



# European School of Antennas



**Industrial Antenna Design Course**  
**IMST, Kamp-Lintfort, Germany**  
 April 7<sup>th</sup> – 11<sup>th</sup> 2025

**Genius**  
 101072560 MSCA Doctoral Network  
 Glide-symmetry mEtamaterials for INnovative  
 radio-frequency commUNication and Sensing

**RENESAS**

11  
102  
1004

Leibniz  
 Universität  
 Hannover

 Europäisches  
 Patentamt  
 European  
 Patent Office  
 Office européen  
 des brevets

 I  
M  
S  
T

# Lecture Program

Monday 7<sup>th</sup> April

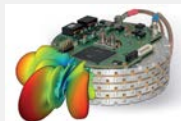
Industrial Antenna Design Fundamentals

Hour	Topic	Lecturer
09:00-09:15	Welcome, Schedule, Introduction "Be part of a large project"	W.Simon, S. Bruni
09:15-10:45	Challenges in radar antenna design	M. Martínez Vázquez
11:00-12:30	Antennas <ul style="list-style-type: none"><li>• Antenna basics</li><li>• Antenna arrays</li></ul>	D. Manteuffel
12:30 - 13:30	Lunch	
13:30-14:30	Antenna Design Tools - Overview and Introduction	D. Manteuffel
14:30-15:30	Efficient EM design - Introduction	W. Simon
15:30-17:00	Basic antenna & array antenna design - Tutorial	W. Simon

Tuesday 8<sup>th</sup> April

Antenna Concepts / Project start

Hour	Topic	Lecturer
09:00-10:00	Industrial Antenna design	Simona Bruni
10:00-11:00	Dielectric lens antenna design	Marta Arias Campo
11:00-12:30	The Project: Introduction <ul style="list-style-type: none"><li>• Presentation of the project</li><li>• Schedule</li><li>• Build teams</li><li>• Define responsibilities</li></ul>	W: Simon, S. Bruni, M. Arias Campo, D. Manteuffel, A. Friedrich
12:30 - 13:30	Lunch	
13:30-17:00	The Project: Concept development <ul style="list-style-type: none"><li>• Find an appropriate concept for the given specifications</li></ul>	S. Bruni, M. Arias Campo, D. Manteuffel
13:30-17:00	The Project: Material characterization	A. Friedrich



Lecture  
Computer exercise and personal work  
Experimental Labs

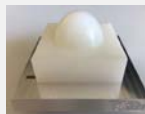
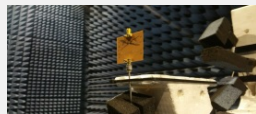
# Lecture Program

Wednesday 9<sup>th</sup> April  
The project

Hour	Topic	Lecturer
09:00-11:00	Project Phase 1: Design <ul style="list-style-type: none"><li>• Concept evaluation</li><li>• First design review</li><li>• Adaption of the antenna</li></ul>	S. Bruni, M. Arias Campo,
11:00-13:00	Project Phase 2 <ul style="list-style-type: none"><li>• Second design review</li><li>• Adaption of the antenna</li><li>• Prepare first antenna layout for mock up production</li></ul>	S. Bruni, M. Arias Campo,
13:00 - 14:00	Lunch	
14:00-16:00	Project Phase 2: Optimization <ul style="list-style-type: none"><li>• Antenna optimization for final product 1</li></ul>	A. Friedrich

Thursday 10<sup>th</sup> April  
The product / Intellectual Property rights

Hour	Topic	Lecturer
09:00-11:00	Project Phase 2: Optimization <ul style="list-style-type: none"><li>• Prepare antenna layout for product production</li></ul>	S. Bruni, M. Arias Campo, A. Friedrich
11:00-12:00	Project Phase 3: Characterization Assemble and measure product	A. Friedrich
12:00 - 13:00	Lunch	
13:00-15:00	Intellectual Property rights	A. Moumen
15:00-16:00	Intellectual Property rights	A. Moumen
16:00-17:00	Project Phase 3: Characterization Assemble and measure product	A. Friedrich



Lecture  
Computer exercise and personal work  
Experimental Labs

# Lecture Program

Friday 11<sup>th</sup> April

Exam / Product presentation

Hour	Topic	Lecturer
09:00-11:00	Project Phase 3 (continued): Assemble and measure product	A. Friedrich
11:00-12:30	Prepare Product presentation	M. Arias Campo
12:30 - 13:30	Lunch	
13:30-15:00	Product presentation by groups // Exam	M. Arias Campo, A. Friedrich
15:00	End of course	

Lecture  
Computer exercise and personal work  
Experimental Labs

## Course lecturer:

Prof. Dr. Manteuffel

Dr. Marta Martinez,

Dr. Abderrahim Moumen

Dr. Simona Bruni, Dr. Aline Friedrich,

Dr. Marta Arias Campo, Winfried Simon IMST GmbH

University Hannover

Renesas

European Patent Office

## Social Event:

City tour in Düsseldorf followed by a Brewery tour with dinner at 'Hausbrauerei Zum Schlüssel' Düsseldorf, one of the oldest breweries in Germany.



## Course location & local contact:

Winfried Simon, IMST GmbH

Carl-Friedrich-Gauss-Str. 2-4

47475 Kamp-Lintfort, Germany

phone: +49-2842-981 247

e-mail: [simon@imst.com](mailto:simon@imst.com)

web: [www.imst.com](http://www.imst.com)

Please contact Winfried Simon for any questions regarding the course and also for accommodation recommendations.

