Novel approaches to target sodium channel trafficking in cardiomyocytes

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Appendices

Author Curriculum Vitae

PhD Portfolio

Contributing authors

Author contributions

Acknowledgements

Author Curriculum Vitae

EDUCATION

Master of Science
Medical Biotechnology
University of Bologna, Alma Mater Studiorum - Italy

Bachelor of Science
Biology
University of Rome, La Sapienza - Italy

EXPERIENCE

PhD
University of Amsterdam - Amsterdam University Medical Center
Department of Experimental Cardiology – 2019-2024
PI: Dr. Carol Ann Remme
Main focus: Cellular electrophysiology

PhD exchange, international experience
University of New York - NYU Grossman School of Medicine
Division of Cardiology – 2021-2022
PI: Prof. Mario Delmar
Main focus: STORM microscopy, Confocal microscopy

PhD exchange
University of Utrecht
Department of Cell Biology, Neurobiology and Biophysics – 2022
PI: Prof. Anna Akhmanova
Main focus: Expansion microscopy

Master Internship
University of Amsterdam - Amsterdam University Medical Center
Department of Experimental Cardiology – 2018
PI: Dr. Carol Ann Remme

Summer school
University of Bologna - Bologna Business School
Innovation and technology management in medical and pharmaceutical biotechnology – 2017

PhD Portfolio

Name PhD student: Giovanna Nasilli

PhD period: 2019-2024

PhD promotor: Dr. Carol Ann Remme

PhD co-promotor: Dr. Simona Casini

Year	PhD Courses	ECTS
	Amsterdam UMC	
2019	Laboratory Biosecurity and Biosafety	0.4
2020	Mouse Morphology, Function and Genetics	1.5
2021	Confocal microscopy introduction	0.2
	New York University	
2021	Institutional Care and Use of Laboratory Animals	0.6
2021	STORM microscopy introduction	0.5
2021	Confocal microscopy introduction	0.3
	Utrecht University	
2022	Light sheet fluorescence microscopy Introduction	0.2
Year	**Seminars and workshops**	**ECTS**
	Amsterdam UMC	
2019-2023	Weekly meeting Department of Experimental Cardiology	5.7
2019-2023	Weekly meeting progress report Heart Failure Center	5.7
2019-2021	Weekly journal club Department of Experimental Cardiology	2.8
2019	Minicourse 'Basics in Cardiac Electrophysiology, the ECG and Arrhythmias', Department of Experimental Cardiology	0.3
2020	Webinar by Prof. Carmeliet 'Cardiac cellular electrophysiology: back to basics' (ESC)	0.1
2022	Minicourse 'Basics in Electrophysiology', Department of Experimental Cardiology	0.3

	New York University	
2021-2022	Weekly journal club Delmar Lab (NYU)	1.7
2019-2023	Leducq network conference meetings	4.2
Year	**Conferences**	**ECTS**
2018	42nd ESC Working Group on Cardiac Cellular Electrophysiology in Essen, Germany	0.9
2019	43rd ESC Working Group on Cardiac Cellular Electrophysiology in Lisbon, Portugal - Poster presentation	0.9
2019	10th Rembrandt Symposium at the Leeuwenhorst Conference site in Noordwijkerhout, The Netherlands - Poster presentation	0.3
2022	Heart Rhythm 2022 conference in San Francisco, USA - Poster presentation	0.7
2022	8th annual ACS conference on (pre)clinical cardiovascular research in Amsterdam, The Netherlands - Poster presentation	0.3
2023	47th ESC Working Group on Cardiac Cellular Electrophysiology in Copenhagen, Denmark - Oral presentation	0.6
2023	NLHI/DCVA Translational Cardiovascular Research Meeting in Utrecht, The Netherlands - Oral presentation	0.6
2023	European Society of Cardiology (ESC) congress in Amsterdam, The Netherlands - Oral presentation	0.3
Year	**Parameters of Esteem**	
2023	Travel grant award for 47th ESC Working Group on Cardiac Cellular Electrophysiology in Copenhagen, Denmark	

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Author contributions

Chapter 2: Beneficial effects of chronic mexiletine treatment in a human model of *SCN5A* overlap syndrome

Giovanna Nasilli, Loukia Yiangou, Chiara Palandri, Elisabetta Cerbai, Richard P. Davis, Arie O.Verkerk, Simona Casini, Carol Ann Remme**

G.N., C.P., A.O.V. and S.C. designed and conducted experiments, acquired data, and analysed data. L.Y. and R.P.D. provided hiPSC-CMs. G.N. and S.C. produced figures and wrote the manuscript. A.O.V., S.C and C.A.R. contributed to the conception of the study and interpretation of results. L.Y., R.P.D., E.C., A.O.V., S.C and C.A.R. critically revised the manuscript critically revised the manuscript. All authors reviewed the manuscript.

Chronic mexiletine administration increases sodium current in non-diseased human induced pluripotent stem cell-derived cardiomyocytes

Giovanna Nasilli, Arie O. Verkerk, Loukia Yiangou, Richard P. Davis, Simona Casini, Carol Ann Remme

G.N., A.O.V. and S.C. designed and conducted experiments, acquired data, and analysed data. L.Y. and R.P.D. provided hiPSC-CMs. G.N. and S.C. produced figures. G.N. and C.A.R wrote the manuscript. A.O.V., S.C and C.A.R. contributed to the conception of the study and interpretation of results. A.O.V., L.Y., R.P.D., S.C and C.A.R. critically revised the manuscript. All authors reviewed the manuscript.

Enhancing sodium current by chronic mexiletine treatment: underlying mechanisms, dose-dependency and therapeutic implications

Giovanna Nasilli, Molly O'Reilly, Najoua Ikan, Anke Tijsen, Simona Casini, Carol Ann Remme**

G.N., M.o.R., A.T., and S.C. designed and conducted experiments, acquired data, and analysed data. N.I. provided hiPSC-CMs. G.N. and S.C. produced figures. G.N. and C.A.R. wrote the manuscript. A.T., S.C. and C.A.R. contributed to the conception of the study and interpretation of results, and critically revised the manuscript. All authors reviewed the manuscript.

Decreasing microtubule detyrosination modulates $Na_v1.5$ subcellular distribution and restores sodium current in *mdx* cardiomyocytes

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G.N., G.B., M.W.V. and S.C. designed and conducted experiments, acquired data, and analysed data. T.d.W and G.A.M. managed animal breeding and performed cell isolations. G.N. and S.C. produced figures. G.N. wrote the manuscript. E.R., S.C. and C.A.R. contributed to the conception of the study and interpretation of results, and critically revised the manuscript. All authors reviewed the manuscript.

Decreasing microtubule detyrosination improves cardiac mechanics and sodium channel function in Plakophilin-2-deficient mice

Giovanna Nasilli, Xianming Lin, Pamela Swiatlowska, Marta Pérez-Hernández, Mingliang Zhang, Jose L.Sanchez-Alonso, Julia Gorelik, Eli Rothenberg, Simona Casini, Mario Delmar, Carol Ann Remme

G.N., X.L., P.S. and M.P.H. designed and conducted experiments, acquired data, and analysed data. M.Z. managed animal breeding. J.L.S.A. and J.G. contributed to the design of the mechano-SICM experiments. G.N. and S.C. produced figures. G.N. wrote the manuscript. J.G., E.R., S.C., M.D., and C.A.R. contributed to the conception of the study and interpretation of results, and critically revised the manuscript. All authors reviewed the manuscript.

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