PI-Sophie ROME

BIOGRAPHICAL SKETCH

Last name, First name: ROME, SOPHIE	Date of birth: 22/02/1969	ORCID iD: 0000-0003-3986-5936 www.linkedin.com/in/sophie-rome-338b24bb	Director of Research from INRAE Institute, department of Human Nutrition, CarMeN Laboratory, Lyon-FRANCE

EDUCATION

Institution and location	Degree	Completion date	Field of study
Université Claude-Bernard Lyon 1	PhD	16/04/1996	Environment, Phylogeny, Bioinformatics, Molecular Biology
University of Western-Australia	Post-doc	1997-1998	Environment, Phylogeny, Bioinformatics, Molecular Biology
Université Claude-Bernard Lyon 1	HDR	2011	Role of Extracellular Vesicles released from skeletal muscle in metabolic diseases

1- Summary of the scientific background

After a PhD and post-doctoral training in bioinformatics and molecular biology, S. Rome joined Hubert Vidal's group in 2001 (Lyon-France) to develop studies to identify key cellular pathways altered at the transcriptional level involved in the development of insulin resistance in skeletal muscle (SkM) associated with metabolic diseases. She acquired recognised expertise in microarray and RNAseq functional analysis, bioinformatics and data mining to analyse large datasets. In 2006, she started to work on the role of miRNAs in the insulin signalling pathway, both within the SkM, but also when miRNAs are packaged and exported in extracellular vesicles (EVs) from the muscle tissue, as a means of disseminating message to the other insulin sensitive tissues. Her pioneering work has identified how SkM EVs are involved in myogenesis and can transfer miRNAs and lipids between cells in healthy or diabetic states. More recently, her group has shown that EVs released from macrophages are part of the immune response and that during metabolic changes induced by high glucose or lipid overload, macrophage EVs affect SkM homeostasis. She is now focusing on the role of lipids from EVs in order to identify new lipids involved in their actions on recipien tcells. Her expertise in EV and metabolism is internationally recognised. She has been involved in the creation of the French Society of Extracellular Vesicles and more recently created the INRAE-EV network gathering researchers working in the field of agronomy and nutrition.

2- Positions and scientific appointements

Since 2022	Scientific Director-INRAE, PI at CarMeN Laboratory, Lyon-France (Director Hubert Vidal)
2020-2022	Scientific Director-INRAE, Visiting Scientifst at Institut of functional Genomic/ENS-Lyon)
2015-2020	Scientific Director-INRAE, PI at CarMeN Laboratory, Lyon-France (Director Hubert Vidal)
2001-2015	Senior scientist CR1, CarMeN Laboratory, Lyon-France (Director Hubert Vidal)
1998-2001	Junior Scientist CR2 at INRAE institute, INAP-G Paris-France (Director Daniel Tomé)
1998-1999	Junior Scientist CR2 at INRAE institute, Visiting Scientist at NUS Singapore/IMCB (Group P. Lobie)

3- Honors and Awards

1996	European Awards Program: Post-doctoral funding to work in Australia (UWA)
2015	Laureate from the international program France-Sweden 'TOR' (https://french-nordic-research.se/wp-content/uploads/2023/10/ROME_SOPHIE_TR.pdf)
2017	Price from Olga Triballat Fundation (http://www.institut-olgatriballat.org)
2017	Price from Benjamin Delesser Institut (http://www.institut-benjamin-delessert.net/fr/prix/presentation/Utilisation-des-nanovesicules-extracellulaires-de-jus-de-fruits-pour-restaurer-lhomeostasie-glucidique/?displayreturn=true)

2025	Aesthetics prize for the best scientific image from Lyon 1 University, depicting extracellular vesicles in human macrophages (https://carmen.univ-lyon1.fr/en/lab-events/prix-art-in-lyon-2025-pour-sophie-rome-en/)

4- **Supervision of students and postdoctoral fellows during the last 10 years**, and list of the PMIDs of the publications produced during their PhD, postdoc.

Post-doc: Stefano Tacconi (PMID: 39534483; PMID: 38539237; doi.org/10.1101/2025.01.26.634912; PMID: 41471070; PMID: 40984725: PMID: 38151475)

Thèses:

Alexis forterre (PMID: 24196440; PMID: 24392111; PMID: 25073444; PMID: 26852333; PMID: 31447684; PMID: 3473279)
Hala Aswad (PMID: 25073444; PMID: 27038912; PMID: 26852333)
Prabu Paramasivam (PMID: 26020947; PMID: 30165157; PMID: 35120179; PMID: 35881589)
Laura Reininger (PMID: 34732797)
Rosa Doñate Puertas (PMID: 29723239; PMID: 28427903)
Hanae Talbi (2023-2025
Sanjay B Vasan (ongoing: 2025-2027)

Training of International Student on extracellular vesicle:

Ilaria Spatocco (2026, Univerity of Napoli), Martina Ceci (2023, Università del Chieti, Italy), Carolina Sbarigia (2023, Università de la Sapienza, Roma), Gérard Yapi (2023, university of Ottawa, FFR project), Stefano Tacconi (2019-2020, Univ. Università del Salento,Italy), Léa Garneau (2020, Univ. Ottawa, laureate from IDEX Lyon), Rafaella C. Pordeus Luna (2018, Univ.Paraiba, Bresil), Morgan Mc Millan (2017, Univ. Ottawa), Claire Edrington (2016, Univ. Ottawa).

5- **Major grants obtained over the last 10 years** (specify if coordinator, principal investigator or partner and the starting – finishing dates of the grants)

*2015: Travel grants for India to develop collab. between Madras Diabetes Research Foundation, Chennai, India and INSERM
*2017: BENJAMIN DELESSERT fundation (PI)
*2017: OLGA TRIBALLAT fundation (PI)
*2019-2020: VML fundation (Vaincre les Maladies Lysosomales) (co-Partner)
*2020-2021: Contrat de recherche avec le groupe Pilèje, gestion EZUS-Université Lyon1 (PI)
*2022-2023: Contrat de recherche avec le groupe Pilèje, gestion EZUS-Université Lyon1 (PI)
*2019-2023: ANR Zenith (co-partner)
*2021-2021: FFR University of Ottawa and CarMeN lab (Co-PI)
*2021-2027: ANR MEXID (Coordinator, https://anr.fr/Projet-ANR-21-CE14-0081)
*2024-2028: ANR PlexoMiR (co-partner)

6- **Major invited conferences** (specified if keynote lectures, lecture during symposium, etc.) over the last 10 years

keynote lectures:

-2014: Role of muscle-released exosomal miRNAs in the field of diabetes and muscle physiology. University of Oxford. M. Wood.
-2019: pleanary speaker: 2nd meeting French Society of Extracellular Vesiclee: Extracellular vesicles released from the adipose tissue. Nantes
-2020: Skeletal muscle release extracellular vesicles: state of the art. 8 avril 2020; I-STEM Virtual conference.
-2023: pleanary speaker: Tissue cross-talk via the extracellular vesicles in metabolic diseases. Danish Diabetes and Endocrine Academy. Denmark
-2024: pleanary speaker: Obesity and Extracellular Vesicles released from skeletal muscle. French Association for research on Obesity. Nantes.
-2025: Keynote speaker, Danish Society for Extracellular vesicles. September. Aarhus. Denmark.
-2025: Keynote speake: EXTRACELLULAR VESICLES FROM SKELETAL MUSCLE DETERMINE MUSCLE STEM CELL FATE. OCTOBER. ROMA, SAPIENZA.

Lecture during symposium (invited):

-2014: Journée de l'Innovation en Diabétologie de Montpellier (Sanofi) : « Role des microRNAs contenus dans les exosomes dans la differentiation musculaire et le cross-talk entre organes »
-2014: Exosomes in intra- and inter-organ communications in the field of diabetes. 2nd Workshop AstraZeneca - Aviesan; Sweden
-2014: Role of muscle-released exosomal miRNAs in the field of diabetes and muscle physiology. Réunion entre l'ITMO Circulation, métabolisme, nutrition et l'ICMR (Inde). Réunion préparatoire pour établir des collaborations entre la France et l'Inde. Paris.
-2016: Extracellular microRNAs as integrative Biomarkers of Nutrition and metabolic diseases. Sun Yat-sen University. GuangZhou
-2018: Exosomal miRNAs participate in organ cross talk during the development of metabolic diseases associated with high-fat diets. Toulouse. Institut de Recherche en Santé Digestive.
-2015: Ecole de la Société Française de Nutrition (Paris) : Exosomes et miRNAs
-2019: Grand Ouest-EV Network: Nanovesicles derived from plants: an exemple with the orange juice (Angers)
-2019: Clinical implications of fat-derived EVs in obesity. FSEV. Nantes
-2022: Skeletal muscle extracellular vesicles. FSEV. Paris
-2025: The ever-expanding RNA world. Université de Lausanne. Suisse

7- Other activites (executive board, teaching, memberships in panels or individual scientific reviewing activities, …)

Executive boards: 2006-2016: Executive Board member of INRAE division 'Nutrition, Chemical Food Safety and Consumer Behaviour'; -2007-2016: Expert in the scientific Committe which evaluates INRAE scientist activities; 2007-2013: Expert in INRAE CNOC Commmitte (Technology Platforms evaluation and funding); President of FSEV (2021-2022); Adjunct ISEV board member (2019 to 2022); Board member of the Graduate^{+} MusKLe (University Lyon 1, since 2019); WP leader of the european project COFUND MuSkLE (2026-2031)- *Reviewing of grant applications*: Michigan Diabetes Research Center (USA); Gouvernment of Canada (Discovery Grants Program - Individual); Diabetes Research and Wellness Foundation (England); AFM-Théléton france; International Human Frontier Science Program Organization; Israël Science Fundation (ISF); Agence de la biomédecine Appel d'offres "AMP, Médecine; Paul G. Allen Frontiers Group (USA); Diabetes Research Center at Washington University (USA). Internal projects of Sapienza university (Italy) *Reviewing of papers for*: JEV, JExBiol; Nature com; ASCNano; JCS; PNAS Nexus; Cell Report; JCSM, Cell stem; JAS; Sci. Rep....- -*Seminar/meeting organisations* : « Transcriptomic analyses » (2007, INRAE); « Modelisation and biomedical research » (2008, University Lyon 1); «Heart Rhythm Research. Insights from Advanced Computational Modelling and Simulation» (Lyon Est Hospital, 2008); “machine learning and epidemiology” (2015, University Lyon 1); FSEV National meeting (2016 and 2017); AFERO National Meeting (2018); co-chair ISEV International Meeting (2021; 2022); INRAE National Symposium on Extracellular Vesicles (2023, 2024, 2025-); Co-organization of the Summer School MuSKLe (2022; 2023; 2024, 2025, 2026).
PhD defense committese : https://theses.fr/098395939. *Patent*: #EP25306216.0, INSERM transfert (use of S1P18/S1P16 ratios for skeletal muscle regeneration)

8- Publications

9,867 Research Interest Score
21,157 Citations
42 h-index

https://www.researchgate.net/profile/Sophie-Rome-2?ev=hdr_xprf
https://pubmed.ncbi.nlm.nih.gov/?term=Rome+S+and+france&sort=date