You are warmly invited to join the first international conference to discuss the scientific investigations of the EnVision mission at CNES headquarters in central Paris, France from **12-14 February 2020**. (1) The conference will welcome all presentations related to the EnVision mission’s payload and its science investigations. (2) Full remote participation will be enabled (Zoom app); connecting information to appear here at the time of the conference. (3) Invited talks 20 min, contributed talks 15 min, legacy talks 25 min; all including questions. (4) A welcome reception will take place on **Tue 11 February 2020 19:00-21:30** in Paris Observatory, 77 av. Denfert-Rochereau, Paris 14.

**DAY 1 – Wednesday 12 February 2020**

- 08:00-08:45 Registration
- 08:45 Welcoming/opening words (CNES, ESA, NASA 5 min x 3)

CNES Headquarters, Paris – Salle de l’Espace

### Session 1: EnVision Mission Overview – Wed. 9:00-15:00

**Link to Session 1 Abstracts**

1.1 – Wed 12 Feb – 09:00-10:45 – Conveners: Widemann, –

- 09:00 1.01 Ghail – EnVision: understanding why our closest neighbour is so different
- 09:15 1.02 Hensley – VenSAR: A Newt Generation S-Band Radar for Venus Exploration
- 09:35 1.03 Kiefer – High Resolution Topography as a Constraint on Venus Tectonic Processes
- 09:50 1.04 Le Gall – Microwave Radiometry at Venus with EnVision
- 10:05 1.05 Bruzzone – SRS: A nadir sub-surface radar sounder
- 10:25 1.06 Dumoulin – EnVision Radio Science Experiment

10:45-11:15 Break 1.1

1.2 – Wed 12 Feb – 11:15-12:30 – Conveners: Widemann, –

- 11:15 1.07 Helbert – The VenSpec suite on the ESA EnVision mission to Venus
- 11:35 1.08 Marcq – Science Objectives of VenSpec-U (VeSUV) on board EnVision
- 11:50 1.09 Vandaele – VenSpec-H, an Infrared High Resolution Spectrometer to Observe the Atmosphere of Venus
- 12:05 1.10 Voirin – Mission & phase A status

12:30 – Lunch
1.3 – Web 12 Feb – 13:45-15:00 – Conveners: Titov, Wilson

- 13:45 1.11 Romstedt/Wielders – EnVision Payload Complement Overview
- 14:05 1.12 Rugina – Science operations reference scenario (SORS) / I-EnVision mission, system & telemetry
- 14:20 1.13 Lefort – Science operations reference scenario (SORS) / II-EnVision science instrument operations
- 14:35 1.14 Grieger – EnVision Science Operations Analysis with EnVisionary

14:40-15:00 Discussion: Phase A/ SORS
15:00-15:15 Break

Session 2: Venus: Surface – Wed 15:15-Thu 10:15

Link to Session 2 Abstracts

2.1 – Wed 12 Feb – 15:15-17:30 – Conveners: Komatsu, Ghail

- 15:15 2.01 Ivanov (Invited, remote presentation) – Possible Nature of Tessera Terrain on Venus
- 16:00 2.02 Romeo – Controversial Tectonic Structures On Tessera Terrain, Venus
- 16:15 2.03 Brossier – Compositional Properties on Venus Highlands: From Magellan Radar to EnVision VenSpec Suite
- 16:30 2.04 Herrick (Invited, remote presentation) – Unusual Mid-Sized Volcanoes on Venus and the Need for EnVision’s Higher Resolution Imaging and Topography
- 16:50 2.05 Gregg – The Importance of Plains

17:05-17:30 Discussion 2.1: Regions of Interest – Surface (I)

2.2P – Wed 12 Feb – 17:30-18:00 Surface Poster Session

- 2.06P Hoad – Is Lada Terra the site of a Overtturn Upwelling Zone?
- 2.07P Shalygin – Global Map of the Relative Surface Emissivity at 1 Micron for the Venus Northern Hemisphere and Equatorial Region
- 2.08P Shalygina – Are the Steep-Sided Domes Produced of Non-Basaltic Lava?

End day 1

DAY 2 – Thursday 13 February 2020

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Session 2: Venus: Surface (cont’d)

2.3 – Thu 13 Feb – 08:45-10:15 – Conveners: Komatsu, Ghail

- 08:45 2.10 Carter (invited) – Using Radar Polarimetry to Understand Surface Deposits on Venus
- 09:05 2.11 Chakraborty (remote presentation) – Using Radar Polarimetry to Understand Surface Deposits on Venus
- 09:25 2.12 Komatsu – Channels On Venus: What We Know Before Revisiting With EnVision
- 09:40 2.13 Carpy – Sand Transport Regime on Venus: Analytical Approach

09:55-10:15 Discussion 2.2: Regions of Interest – Surface (II)

10:15-10:30 Break

Session 3: Venus: Activity Detection – Thu
Thu 13 Feb – 10:30-12:30 – Conveners: Helbert, Hensley

- 10:30 3.01 Lorenz (invited) – Detecting Volcanic Surface Change on Venus: A Critical Assessment of Different Techniques
- 10:50 3.02 Ghall – How Active is Venus today?
- 11:05 3.03 Wilson – On the Probability of Detecting Plumes of Volcanogenic Gases in the Troposphere
- 11:35 3.05 Davaille (invited) – Plume-Induced Subduction and Accretion in the Expanding Artemis Corona

11:55-12:30 Discussion 3: Regions of Interest – Activity Detection

1230 – Lunch

Session 4: Venus: Interior Structure and Evolution – Thu 13:45-17:45

Link to Session 4 Abstracts


1515-15:30 Discussion 4.1: Venus Internal Structure & Rotation

- 13:45 4.01 Rosenblatt – Assessment of the EnVision Gravity Experiment
- 14:05 4.02 James (invited) – Even Modest Improvements In Venus’s Gravity Field Will Improve Our Understanding Of The Crust And Mantle
- 14:25 4.03 Rambaux – Rotational Motion of Venus and its Observational Strategy through EnVision Mission
- 14:40 4.04 Kervazo – Effect of a basal magma ocean on the tidal deformation of Venus
- 14:55 4.05 O'Rourke (invited, remote presentation) – A Thick Basal Magma Ocean May Exist Today

15:30-16:00 Break 2.2

4.2P – Thu 13 Feb – 15:30-16:00 – Internal Structure and Evolution Poster Session

4.06P Salvador – Early evolution of Venus: from magma ocean to temperate surface conditions?

4.3 – Thu 13 Feb – 16:00-17:45 – Conveners: Breuer, Kiefer

- 16:00 4.07 Gillmann (invited) – Modelling the Evolution of Venus: Insights and Questions
- 16:20 4.08 Plesa (invited) – Thermal Evolution of Venus’ Interior
- 16:40 4.09 Breuer – Interior Structure and Present-Day Thermal State of Venus
- 16:55 4.10 Weller (invited) – Evolution in the Style of Mantle Convection on Venus: The Role of Coupling Between the Mantle, Lithosphere, and Atmosphere

17:15-17:45 Discussion 4.2: Venus Evolution

End Day 2

**DAY 3 – Friday 14 February 2020**

CNES Headquarters, Paris – Salle de l’Espace
Session 5: Venus: Atmosphere – Fri 08:45-12:45

Link to Session 5 Abstracts

5.1 – Fri 14 Feb – 08:45-10:35 – Conveners: Spiga, Satoh

- 08:45 0.L02 Nakamura (invited) – Akatsuki: Four Earth Years In Venus Orbit
- 09:10 0.L03 Wilson (invited) – The Scientific Legacy of Venus Express
- 09:35 5.01 Mahieux – Mesospheric Water Vapour at the Venus Terminator from SOIR/VEx
- 09:50 5.02 Encrenaz – H2O and SO2 Thermal Mapping on Venus: Evidence for a Long-Term Anti-Correlation (presenter: Widemann)
- 10:05 5.03 Machado – Venus’ Meridional and Zonal winds from: Akatsuki/UVI, Venus Express/VIRTIS, TNG/HARPS-N and CFHT/ESPaDOnS

10:20-10:35 Discussion 5: An Active Atmosphere

10:35-11:00 Break 3.1

5.2P – Fri 14 Feb – 10:35-11:00 – Atmosphere Poster Session

- 5.04P Satoh – Venus Night-Side Photometry and Aerosol Properties as Inferred from Restored Akatsuki/IR2 Data
- 5.05P Shalygina – Glory As An Effective Tool For Retrieving The Properties Of The Venus Upper Clouds
- 5.06P Slowik – Usefulness of the Bioaccumulatory Hypothesis in the Evaluation of the Venus Electrochemical Habitat

5.3 – Fri 14 Feb – 11:00-12:45 – Conveners: Spiga, Satoh

- 11:00 5.07 Lebonnois – Exploring the Variability of the Venusian Atmosphere Above the Clouds With the IPSL Venus GCM
- 11:15 5.08 Millour – The Venus Climate Database Project
- 11:30 5.09 Lefèvre – Turbulent Vertical Mixing of H2O and SO2 in Venus Cloud Layer
- 11:45 5.10 Garate-Lopez – The Venus’ Polar Vortices Observed by EnVision
- 12:00 5.11 Peralta – A Discontinuity at the Lower Clouds of Venus to be considered by EnVision
- 12:15 5.12 Jessup – EnVision Enabled Studies of Venus’ Climate and Sulfur Chemistry
- 12:30 5.13 Tellmann – Radio Sounding of the Venusian Atmosphere and Ionosphere with the Radio Occultation Experiment on EnVision

12:45 – Lunch

Session 6: Venus Exploration 2025-2040 – Fri 14:00-14:50

Link to session 6 abstracts

Fri 14 Feb – 14:00-14:50 – Conveners: Widemann, –

- 14:00 6.01 Helbert – Why We Need An International Venus Program
- 14:15 6.02 Smrekar (invited, remote presentation) – VERITAS, EnVision and a Venus Program

14:35-14:50 Discussion 6: EnVision and International Venus Exploration

14:50-15:15 Break 3.2

Session 7: EnVision Assessment Study Report (Yellow Book) – Fri 15:15-17:15
Fri 14 Feb – 15:15-17:15 – Conveners: Wilson, Mason

15:15-15:45 Round table 1- Goals prioritisation for the EnVision phase A

15:45-17:15 Round table 2 – Yellow Book discussion

17:15-17:30 Wrap-up/Closing words

End Day 3