruz, Vice President – Conferences
- » James Irvine, Vice President – Publications
- » Neeli Prasad, Vice President – Membership Development
- » Nick Kirsch, Vice President – Finance
- » Oliver Holland, Vice President – Standards
- » Lin Cai, Vice President – Mobile Radio
- » David Thurston, Vice President – Land Transportation
- » Ricardo Pinto de Castro, Vice President – Motor Vehicles
- » Abbas Jamalipour, Treasurer
- » Fabrice Labeau, Secretary

I look forward to the progress and initiatives brought forth under the leadership of my successor, Gerhard Bauch. Gerhard has been an impactful and influential member of the Society for many years, and I hope you will reach out to him, as you have reached out to me, with your questions and thoughts for making VTS better and stronger. Finally, I would like to thank you for your continued support to VTS. I wish you a happy and productive new year!



### Weihua Zhuang

2023-2024 President, IEEE Vehicular Technology Society  
University Professor and University Research Chair  
University of Waterloo, Canada

# CONFERENCES

VTS sponsored three dynamic conferences this year: VTC2024-Spring in Singapore, as well VTC2024-Fall and VPPC 2024, held together in Washington, DC, USA.



## VTC2024-Spring Registrants/Attendees

- In-Person: 565
- Virtual: 99



## VTC2024-Fall Registrants/Attendees

- In-Person: 467
- Virtual: 167



## VPPC 2024 Registrants/Attendees

- In-Person: 102
- Virtual: 25

VTC2024-Fall marked the 100<sup>th</sup> edition of the Vehicular Technology Conference. The four-day event featured dynamic keynote speakers and several panels, including the revived “Pizza & Soda” panel featuring several of the conference keynote speakers. VPPC 2024 celebrated its 20<sup>th</sup> year bringing together practicing engineers, researchers and other professionals for interactive and multidisciplinary discussions on electrified vehicle power, propulsion and related technologies.

VTC2024-Fall and VPPC 2024 were made extra-special by many giveaways for conference attendees, including VTS-branded promotional items, USD \$25 digital gift cards, and a commemorative t-shirt and conference bag. A highlight of the week was the Banquet, held on a Potomac River cruise with beautiful scenery and a very active dance floor!





2024 VTS Board of Governors at Marina Bay Sands, Singapore



2024 VTS Board of Governors at VTC2024-Fall, Washington, DC, USA

## BOARD OF GOVERNORS

This year, the Board of Governors focused on deepening engagement and enhancing existing programs and initiatives in the following ways:

- Ensuring Qualified Leadership:** This year, the Board of Governors Election implemented new criteria for nominees, ensuring that nominees have been active and influential volunteers in Society activities before they are put on the ballot. This year's slate included volunteers from six different regions with leadership experience in conference organizing committees, publication editorial boards, and regional chapters.
- Planning Ahead with Conferences:** The Board of Governors acknowledged the value of having conference locations and dates selected and communicated with VTS members three years in advance. The Conference Committee, supported by the Conference Planning Committee, approved proposals for organizing the Vehicular Technology Conference (VTC) through 2027, ensuring that prospective participants can plan their paper submissions and attendance with ample time.
- Engaging Students and Early Career Researchers:** In commemoration of the 75<sup>th</sup> anniversary of the Society, the Board of Governors approved USD \$1 membership for all student members for the 2025 membership year. There are now 4+ VTS scholarships available each year for students, as well as engagement opportunities through the Young Professionals Committee, the Education Committee, and membership receptions at each VTC.
- Supporting VT Standards Committees:** The chairs of the seven VT standards committees, overseen by the IEEE Standards Association (IEEE SA), were invited to attend a Board of Governors meeting and report the achievements and challenges within their committee. With a greater understanding of the needs of each committee, the Board of Governors was able to offer solutions and resources to support the important work done in VT standards.

## ELECTED BOARD OF GOVERNORS

Gerhard Bauch  
 Lin Cai  
 J. R. Cruz  
 Yue Gao  
 Javier Gozalvez

Giambattista Gruosso  
 Lajos Hanzo  
 James Irvine  
 Abbas Jamalipour  
 Neeli R. Prasad

Lingyang Song  
 Gordon L. Stüber  
 Sumei Sun  
 Lian Zhao  
 Weihua Zhuang

# STANDARDS ACTIVITIES

VTS has a rich tapestry of highly active and productive standards activities representing a significant chunk of the VTS's technical fields of interest and work.

Standards are vital to achieve consensus on the way forward for various technologies such that different stakeholders can develop different constituent parts of the overall system in ways that are compliant with each other and that will function together correctly. In many ways, standards are therefore the culmination of the technical work of VTS members, as they select the technologies that are taken forward and how they are taken forward in overall systems.

VTS members are encouraged to visit the VTS website to learn more about standards activities and contact the Committee Chairs to express interest in volunteering.

## VEHICULAR TECHNOLOGY (VT) STANDARDS COMMITTEES

- » Automated Vehicles
- » Communications Based Train Control and Signals
- » High Speed Train and Maglev
- » Intelligent Transportations Systems
- » Mobile Radio
- » Overhead Contact Systems
- » Traction Power Systems



*Standards are vital to achieve consensus on the way forward for various technologies.*

Oliver Holland  
VTS Vice President - Standards

# TECHNICAL COMMITTEES

Support and grow a topic in one of the Society's fields of interest:

## Land Transportation

- » Land Transportation Committee
- » Committee on Electric Railways

## Motor Vehicles

- » Motor Vehicles Committee
- » Vehicular Power and Propulsion Committee
- » Committee on Autonomous Vehicles

## Mobile Radio

- » Propagation Committee
- » Committee on Mission Critical Communications
- » Committee on AI in Wireless Communications
- » Committee on Drones
- » Committee on Space-Air-Ground-Water Integrated Communication Systems

Visit the VTS website ([www.vtsociety.org](http://www.vtsociety.org)) to learn more about each committee and contact the committee chair.



## TRANSACTIONS ON VEHICULAR TECHNOLOGY BY THE NUMBERS

### PUBLICATIONS

VTS-sponsored publications include: *Transactions on Vehicular Technology* (TVT), *Vehicular Technology Magazine* (VTM), and the *Open Journal of Vehicular Technology* (OJVT).

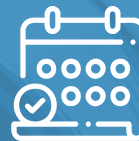
Digital enhancements were prioritized for all VTS publications this year.

- VT Magazine transitioned all publication-related web content to the main VTS website ([www.vtsociety.org](http://www.vtsociety.org)) for a more centralized and user-friendly experience.
- TVT, VTM, and OJVT all moved to the IEEE Author Portal platform for paper submissions.
- The Society newsletter, VTS Mobile World, also transitioned to a new host platform in 2024.



**264**

TVT Associate Editors



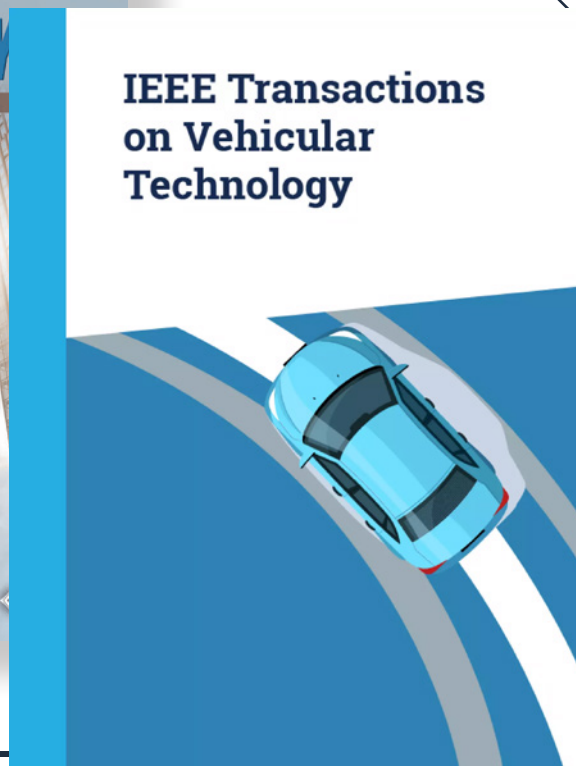
**47.9 days**

time between submission and first decision for TVT papers



**2<sup>nd</sup>**

TVT rank on the Google Scholar metrics under Engineering and Computer Science > Computer Networks & Wireless Communications





VTS Young Professionals Committee Chair Taimoor Abbas speaks during the Joint Workshop on Diversity & Inclusion, Young Professionals and Education.

## WOMEN & DIVERSITY, YOUNG PROFESSIONALS, AND EDUCATION

VTC2024-Fall featured a Joint Workshop on Diversity & Inclusion, Young Professionals and Education, which was organized by the VTS Committee on Women & Diversity, the VTS Young Professionals Committee, and the VTS Education Committee.

The workshop included a panel discussion entitled, **“What did you gain from having a diverse personal network?”**



Workshop keynote Speaker AnneMarie Glebinski, and Carmela Cozzo, Chair of the VTS Committee on Women & Diversity

# MEMBERSHIP GROWTH

The VTS Membership Committee, led by VP Membership Neeli Prasad, hosted a reception at both VTC2024-Spring and VTC2024-Fall to welcome new members to VTS. The committee also hosted a First Time Attendee Breakfast at both conferences to acknowledge delegates that were attending VTC for the first time.

VP Prasad also leads the Volunteer Engagement Committee, which matches interested members to open volunteer positions on different committees within the Society.

## MEMBERSHIP

9950

**Members**

43

**Chapters**

30

**Student  
Chapters**

26

**Joint  
Chapters**

106

**Countries**



Top 10 countries with largest membership

- India
- United States
- China
- Tunisia
- Japan
- Canada
- Germany
- Republic of Korea
- Australia
- United Kingdom

1529

**Senior Members**

328

**Fellows**



VTS welcomed new members with a reception at VTC2024-Fall.



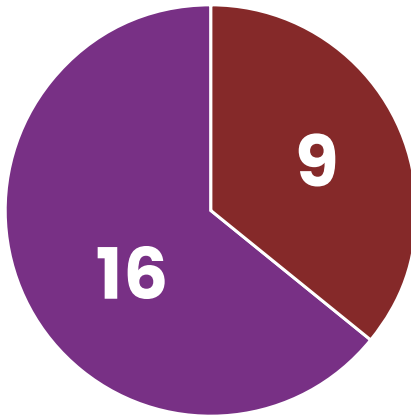
First time conference attendees enjoy breakfast at VTC2024-Fall in Washington, DC.

# VTS CHAPTERS



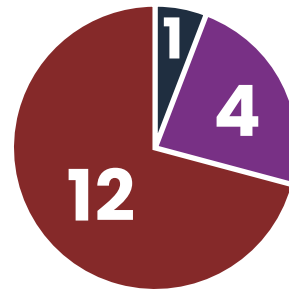
## North America (Regions 1-7)

Joint Chapters: 16  
Chapters: 9



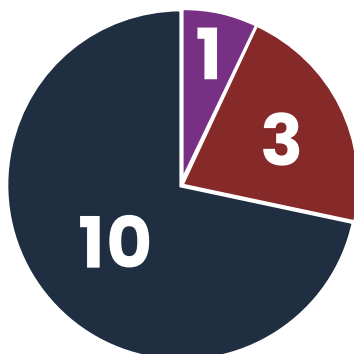
## Africa/Europe/Middle East (Region 8)

Joint Chapters: 4  
Chapters: 12  
Student Branch Chapter: 1



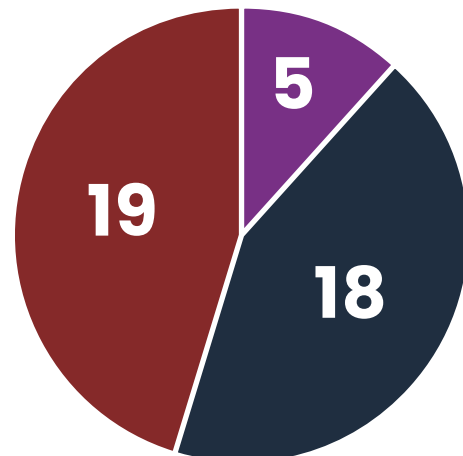
## South America (Region 9)

Joint Chapter: 1  
Chapters: 3  
Student Branch Chapters: 10



## Asia (Region 10)

Joint Chapters: 5  
Chapters: 19  
Student Branch Chapters: 18



# CHAPTER HIGHLIGHTS

VTS Chapters published a bi-monthly chapter newsletter to promote and celebrate the activities of VTS chapters around the globe. Here are four examples of chapter activities in 2024:

## **DL Jin Wang: Electrifying Transportation**

Auckland, New Zealand

New Zealand North Section Chapter



Distinguished Lecturer Jin Wang, The Ohio State University, visited New Zealand to present a lecture on the role and recent advances of power electronics in the electrification of transportation. The lecture addressed the core principles of power electronics, including recent developments in solid-state power devices.

## **IdeaSprint**

Coimbatore, India

Madras Section Chapter



IdeaSprint, an on-spot ideathon, was dedicated to fostering innovative thinking and collaborative problem-solving within the automotive and vehicular technology industry. Designed for students passionate about driving change, the ideathon encouraged participants to develop actionable solutions for real-world challenges, bringing theoretical knowledge with practical applications.

## **Leaders of Tomorrow Workshop**

Toronto, Canada

Toronto Section Chapter



The Leaders of Tomorrow workshop represents an initiative aimed at nurturing Young Professionals (YP) career development. The workshop provided a conducive environment for networking, learning, and collaboration where attendees had the opportunity to engage with industry experts and academic leaders.

## **Poster Project on Undergraduate Research**

Rourkela, India

Kolkata Section-Rourkela Joint Chapter



Undergraduate students of the National Institute of Technology, Rourkela presented the research they had undertaken as part of their final year project. Topics included wireless charging system design for UAVs, energy efficient resource allocation for NOMA, heart arrhythmia detection from ECG using machine learning, object tracking using YOLOv8, and LandMine detection using YOLOv8.



The VTS NSS College of Engineering Student Branch Chapter organized a workshop on Electric Vehicle modeling in Palakkad, India, as part of the 2024 IEEE Day Celebration in October.

## STUDENT BRANCH CHAPTERS

In 2024, VTS welcomed eight new Student Branch Chapters to the Society.

### **Anil Neerukonda Institute of Technology Student Branch Chapter**

India

*Chair: Joyce Meesala*

### **Unidad Profesional Interdisciplinaria en Ingenieria Tecnologías Avanzadas-IPN Student Branch Chapter**

Mexico

*Chair: Jesus Ivan Garcia Arguello*

### **NSS College of Engineering Student Branch Chapter**

India

*Chair: Anandu C.*

### **Christ University, Bangalore Student Branch Chapter**

India

*Chair: Abhijith Kozhikandathil*

### **Basaveshwar Engineering College Student Branch Chapter**

India

*Chair: Shrivatsa Gudi*

### **Chaitanya Bharathi Institute of Tech-Hyderabad Student Branch Chapter**

India

*Chair: Nimmaraju Sarma*

### **Symbiosis Institute of Technology-Pune Student Branch Chapter**

India

*Chair: Arya Dhole*

### **Sathyabama Institute of Science & Technology Student Branch Chapter**

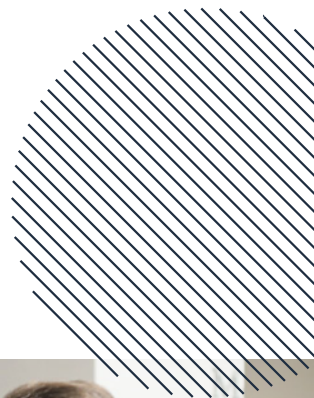
India

*Chair: Benisha Shalom W*



*I would like to thank you for your continued support to VTS. I wish you a happy and productive new year!*

Weihua Zhuang  
2023-2024 President, IEEE Vehicular Technology Society





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