



University of Pavia

Ph.D. School of School of Electronics, Computer Science and Biomedical Engineering

# SEMINAR

## Hitchhiking from Ground to Space - a Survival Guide

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Lomazzo (CO), Italy

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Aula seminari ex Dipartimento di Elettronica, piano D

**Abstract:** *“This is Ground Control to Major Tom, you’ve really made the grade, [...], now it’s time to leave the capsule if you dare”. That’s how David Bowie acts as a ground operator in his “Space Oddity”, talking to an imaginary space traveller who is about to face the overwhelming experience of the deep empty darkness out of his spacecraft. Soon after, connection is lost and Major Tom finds himself floating “far above the world and there’s nothing I can do”. The rapid technological advancement in long-range communication systems has made the outer space environment more “close at hand” and therefore less frightening. By relying on specialized earth stations for the remote control of unmanned space vehicles, the human being can finally access the most distant areas of the deep space to maximize scientific return in a cost-effective way. How does a ground station operate? What are the technological requirements that have to be met to operate a satellite? What are the latest trends in the space industry nowadays? Is it still worth spending such a great amount of money in space exploration?*

**Bio:** *Andrea Giannini was born in Pavia, Italy, in 1987. He received the M.Sc. degree (summa cum laude) in electronic engineering and the Ph.D. in electronic and computer science engineering from the University of Pavia, Italy, in 2011 and 2014, respectively. In 2015 he joined the European Space and Operations Center (ESOC), Darmstadt, Germany as a Research Fellow to work on new generation Deep Space Antennas arraying architectures for future enhanced mission support at large data rates. In September 2017 he joined Leaf Space srl where he is currently the responsible for the operation and maintenance of ground station antenna systems tailored for nano, micro and small satellites applications.*

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Seminar in English

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