



**ESO – European Organisation for Astronomical Research
in the Southern Hemisphere**

Garching bei München - Germany

+49 89 3200 6914 <http://www.eso.org/~eemselle>

eric.emsellem@eso.org

Full astronomer at ESO

Exceptional class Astronomer @CRAL (on secondment from Lyon Obs.)



Internationally renowned scientific leader, delivering high impact science results, with a strong record of advancing large transformative research programmes, developing data-centric operations & fostering collaborative innovation. Over 25 years of experience in astrophysics, institutional and personnel management, software development including innovative techniques & data flows and long-standing experience of design, building, implementation and science exploitation of complex instrumentation. Ample experience in initiating + guiding international collaborations, mentoring diverse teams, and developing long-term collaboration strategies. Recognized for combining technical depth with strategic foresight, creativity, and exceptional managerial and mentoring skills. Proven track record in scientific project design, pipeline development, and fostering open science & reproducibility initiatives.

Current Position

Head of the Project Science Department, ESO (2020 –), Garching

- **Lead + mentor** of a team of 10 Project Scientists supporting major facilities (ALMA, VLT/I, La Silla, ELT)
- **Fostering** cross-organisational links with technical and programme sectors
- **Initiator** and co-lead of the ESO Open Science Initiative
- **Chair, review lead** for instrument projects & panels
e.g., CUBES Phase A/PDR, BlueMUSE Phase A, [ASTRONET Roadmap](#) / Computing Panel
- Member of **high-level science and planning committees** (e.g., MIAPP, HCS Paris Observatory)

Employment history

Feb 2019 – Jan 2020 : **ESO Research Period** – Sydney, Perth, Lund, Heidelberg, USM
Mar 2009 – Feb 2019 : **Head of the Office for Science, ESO Garching** (Germany)
2008 – 2009 : **Deputy Director, CRAL Lyon** (France)
1997 – 2005 / 2006 – : **Associate / Full Astronomer, Professor** at [CRAL Lyon](#) (France)
May 1996 – Oct 1997 : **Fellow** – [ESO Garching](#) (Germany)
Jan 1994 – Apr 1996 : **EARA Post-Doctorate** – [Leiden Observatory](#) (The Netherlands)

Education

2005 : **Habilitation** – Lyon University (France)
1990 – 1993 : **PhD in Astrophysics** – CRAL Lyon ([Roland Bacon](#))
top grade / *Stellar dynamics of galactic nuclei: observations and modelling*
1989 – 1990 : **Master of Engineering**, Applied Physics – Cornell University (USA)
([Steven Beckwith](#), [Richard Lovelace](#))
1990 : **Engineering Degree**, Ecole Centrale de Lyon (France)

Selected Leadership Roles

- **Head of the Office for Science, ESO Garching** (2009–2019): Oversaw ~100 scientists, students, & fellows, development and management of science programmes (e.g., Internship, Studentship, Fellowship, Workshops, Visitorship); Championed cross-disciplinary collaboration & career development
- **Chair, ASTRONET Computing in Astronomy Panel** (2021–2023): architected the [2023 roadmap](#) for computational infrastructure in European astronomy
- **Coordinator of Research Unit-D** (Planets, Stars and Galaxies) in the [ORIGINS Excellence Cluster](#), Lead (coordinator/writer) for RU-D for the successful ORIGINS-2 (2026-2032; 60M€) proposal
- **Deputy Director, CRAL Lyon** (2008 – 2009): drove institutional restructuring
- **INSU Science Advisor** (chargé de mission) for *Jean-Marie Hameury* (2006-2008) & for *Anne-Marie Lagrange* (2004-2005): e.g., **2m-4m telescope facilities**, *high-resolution (AO) activities*
- **Steering Committee member** (2017 –) and **MUSE Lead** (2017 –) for the international [PHANGS](#) (Physics at High Angular resolution in Nearby GalaxieS) collaboration (e.g., ALMA/MUSE/HST/JWST)
- **Co-PI** of the international [ATLAS^{3D} project](#) (first representative IFU survey of local galaxies)
- **Chair** of the French **CFHT Time Allocation Committee** (2003 – 2005)
- Scuba diving 2-star **Guide & Instructor** (CMAS & French Federation) since more than 15 years

Strategic Initiatives

- **Coordinated** ORIGINS RU-D, aligning multi-disciplinary teams across planets/stars/galaxy domains
- **Chaired** Review Boards for future instruments (e.g., BlueMUSE, CUBES, ESPRESSO)
- **Steering** European Science **Roadmap** via ASTRONET, Euro-VO
- **Steering** French National policies and roadmap via INSU, CNAP, and French Science Programmes
- **Member** of high-level review committees (e.g., High Science Committee in Paris, ST User's committee, CFHT Science Advisory Committee, HST TAC, Computing Centre C2PAP)
- **Contributor** to [ESO/SKA](#) (2024) & [ALMA Advanced Data Product](#) (2025) **White Papers**

Technical and Scientific Innovation

- Extensive experience in **design, deployment and exploitation of integral-field spectrographs**: TIGER, OASIS, SINFONI, SAURON, SDSS-MaNGA, MUSE, HARMONI
- **Creator or key contributor: major data flow, reduction systems**, e.g., OASIS, SAURON, MUSE
- **Creator or key contributor: analysis+modeling software**, e.g., MGE, pPXF, pyMusePipe
- **Led** observational campaigns integrating data from e.g., VLT, ALMA, HST, JWST, WHT, CFHT
- **Creator and developer** for a new bespoke hydro-dynamical simulation framework
- **Design, building and implementation** of a laser-driven Fabry-Perot stability system

Teaching and Mentoring

- Over two decades of teaching (**Master, Doctoral, Post-doctoral levels**) across ENS Lyon, Collège de France, Grenoble, Lyon, Padova, Porto, Cornell University, Munich
- Frequent **invited lecturer** on, e.g., hydro-dynamical simulations (Banyuls), Science Management & Career Development (ESO, USM), Gravitational systems (ENS Lyon), 3D spectrography (Padova, Paris), numerical analysis (Grenoble), Project Management (Goutelas)
- Head of the Office for Science, Garching: ~50 students + fellows, ~50 Faculty members for 10 years
- Head of the GALPAC Team at CRAL: 8 Staff, 3 post-docs, 7 students
- **Advising**[=*], co-advising PhD students including Pierrick Verwilghen*, Eric Liang, Leonard Romano, Tom Rutherford, Daniela Barrientos Acevedo, Nicolas Guillard*, Adrien Guérou*, Claire Divoy, Pierre-Yves Lablanche*, Maxime Bois*, Gaëlle Dumas*, Emilie Jourdeuil*, Fabien Wernli*
- **Mentored** >20 PhD students, >30 Master students and Post-doctorates across Europe, USA, Australia

Selected Honors & Awards

- **Royal Astronomical Society Group Achievement Award** for the SAURON team (2013)
- **Beatrice Tinsley Scholarship**, Austin (2010)
- **French Society of Astronomy – Junior Researcher** (2002)
international scientific standing (quality, originality) and acknowledged service to the community

Scientific Output and Impact

- >300 papers with >37000 citations (**i300=31**, i100=89, h=94), **top (2-auth.) paper > 1900 citations**
- Press Releases, e.g., [PHANGS-MUSE](#), [Black Hole in Galaxies](#), [NGC253 mosaick](#), [First MUSE map](#)

Community & Outreach

- **Regular keynote speaker** and panelist at international conferences, institute colloquia (e.g., ALMA AdP 2024, Abu Dhabi on Timescales 2023, Sweden on Bar evolution 2025)
- **Chair / organiser** of scientific workshops (e.g., at ESO in 2024, PHANGS Team meeting, MUSE 10-yrs)
- **Reviewer**: journals (ApJ, A&A, MNRAS, Nat, Science), nat./internat. funding agencies (e.g., ANR, ERC), telescope time, funding proposals (e.g. Gemini, Calar Alto, Canada, etc.), awards (La Recherche)
- **Recruitment committees** (member or chair): ESO, French CNAP, C2PAP, CRAL, Lyon University
- Contributor (Chapter) to **science books** (Delachaux 2024, ISTE – Master Level – 2021)
- **Public lectures**, e.g., Collège de France 2018/2016: [Black holes demographics](#), [Early-type galaxies](#)

Computational & Data Skills

- Expert in observational pipelines, modeling, hydro-dynamical simulations (30+Mh Tier 0; 2023 – 2025)
- Contributor to software libraries for data reduction, data analysis and galaxy modeling
- Advocate for robust, transparent and reproducible data frameworks in astronomy

Languages

- French (native), English (fluent), German (Intermediate)

– Contact Referees –

Eva Schinnerer – MPA – schinnerer@mpia.de

Matthew Colless – ANU – matthew.colless@anu.edu.au

Roland Bacon – CRAL – roland.bacon@univ-lyon1.fr

Annex

Other Responsibilities and Memberships [*=active]

- **Instrument / Facility**
 - Co-coordinator* for the WST Data Analysis
 - Member* of the MUSE Instrument Science Team
 - **Chair** of the Instrument Science Team for **ESPRESSO** (ESO, VLT)
 - Member of the review committee for **KMOS** / VLT – STC/ESO 2003
 - co-Instrument Scientist for **SINFONI** / VLT (1996 – 1997: approved by STC)
 - Member of SDSS-IV **MaNGA** Science / Data Products / Strategic Committees (2013 – 2019)
 - Member of the **Scientific Advisory Council** (SAC) for **CFHT** (2002 – 2005)
 - Member of the **Space Telescope User's Committee** (STUC, 2003 – 2006)
 - Member of the **HST TAC Extragalactic Panel** (Cycles 10, 14, 15)
- **Committees and Teams**
 - **Head of the GALPAC Team** (Galaxies Physics & Cosmology), CRAL (2003-2009)
 - Member of the **A&A Board** (Astronomy & Astrophysics journal; 2010 – 2019)
 - Member of the **CNAP** committee (French national recruitment/promotion board; 2011 – 2015)
 - Member of the science *committee* of the **French National Program** “Galaxies”
 - Representative member of **ASTRONET** (2009 – 2015)
 - Member of the **ESO IT Steering Committee** (2015 – 2016)
- **National/International Administration**
 - Member of the **Euro-VO** Science Advisory Committee (2012 – 2014)
 - Member of the **STECF User's committee** (2001 – 2003)
 - Member of the **Administrative Council for the Strasbourg Observatory**
 - Member of the **Euro3D European Network** (2002 – 2006)
 - Member of the **International Relation Council**, Lyon University
 - Member of the Scientific Council of **CRAL** (2003 – 2009)
 - **Chair** of the Staff Director-Advisory Committee (Lyon Observatory)
- **Science Teams**
 - PI or coPI of **PHANGS***, **ATLAS^{3D}** programmes
 - Member of the **MAUVE***, **GECKOS*** (MUSE Large Programmes) & **CONDOR*** science teams
 - Co-I of the **Next Generation Virgo Survey** (CFHT, PI: Ferrarese), **DARK*** (PI Bouché)
 - Member of the **WST***, **MUSE**, **HIRES** (now ANDES). **HARMONI**, **SAURON** science teams
 - Associate Scientist for **HORIZON** (French national effort on numerical simulations)

Telescope allocations [*=PI]

JWST, HST*, Spitzer, Galex, Chandra, Astrosat, CFHT* (Sitelle, Megacam, OASIS, TIGER), Gemini N/S, ESO 2.2m*, VLT (VIMOS, FLAMES*, SINFONI*, MUSE*), Keck (KCWI), Subaru (FOCAS, HSC), JCMT, WHT (SAURON*), ALMA, IRAM 30m + PdBure, Noema, CARMA, WRST, VLA, eVLA, Calar-Alto, McDonald

Selected Reviews and Invited talks (last 5 years)

- Review on Galactic Bar Evolution (Marstrand, Sweden; 2025, remote)
- Keynote Introduction (1h), ALMA Adv Data Products (Garching, 2024): *Long-term vision for ADPs*
- Dynamics and Stellar populations (LEWIS meeting, Garching, 2024)
- Review on Timescales and Dynamics (Abu Dhabi, UAE; 2023)
- Review ORIGINS (“From cosmic large-scale structures to galaxies, stars and planets, 2022)
- Astronet Webinar on “Computing in Astronomy” (2021)
- EAS 2020, Stellar and gas kinematics, Leiden (The Netherlands; virtual)

SOC – LOC or Panel member in International Conferences (last 5 years)

- Galactic Ecosystems, ESO Workshop (Garching, 2025)
- Cosmic Filaments (Co-Chair, Garching, 2025)
- MUSE 10-yrs (Lead and co-Chair; Garching, 2024) including a Data Challenge
- PHANGS Meeting, Munich (Chair – 70 attendees, 2024)
- Galactic Environments, Italy (2023)
- Timescales in Astrophysics, Abu Dhabi (UAE; 2023)
- Reproducibility and Open Science in Astronomy, ROSA2021, Chile (2021 – virtual)
- Ringberg meeting on the physics of star formation (2020+2021 – virtual)