

## Global Navigation per Satellite Systems professional training course

# Basics on GNSS signal processing



## Synoptic table

Ref.:	<b>GNSS/TC002</b>
Title:	<b>Basics on GNSS signal processing</b>
Duration:	1 day (7 hours)
Prerequisites:	Basics on digital signal processing
Targeted audience:	This course is suitable for professionals being already familiar with the use of <b>GNSS technologies</b> who wish to deepen their knowledge about <b>signal processing principles and techniques</b> which operate inside a <b>GNSS receiver</b> .
Training goals:	- To understand and acquire the basics related to the end-to-end GNSS signal processing chain.
Content overview:	<ul style="list-style-type: none"><li>- Introduction about GNSS;</li><li>- Structures and properties of the GNSS signals;</li><li>- Key performance parameters of a GNSS receiver;</li><li>- Description of end-to-end GNSS signal processing chain: radio-frequency front-end, digitalization, base-band processing and raw measurements provision, orbitography computation, Position-Velocity-Time solution computation;</li><li>- Main vulnerabilities of the signal processing chain and introduction to robustification methods.</li></ul> The course ends with a free question-and-answer session with the participants.

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## Detailed agenda

	9h00 - 12h30	Lunch break	14h00 - 17h30
Day 1	<p>Welcome and course introduction</p> <ul style="list-style-type: none"> <li>– Introduction about GNSS</li> <li>– Structures and properties of the GNSS signals</li> <li>– Key performance parameters of a GNSS receiver</li> </ul>		<ul style="list-style-type: none"> <li>– Description of end-to-end GNSS signal processing chain (<i>follow-up</i>): base-band processing and raw measurements provision (<i>follow-up</i>), orbitography computation, Position-Velocity-Time solution computation</li> </ul>
			<ul style="list-style-type: none"> <li>– Main vulnerabilities of the signal processing chain and introduction to robustification methods</li> </ul> <p>Conclusion and open discussions</p>

## About the instructor

This training has been designed and is delivered by Fabrice Legrand, who is working on GNSS signal processing issues since 1998. He obtained his PhD in 2002 for his works dealing with models and properties of GPS signal digital tracking loops. During the last 20 years, his main fields of interest were the research, development and characterization of GNSS signal processing techniques, and the development of receiver prototypes on versatile technologies.

Watch his detailed references at [https://gnssip.tech/en/team\\_faleg.php](https://gnssip.tech/en/team_faleg.php)



## Contact and information

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