REALISTIC (GA Nº 101086690)

Deliverable Nº: D2.4

Title: OSU-R/REALISTIC joint deployment plan

Project Reference Nº	101086690
Project acronym	REALISTIC
Project full name	centRe of Excellence in AerosoL remote rensIng technology and Science in The Indian oCean
H2020 call	HORIZON-WIDERA-2022-TALENTS-01
Project coordinator	Valentin Duflot
EC project officer	David Monteiro
Project website	https://lacy.univ-reunion.fr/activites/programmes-de-recherche/realistic
Deliverable Nº	D2.4
Deliverable title	OSU-R/REALISTIC joint deployment plan
Dissemination level	Public
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Creators: Valentin Duflot, Michaël Sicard, Camille Bonnet

Affiliation: Université de la Réunion

Project abstract:
The overarching goal of REALISTIC is to develop a Centre of Excellence in aerosol remote sensing technology and science in the Indian Ocean, through the creation of a Chair, with La Réunion, a European Outermost region, as a strategic pivot point of the European Research Area. REALISTIC aims at attracting and maintaining a high-profile researcher (ERA Chair holder) to lead a high-profile supporting team with excellent research and technical capabilities in the aerosol remote sensing domain. In particular, specific applications and research endeavours will be conducted in the area of quantifying the impact of wildfire and volcanic emissions on the tropical atmosphere composition and on the Earth-Atmosphere radiative balance. REALISTIC is designed to catalyse and maximise the impact of the ERA Chair in order to raise the research, technical and innovation excellence of the Laboratory of Atmosphere and Cyclones (LACy), the Observatory of Atmospheric Physics of La Réunion (OPAR), the Observatory of the Universe Sciences of La Réunion (OSU-R), and the University of La Réunion (UR) to a level that makes them unique and essential references in the local R&I ecosystem, at the Indian Ocean-level as well as to the overall international community, and thus filling the R&I gap on atmospheric systems. REALISTIC will contribute to better integrate UR within the European Research Area, and better align with European standards and priorities.

Last modified: 28-03-2023

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REALISTIC
CENTRE OF EXCELLENCE IN AEROSOL REMOTE SENSING TECHNOLOGY AND SCIENCE IN THE INDIAN OCEAN

Table of content

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1. The Context

The goal of this meeting was to align the profile of the REALISTIC Research Engineer to be recruited with the technical needs of OSU-R, OPAR and LACy.

Meeting organized online on 24th of May 14:30 to 15:30 local Reunion time.

Prior to the meeting, an email has been sent to all participants of the meeting, especially to the directors, requesting the current forces at play and the needs, in both University of La Réunion and OSU Réunion. These inputs have allowed the REALISTIC team to create a matrix of Engineers and Instruments/Specialisation in order to put forward the resources available and the needs for the optimal operation of OPAR. This material served as the basis of the discussion.

The aim of this meeting was to identify the strategic needs (description of activities) in terms of engineering force for the short-term at OPAR.

2. Attendants

A total of participants attended the meeting.

CB: Camille Bonnet (LACy/UR), REALISTIC PM
VD: Valentin Duflot (NILU), REALISTIC PC
FF: Fabrice R. Fontaine (OSU-R), Head of OSU-R
YH: Yann Hello (OSU-R), Technical Head of OSU-R
GP: Guillaume Payen (OSU-R), IT Head of OSU-R
MS: Michaël Sicard (LACy/UR), ERA Chair holder
JVB: Joël Van Baelen (LACy/UR), Head of LACy and Scientific Coordinator of OPAR

3. Agenda

Presentation of the context in which this meeting took place.
Presentation of the forces at play in both LACy and OSU-Réunion.
Discussion and answers to questions.

4. Minutes

Michaël Sicard and Valentin Duflot present the slides to give context to the audience as to the purpose of the meeting.

JVB indicated that it is planned to recruit a future Engineer “BAP E” in scientific computing. This is an external CNRS competition, which should open on 10th of June 2024 and run until 10 July, with a recruitment planned for 1st December 2024. This position will compensate for the departure of a former LACy Research Engineer.

The proposed job description of REALISTIC Research Engineer is rather precise: the research engineer would be dedicated to the creation of a visualisation tool in near real time (NRT still to be discussed according to the possibilities) of OPAR’s data so that anyone from anywhere can access the data and/or quicklooks of the observatory. Such a visualisation tool already exists in some observatories in France mainland (eg. SIRTA) and brings an added-value to the observatories for visibility and attractivity.
It is also a proof of quality for the observatories.

Several discussions follow these presentations:

- Awareness is raised on the specialty of Guillaume Payen, who is one of the last people in France (both Réunion and mainland) acquainted with water vapor/ozone/aerosol lidar treatments. It is not sure that Guillaume will have time to develop new software for this data. This expertise is a knowledge that ACTRIS France is losing.
  When MARLEY and TAMARIN lidar will be connected to the Single Calculus Chain (SCC), there won't be any issues anymore for the aerosol part.

- Michaël asks to OSU-Réunion if there are any needs in treatments of satellite data that could emerge. For example, a list could be made with the most-used satellites datasets as a base with afterwards the development of tools to quickly access the data and have a visualisation when possible.

- Michaël has been reaching out to his professional networks in order to have potential candidates on the Research Engineer position for OPAR. His contacts explained that the situation is rather difficult as new opticians are drawn to the private sector (higher salaries). Universities and public service cannot align on those salaries.

- Joël suggests that a young engineer could be recruited through his final internship first, and then prolonged.

- Guillaume adds that working with AERIS is essential for this job and the mention of AERIS in the job description could add some incentive. Ideally, working on formatting raw data, then sending it to AERIS in order to take back the visualisation created by AERIS and put it back in OPAR's website.

- YH indicated that GON meetings will take position at some point in terms of financing the rejuvenation of ozone lidars: if there is no interest in the scientific community, it is bound to disappear. However the strategy is to maintain/develop ozone lidars in both tropospheric/stratospheric altitude ranges. The fact that one topic is not currently supported by a PI does not mean that it will not be in the future.

- Some work remain to be done in order to automatize the temperature inversion at OPAR.

- YH indicates that there has been a recruitment in the instrumentation team of the OPAR at the beginning of the year. CNRS should secure the position in the near future via a CNRS INSU permanent job position. This position could prepare for the retirement of an IGE of OPAR.

- VD reminds the audience that we need to keep in mind that what is done with Lidar 1200 and GPS calibration will probably disappear with the arrival of TAMARIN lidar. In the scientific community, there is no "one-way" to calibrate instruments. Multiple calibration techniques exist and there is no consensus at this stage.

- A first task will be necessary about radars, mostly due to OPAR's integration into ACRIS Centre for Cloud Remote Sensing (CCRES). The work that is being implemented as described by GP could know some technical changes or new resources in the future. A collaboration with Cloudnet will be necessary in order to implement validated routines on the instruments.

Conclusion: It turns out that there is **no need to modify the job description that had been drafted** during the month of January 2024 for the Research Engineer foreseen in REALISTIC, as REALISTIC team had already asked for the inputs from OSU-Réunion (through Guillaume Payen) when updating the job description in view of a future distribution to the networks. However, we need to keep in mind that if there is a candidate with ozone data treatment and water vapor expertise, it could be an added-value (without being a priority).

5. ANNEXES

Please find here the slides presented during the meeting.

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CENTRE OF EXCELLENCE IN AEROSOL REMOTE SENSING TECHNOLOGY AND SCIENCE IN THE INDIAN OCEAN

Rappel du contexte : Grant Agreement, WP2, p.78

To enhance Multidisciplinary Research, REALISTIC team will take part to the scientific activities of the OSU-R and of the OSU-R federation on Natural Environment and Global Change Observations (OMNCG) which encompass research laboratories with multiple and diverse expertise on the study of the natural environment and global change. Specifically, the team will coordinate a workshop gathering all OSU-R laboratories to present their works and objectives, promote scientific collaborations across disciplines and increase the number of trans-disciplinary scientific publications. Based on the results of the workshop, the ERA Team will define areas and means of collaborations to foster multidisciplinary research projects. This information will be capitalized in a frame research program for the REALISTIC team considering opportunities and capacities of trans-disciplinary research groups. Also, conclusions from the review will be also used to guideline training plans for the REALISTIC staff.
To maximise the technical added-value of the team for OSU-R, based on the foreseen expertise of the ERA chair holder on technology aspects of lidar remote sensing, the team will look over technical needs of OSU-R research groups, which could benefit from the REALISTIC staff expertise for instrumental development and operational procedures, to frame a OSU-R/REALISTIC joint deployment plan of technical forces. This expert knowledge and knowhow will increase the added value and therefore reputation of OSU-R, as an ACTRIS-EU National Facility. The ERA Chair holder will also participate in the on-going GON initiative - aiming at further improving OPAR aerosol remote sensing capability (cf. 1.2.2 Scientific methodology).

Maximiser la valeur ajoutée technique de l'équipe REALISTIC pour l'OSU-R

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Department of Signal Theory and Communications

Rappel du contexte : Grant Agreement, WP2, p.78

To enhance Multidisciplinary Research, REALISTIC team will take part to the scientific activities of the OSU-R and of the OSU-R federation on Natural Environment and Global Change Observations (OMNCG) which encompass research laboratories with multiple and diverse expertise on the study of the natural environment and global change. Specifically, the team will coordinate a workshop gathering all OSU-R laboratories to present their works and objectives, promote scientific collaborations across disciplines and increase the number of trans-disciplinary scientific publications. Based on the results of the workshop, the ERA Team will define areas and means of collaborations to foster multidisciplinary research projects. This information will be capitalized in a frame research program for the REALISTIC team considering opportunities and capacities of trans-disciplinary research groups. Also, conclusions from the review will be also used to guideline training plans for the REALISTIC staff.
To maximise the technical added-value of the team for OSU-R, based on the foreseen expertise of the ERA chair holder

Pour maximiser la valeur ajoutée technique de l'équipe pour l'OSU-R, et en se basant sur l'expertise du lauréat de l'ERA Chair dans les aspects technologiques de la télédétection par lidar, l'équipe examinera les besoins techniques des groupes de recherche de l'OSU-R, qui pourraient bénéficier de l'expertise du personnel de REALISTIC en matière de développement instrumental et de procédures opérationnelles, afin de définir un plan conjoint de déploiement des forces techniques OSU-R/REALISTIC. Cette expertise et ce savoir-faire augmenteront la valeur ajoutée et donc la réputation de l'OSU-R, en tant qu'installation nationale ACTRIS-EU. Le lauréat de l'ERA Chair participera également à l'initiative GON en cours, visant à améliorer la capacité de télédétection des aérosols d'OPAR.

Maximiser la valeur ajoutée technique de l'équipe REALISTIC pour l'OSU-R

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REALISTIC
CENTRE OF EXCELLENCE IN AEROSOL REMOTE SENSING TECHNOLOGY AND SCIENCE IN THE INDIAN OCEAN

Etat des lieux OPAR/OSU-R et LACy

Instruments Télédétection active	Instruments in-situ Télédétection non émissive	Données/Informatique	Autre
Lidars et Télédétection Active PAYEN Guillaume IGR (UR) 15% MARQUESTAUT Nicolas IR (CNRS) 10% HELLO Yann IR (CNRS) 30%	Prélèvements In-Situ et Télédétection Non Emissive METZGER Jean-Marc IGE (UR) 100% MAGAND Olivier IR (CNRS) 50%	Informatique PAYEN Guillaume IGR (UR) 15% GABARROT Franck IE (CNRS) 30 % DESPRAIRIE Guillaume IE (UR) 5 % K/BIDI Victor IE (UR) 10 % GUILLEMOT Jean-François AI (CNRS) 10%	Instrumentation générale COMBEMALE David (CNRS) 100%
			Logistique VILLEGIER Laurent (CNRS) 20%
Ingénieur lidariste opticien **Recrutement** CDD IGR (UR) 100%		Informatiques et outils M-F LEE-AH-SIEM Rémi Tech Météo-France	**Recrutement** d'un CDD Gestion CNRS à l'OSU-R pour le suivi de gestion du LACy
Opérateurs lidars et instru. diverses GOLUBIC Eric AI (CNRS) 100% HERNANDEZ Patrick T (UR) 100%		**Recrutement** (concours externe) d'un IE BAP-E en calcul scientifique, traitement des données instrumentales	**Recrutement** d'un demi ETP Gestionnaire Université au LACy pour la gestion universitaire
Spécialiste radar LESAGE Guillaume IR (CNRS)			
Mécanique et design instrumental RIGAUD-LOUISE François AI (CNRS)			
Développement d'outils de visualisation de données OPAR + satellites **Recrutement** à partir de 2025 CDD IGR (UR-REALISTIC) 100%			

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Department of Signal Theory and Communications

Etat des lieux OPAR/OSU-R et LACy

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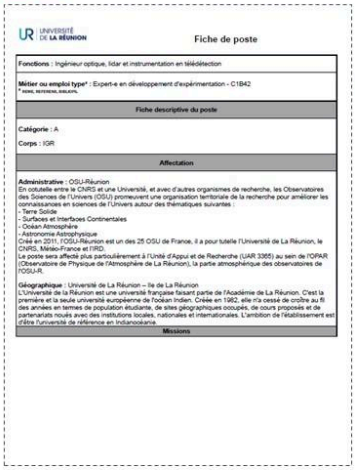
Fiche de poste Ingénieur.e de Recherche opticien/lidariste



UR UNIVERSITÉ DE LA RÉUNION

Fiche de poste

Fonctions : Ingénieur optique, lidar et instrumentation en télédétection

Métier ou emploi type* : Expert-e en développement d'expérimentation - C1B42

Fiche descriptive du poste

Catégorie : A

Corps : IGR

Affectation

Administrative : OSU-Réunion
En cotutelle entre la CNRS et une Université, et avec d'autres organismes de recherche, les Observatoires des Sciences de l'Univers (OSU) promeuvent une organisation territoriale de la recherche pour améliorer les connaissances en sciences de l'Univers autour des thématiques suivantes :
- Terre Solide
- Surfaces et Interfaces Continentales
- Océan Atmosphère
- Astronomie Astrophysique
Créé en 2011, l'OSU-Réunion est un des 25 OSU de France, il a pour tutelle l'Université de La Réunion, le CNRS, Météo-France et l'IRD.
Le poste sera affecté plus particulièrement à l'Unité d'Appui et de Recherche (UAR 3365) au sein de l'OPAR (Observatoire de Physique de l'Atmosphère de La Réunion), la partie atmosphérique des observatoires de l'OSU-R.

Géographique : Université de La Réunion – Ile de La Réunion
L'Université de la Réunion est une université française faisant partie de l'Académie de La Réunion. C'est la première et la seule université européenne de l'océan Indien. Créée en 1982, elle n'a cessé de croître au fil des années en termes de population étudiante, de sites géographiques occupés, de cours proposés et de partenariats noués avec des institutions locales, nationales et internationales. L'ambition de l'établissement est d'être l'université de référence en Indianocéanie.

Missions

We invite you to apply for a 2-year Research Engineer position in optics, lidar and remote sensing instrumentation.

Poste IGR UR (initialement de 2 ans)

- Annoncé en fin de circuit validation UR, mais pas encore affiché sur le site UR
- Annonce diffusée a certains contacts (Michael) et listes de distribution (Camille)

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UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH
Department of Signal Theory and Communications

Fiche de poste Ingénieur.e de Recherche en Visu de données OPAR et satellites

UR UNIVERSITÉ DE LA RÉUNION

Research Engineer position at Laboratoire de l'Atmosphère et des Cyclones (LACy)
University of La Reunion, Saint-Denis, France

We invite you to apply for a 2-year Research Engineer position on developing visualization tools for the various and numerous datasets generated by the Observatory of Atmospheric Physics of La Réunion (OPAR) and satellite data.

Job description
The Observatory of Atmospheric Physics of La Réunion (OPAR) is a unique observation site through the quality of its infrastructure and instruments, and through its location in an area sparsely documented where physico-chemical processes take place that are essential for the understanding of the climate and improvement in its modelling. OPAR hosts 51 instruments (in situ, passive and active remote sensing) operated routinely and feeding national and international databases linked to national and international networks (WMO/GAW, AERONET, TCCON, NYALÅlN) and European Research Infrastructures (ACTRIS and ICOS). OPAR is operated by the Observatoire des Sciences de l'Univers de la Réunion (OSU-R).

The objective of this Research Engineer position is to design and develop data visualizations and dashboards for researchers using data sets from various sources. This includes:
- Develop following OSU-R and AERIS development standards and best-in-class solutions
- Build high-performance, scalable and maintainable user interfaces using the latest web data visualization tools
- Play both sides of the house and act as an analyst and as engineer when defining solutions to user problems and prioritize for optimal outcomes
- Need to be able to speak to the researchers in their jargon and translate to Data Services solutions
- Early-stage troubleshooting
- Application access

The position is funded by the European project REALISTIC (centre of Excellence in Aerosol, remote sensing technology and Science in The Indian oCean, GA 101086690) of the Horizon Europe program (https://lacy.univ-reunion.fr/activites/programmes-de-recherche /realistic). It will be supervised by Michaël Sicard (ERA Chair of REALISTIC) and Guillaume Payen (Engineer at OSU-R).

Qualifications
- Qualifications. We Require :
  - Bachelor's in Computer Science or related fields or equivalent experience
  - 2+ years as a developer (Python, PowerBI, etc.)
  - Proficiency in English (oral and written)
  - Autonomous and independent work
  - Able to work in small teams
  - Short and concise reports
- Qualifications. We Desire :
  - Experience working for a university
  - Experience providing scientific data for researchers
  - Basic knowledge in Atmospheric Science
- Additionally, the following are highly desired:
  - Excellent written and oral communication and interpersonal skills
  - Intellectual rigor
  - Responsivity to react under strong time constraints

We invite you to apply for a 2-year Research Engineer position on developping visualization tools for the various and numerous datasets generated by the Observatory of Atmospheric Physics of La réunion (OPAR) and satellite data

Poste IGR UR (fonds REALISTIC) de 2 ans

- Discussions avec Guillaume Payen en janvier 2024 et prise de conseils sur la fiche de poste pour l'IR
- Recrutement début 2025

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