

# METAFORA – Metasurfaces for Radio Astronomy Workshop

April 22-24, 2024

## Organizers



Dr. Francisco Pizarro  
Associate professor  
Pontificia Universidad Católica de Valparaíso  
Chile



Prof. Oscar Quevedo-Teruel  
Full professor  
Kungliga Tekniska Högskolan  
Sweden

## Sponsors



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VALPARAÍSO



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Venue: CEA - PUCV  
Antonio Bellet 314, Providencia,  
Región Metropolitana, Chile



[Workshop website](#)

# Invited Speakers



Rodrigo Reeves  
Associate Professor  
Universidad de Concepción  
Chile



Mats Gustafsson  
Professor  
Lund University  
Sweden



Óscar Quevedo-Teruel  
Full Professor  
KTH Royal Institute of Technology  
Sweden



Luis Chavarría  
European Southern Observatory  
representative in Chile



Bert Hawkins  
Head of the Central Development  
NRAO, United States



Sean Hum  
Professor  
University of Toronto  
Canada



Jay Guo  
Distinguished Professor  
UTS - Australia



Giorgio Siringo  
ALMA Front-end technical lead  
ESO-ALMA



Jian Yang  
Full Professor  
Chalmers University of Technology  
Sweden



Ricardo Finger  
Associate Professor  
Universidad de Chile  
Chile



Brian Walker  
Senior RF Engineer SME  
Copper Mountain Technologies  
United States of America



M. Carmen Toribio  
Nordic ALMA Regional Center  
Onsala Space Observatory  
Sweden



Daniel Sjöberg  
Professor  
Lund University  
Sweden



David Prinsloo,  
The Netherlands Institute for  
Radio Astronomy (ASTRON)  
Netherlands

## Day 1: 22 April 2024

9:00 - 9:30	Registration
9:30 - 10:00	Opening
10:00 - 10:50	Speaker - Luis Chavarría
10:50 - 11:20	Coffee Break
11:25 - 12:05	Speaker - Oscar Quevedo: On the opportunities of glide symmetries for antennas and microwave circuits
12:10 - 12:55	Speaker - Bert Hawkins: Technology Development at NRAO's Central Development Laboratory
13:00 - 14:15	Lunch Break
14:20 - 15:05	Speaker - Ricardo Finger
15:10 - 15:50	Speaker - Carmen Toribio: The 10th anniversary of ALMA and towards a new telescope in 2030
16:00 - 16:50	Speaker - Giorgio Siringo: Applications of metasurfaces in mm/submm astronomy
18:00 - 21:00	Welcome activity

## Day 2: 23 April 2024

9:30 - 10:15	Speaker - Jian Yang: System Design and Optimization of Cryogenic C-band UWB Phased Array Feed Based on Folded Bowtie Antenna Technology
10:20 - 11:05	Speaker - Sean Hum Advanced Electromagnetic Surfaces: Design, Implementation, and Applications
11:10 - 11:40	Coffee Break
11:45 - 12:30	Speaker - Jay Guo: Beam Scanning and Multibeam Antennas Based on Metasurfaces
12:35 - 13:45	Lunch Break
13:50 - 15:00	Students presentation and poster session
15:10 - 16:00	Speaker - Brian Walker: Compact mmWave Antenna Measurement System
16:00 - 17:00	METAFORA round table

# Preliminary program

## Day 3: 24 April 2024

9:30 - 10:15	Speaker - David Prinsloo: Opportunities to Introduce Lenses to Radio Astronomy: An ASTRON Perspective
10:20 - 11:05	Speaker - Rodrigo Reeves
11:10 - 11:40	Coffee Break
11:45 - 12:30	Speaker - Daniel Sjolberg: Frequency selective and circular polarization selective surfaces
12:35 - 13:45	Lunch Break
14:00 - 14:45	Speaker - Mats Gustafsson: Fundamental limits in electromagnetics
15:00	Closing ceremony