8th Training School on Network Models, Architectures and Applications for 5G

A Personal Reflection

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October 06 - October 11,, 2019
Moscow, Russia

I was a participant of the 8th Training School on Network Models, Architectures and Applications for 5G hosted at RUDN University in Moscow, Russia. The Training School features a program of lectures delivered by leading experts in the research areas of 5G networks, from both academia and industry. The objective of the School was to give attendees a global view, with an insight into some specific aspects, on research in key features of the emerging 5G technologies from the networking perspective, addressing models, architectures, and applications. As a participant, I had the opportunity to participate in stimulating discussions with lecturers, obtain useful feedback, and initiate new collaborations. Most of the lectures provide the background on 5G wireless communications networks concepts, ranging from the more fundamental ones related to concepts and mathematical modeling to experimental and applied ones connected to the incoming standardization features.

The programs of the training school were organized as follows:

Day 1

- Understanding 5G NR Air Interface

- AI and ML for Physical Layer Designs of 5G and Beyond Networks

- The architectural design of a nationwide 5G Network

Day 2

- An Approach to Cloud and Virtual Radio Access Networks

- Resource Management, Self-organising Networks, and Massive MIMO in 5G and beyond

Day 3

- Internet of Things and Unmanned Aerial Vehicles in the 5G Ecosystem

- Internet of Things Security and Insecurity

Day 4

- 5G for Industrial Machine-Type Communications

- Mathematical Modeling Issues in the Future Multiservice Networks

Day 5

- The Open-Source Path to 5G

For me, attending this training school was really interesting since I am doing my Ph.D. research on the applicability of machine learning and deep learning techniques for computer networking. I had a chance to explore the applicability of these techniques on 5G operators. The machine learning, deep learning and AI lectures delivered by Professor Carles Antón-Haro from the research institute called CTTC, based in Barcelona, Spain were really interesting and I got to know some new research areas to explore for my postdoc. In addition to this, the lecture from Andres Gonzalvez, a research scientist at Telenor Norway, was also quite helpful for me as we discussed when we are getting the 5G network in Norway? We really had a nice discussion on the networking aspect of 5G such as network slicing and software-defined networking (SDN) which I think will be the core components of the 5G network. All in all, this discussion helped me to clear all the doubts I had about 5G, 5G+, 6G, and other "G" family future networking technologies. Moreover, I got the opportunity to explore Moscow which I think is an immensely beautiful city. We had an evening tour organized by the school with all the training group participants where we visited the beautiful tourist destinations of Moscow.

I also had an opportunity to taste different Russian foods and drinks. We tried several restaurants during my stay in Moscow. I enjoyed eating Shawarma. Even though Shawarma is a famous dish from Uzbekistan, it can be easily found at many restaurants in Moscow. I particularly enjoyed the training school dinner where I tasted original vodka and some different wines. During the dinner, I had an opportunity to discuss my research with RUDN university professors, for further collaborations who were very interested in my Ph.D. research and topic. I also take their suggestion on how I can improve the scientific contribution to computer networking part of my thesis. I am thankful for some of their valuable suggestions and feedback. In summary, this training school for me was very interesting to attend and I personally thank COINS for sponsoring me to attend this training school. This training school gave me an opportunity to expand my knowledge and do networking with other participants and organizers. I also introduce them to COINS and ask them to join some of the future activities organized by COINS.

Concluding Remarks

Being a participant of the 8th Training School on Network Models, Architectures and Applications for 5G Networks, I learn a lot from this training school especially on the applicability and future challenges of Artificial Intelligence (AI), Machine Learning and Deep Learning for the Internet of Things (IoT) and 5G networks. I would, therefore, give my strongest recommendation for any COINS member to apply and participate in the upcoming events of the training school. Finally, I would like to thank COINS for covering my travel and accommodation costs to attend the 8th Training School on Network Models, Architectures and Applications for 5G Networks.

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CERTIFICATE OF ATTENDANCE

Date: 11 October 2019

This is to certify that

Desta Haileselassie Hagos

participated in the 8th IRACON Training School on

Network Models, Architectures and Applications for 5G

Moscow, Russia, 7-11 October 2019

In witness thereof, this certificate is issued
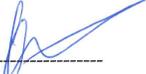
Konstantin Samouylov
RUDN Univ., Russia

Silvia Ruiz Boqué
UPC, Spain
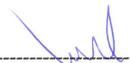
Hamed Ahmadi
Univ. Essex, United Kingdom

Luis M. Correia
IST – University of Lisbon, Portugal

Figure 1: Certificate of attendance

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Figure 2: Lecture on Artificial Intelligence, Machine Learning and Deep Learning for 5G Networks

Figure 3: 8th Training School on Network Models, Architectures and Applications for 5G Networks

Figure 4: The logo of the IRACON 2019