

PERSONAL INFORMATION



Ilaria Cappellacci

Work Address: Laboratory of Vascular and Stem Cell Biology, Department of Medical, Oral and Biotechnological Sciences, University "G. d'Annunzio" CHIETI-PESCARA, Center for Advanced Studies and Technology (CAST, ex CeSI-MeT) via Luigi Polacchi, 11-13 (ex via Colle dell'Ara) 66100, Chieti Scalo - Chieti (Italy)

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Email: ilaria.cappellacci@unich.it

Sex Female | **Date of Birth** 31/03/1996 | **Nationality** Italian

POSITION

PhD Student in "Biomolecular and Pharmaceutical Sciences"

Curriculum: Molecular Medicine, XXXVIII CYCLE

Laboratory of Vascular and Stem Cell Biology, "G. D'Annunzio" University CHIETI-PESCARA, Center for Advanced Studies and Technology (CAST), Chieti, Italy.

Tutor: Prof. Assunta Pandolfi

EDUCATION AND QUALIFICATIONS

2022-ongoing

PhD in "Biomolecular and Pharmaceutical Sciences"

Curriculum: Molecular Medicine

XXXVIII CYCLE

Laboratory of Vascular and Stem Cell Biology, "G. D'Annunzio" University CHIETI-PESCARA, Center for Advanced Studies and Technology (CAST), Chieti, Italy.

Tutor: Prof. Assunta Pandolfi

2018-2020

Master's Degree in Medical Biotechnologies LM-9 (degree program held in English)

Thesis Project: "Association of human amniotic membrane and endothelial cells: a novel *in vitro* system to study wound healing mechanisms in diabetic foot ulcer". University of Padova
110/110 *cum laude*

2015-2018

Bachelor's Degree in Biotechnologies L-2

Thesis Project: "Impiego di tecniche zimografiche per l'individuazione e la caratterizzazione di proteasi in diverse matrici biologiche". University of Teramo
110/110 *cum laude*

2010-2015

High School Qualification in Scientific Studies

Liceo Scientifico "C. D'Ascanio", Montesilvano (PE)
100/100

WORK EXPERIENCE

02/2024-07/2024

Guest PhD student

Biointerfaces Lab (404), Swiss Federal Laboratories for Materials Science and Technology (Empa), St. Gallen, Switzerland
Tutor: Dr. Markus Rottmar

04/2021-10/2022

Fellowship

Project: Study of the potential role of the amniotic membrane in the mechanisms of vasculogenesis in the diabetic foot

Tutor: Dr. Caterina Pipino, Prof. Assunta Pandolfi

Laboratory of Vascular and Stem Cell Biology, "G. d'Annunzio" University CHIETI-PESCARA, Center for Advanced Studies and Technology (CAST), Chieti, Italy.

03/2020-12/2020

Thesis Internship (Master's Degree)

Project: "Association of human amniotic membrane and endothelial cells: a novel in vitro system to study wound healing mechanisms in diabetic foot ulcer"

Supervisor: Prof. Marta Trevisan

Co-Supervisors: Prof. Assunta Pandolfi, Dr. Caterina Pipino

Laboratory of Vascular and Stem Cell Biology, "G. d'Annunzio" University CHIETI-PESCARA, Center for Advanced Studies and Technology (CAST), Chieti, Italy.

03/2018-05/2018

Thesis Internship (Bachelor's Degree)

Project: "Impiego di tecniche zimografiche per l'individuazione e la caratterizzazione di proteasi in diverse matrici biologiche"

Supervisor: Prof. Enrico Dainese

Co-Supervisor: Dr. Beatrice Dufrusine

Laboratory of Biochemistry and Molecular Biology, University of Teramo, Teramo, Italy

PERSONAL SKILLS

Mother tongue

Italian

Other languages

English

- English exam for Biotechnology (Bachelor's Degree): Certificate Level B2
- English Course "I sound English" – at Center for Advanced Studies and Technology (CAST), University "G. D'Annunzio", Chieti (duration of the course 24 hours) – released on 30th March 2023
- English Course "Textual and discursive features of academic writing in English", University "G. D'Annunzio", Chieti (duration of the course 26 hours) – released on 26th June 2023

Digital Competence

- Microsoft TM tools
- ImageJ Software
- PubMed

ADDITIONAL INFORMATION

Methodologies acquired

- Working in sterility
- Isolation and *in vitro* culture of primary cells (i.e. HUVEC) and cell lines
- Sample preparation for cytometric analysis
- Monocyte-endothelial cells Adhesion assay
- Scratch assay
- Optical and Confocal Microscopy
- Cell Viability Assays (i.e. MTT assay)
- ELISA (Enzyme linked Immunosorbent Assay) and spectrophotometer analysis
- RNA extraction, retro-transcription and Real Time PCR
- Evaluation oxidative and nitro-oxidative stress markers
- Protein lysates preparation
- siRNA utilization
- Western Blot

Seminars and courses attended

- Theoretical-practical residential course “URGENZE-EMERGENZE mediche (monitoraggio paziente BLS-BLSD-ALS basic–accesso intraosseo)”, Center for Advanced Studies and Technologies (CAST), Chieti, 01/12/2021
- Course for the use of Liquid Nitrogen, Nippon Gases Pharma Srl, Center for Advanced Studies and Technologies (CAST), 10 March 2021
- Seminar of Bioethics, University of Padova (Italy), 31th May 2019
- Course “Workers’ training for health and security in work places”, University of Padova, 3/4 th December 2018
- DMM (Department of Molecular Medicine) Meeting, University of Padova, 27/28 th February 2018
- Training course in occupational health and safety, University of Teramo, 17th February 2016 - 16th February 2017 - 12th February 2018

Membership to scientific societies and associations

From 2022

- Stem Cell Research Italy (SCR)
- International Placenta Stem Cell Society (IPLASS)
- Associazione Italiana di Biologia e Genetica (AIBG)
- Società Italiana di Diabetologia (SID)

Research Supervisory and Training Responsibilities

THESIS CO-SUPERVISOR ACTIVITIES

- Student: Concetta Miriam Albini
Thesis: “ Microbiota intestinale e salute umana: il diverso impatto della dieta mediterranea e della dieta “occidentale” ”
 Master’s Degree in Science of Human Nutrition, A.A. 2022/23
 Department of Medicine and Surgery, UniCamillus, Rome

- Student: Liliana Allia
Thesis: "Aspetti nutrizionali e funzionali degli alimenti che compongono la Dieta Mediterranea: interazione con il microbiota intestinale"
 Master's Degree in Science of Human Nutrition, A.A. 2022/23
 Department of Medicine and Surgery, UniCamillus, Rome
- Student: Petrini Philip Prem
Thesis: "Ruolo del microbiota e dei probiotici ceppo-organo-specifici sulla salute umana"
 Master's Degree in Science of Human Nutrition, A.A. 2022/23
 Department of Medicine and Surgery, UniCamillus, Rome

TUTORING ACTIVITIES for Medical Students related to SISM-Italy and the Standing Committee on Research Exchange (SCORE) of International Federation of Medical Students' Association (IFMSA)

- Student: Bianca Fede
Project: "Potential protective role of nutritional molecules in cardiovascular and bone diseases: use of innovative cell culture models"
 November 2022
- Student: Ian Inestroza
Project: "Potential protective role of nutritional molecules in cardiovascular and bone diseases: use of innovative cell culture models"
 October 2022
- Students: Grazia Senatore e Myriam Adele Traulo
Project: "Potential protective role of nutritional molecules in cardiovascular and bone diseases: use of innovative cell culture models"
 October 2021
- Student: Adrian Alejandro Moreno Mares
Project: "Potential protective role of nutritional molecules in cardiovascular and bone diseases"
 July 2021

at Laboratory of Vascular and Stem Cell Biology, Università degli Studi "G. D'Annunzio" CHIETI-PESCARA, Center for Advanced Studies and Technology (CAST), Chieti, Italy

Seminars as speaker

- **CEA Meeting** at Center for Advanced Studies and Technology (CAST), University "G. D'Annunzio", Chieti
"Role of perinatal derivatives in inflammation and angiogenesis: mechanistic insight into diabetic non-healing wounds"
26th April 2023

Awards

- **BEST POSTERS AWARD**

I. Cappellacci, J. Stelling-Férez, Á. Bernabé-García, P. Di Tomo, N. Di Pietrantonio, F.J. Nicolás, A. Pandolfi, C. Pipino

"Human amniotic membrane enhances migration and angiogenesis in an in vitro model of endothelial cells isolated from umbilical cord of gestational diabetes affected women."

IPLASS and COST SPRINT Action Joint Scientific Meeting

Brescia 2-3/09/2022

Abstracts at national and international congresses

- L. Pelusi, N. Di Pietrantonio, **I. Cappellacci**, J. Hurst, S. Schnichels, R. Mastropasqua, S. Bollini, M. Nubile, A. Pandolfi, D. Mandatori
"Potential regenerative effects of amniotic fluid mesenchymal stem cells on an ex vivo model of spontaneous retinal degeneration."
XII SCR Italy (Stem Cells Research Italy) congress Palermo 13-15 June 2024
POSTER
- L. Pelusi, M. Ghelardoni, L. Agnifili, **I. Cappellacci**, M. Allegretti, J. Hurst, S. Schnichels, L. Mastropasqua, S. Bollini, M. Nubile, A. Pandolfi, D. Mandatori
"Porcine ex vivo retina model to study retinal neurodegenerative diseases: potential role of mesenchymal stem cells."
Ever Congress Valencia 26-28 October 2023
POSTER
- C. Pipino, A. Bernabé-García, I. Cappellacci, J. Stelling-Férez, P. Di Tomo, M. Santalucia, C. Navalón, A. Pandolfi, F.J. Nicolás
"Effect of the human amniotic membrane on the umbilical vein endothelial cells of gestational diabetic mothers: new insight on inflammation and angiogenesis."
Second International STEMNET MEETING Brescia 18-20 October 2023
ORAL PRESENTATION
- N. Di Pietrantonio, J. Sánchez-Ceinos, L. Pelusi, P. Di Tomo, D. Mandatori, G. Formoso, T. Bonfini, **I. Cappellacci**, M.P.A. Baldassarre, C. Pipino, F. Cosentino, A. Pandolfi
"Histone epigenetic signature and gestational diabetes: role of the acetyltransferase p300 in the transmission of the maternal phenotype to the offspring."
59th EASD Annual Meeting Hamburg, Germany 2 - 6 October 2023
SHORT ORAL PRESENTATION
- D. Mandatori, S. Falone, P. Di Tomo, P. Lanuti, M.P.A. Baldassarre, L. Pelusi, V. Cordone, **I. Cappellacci**, S.J. Santini, T. Romasco, G. Formoso, F. Amicarelli, A. Pandolfi
"Role of set7 methyltransferase in endothelial dysfunction induced by hyperglycemia: implication of nf kb activation and dicarbonyl stress."
XXI Congresso Nazionale A.I.B.G. Bari 21-23 September 2023
POSTER

- N. Di Pietrantonio, J. Sánchez-Ceinos, P. Di Tomo, D. Mandatori, L. Pelusi, G. Formoso, T. Bonfini, I. Cappellacci, M.P.A. Baldassarre, C. Pipino, F. Cosentino, A. Pandolfi
"Role of the acetyltransferase p300 in the transmission of the adverse epigenetic signature to the offspring of women with gestational diabetes."
XXI Congresso Nazionale A.I.B.G. Bari 21-23 September 2023
POSTER
- **I. Cappellacci**, J. Stelling-Férez, N. Di Pietrantonio, L. Pelusi, T. Romasco, N. Di Pietro, F.J. Nicolas, A. Pandolfi, C. Pipino
"Molecular Mechanisms of endothelial cell migration and angiogenesis driven by human amniotic membrane: novel insight on diabetic wound healing."
XXI Congresso Nazionale A.I.B.G. Bari 21-23 September 2023
POSTER
- L. Pelusi, D. Mandatori, M. Ghelardoni, L. Agnifili, **I. Cappellacci**, N. Di Pietrantonio, J. Hurst, M. Allegretti, S. Schnichels, L. Mastropasqua, S. Bollini
"Human amniotic fluid stem cells and recombinant human Nerve Growth Factor to engineer human corneal lenticule: a potential sustained delivery system for posterior ocular diseases treatment."
SCR-Italy One day Meeting GIOVANI RICERCATORI A CONFRONTO
 Chieti 19 May 2023
ORAL PRESENTATION
- C. Pipino, **I. Cappellacci**, P. Di Tomo, Á. Bernabé-García, J. Stelling-Férez, N. Di Pietrantonio, D. Mandatori, M.P.A. Baldassarre, F.J. Nicolás, A. Pandolfi
"Endothelial cells from umbilical cord of women affected by gestational diabetes: an in vitro vascular model to study the anti-inflammatory and pro-angiogenic role of amniotic membrane in diabetic foot ulcer"
"Società Italiana per lo Studio dell'Emostasi e della Trombosi" (SISSET) Meeting
 Perugia 2-5/11/2022
POSTER
- **I. Cappellacci**, J. Stelling-Férez, N. Di Pietrantonio, P. Di Tomo, F.J. Nicolás, A. Pandolfi, C. Pipino
"Potenziale ruolo dell'acido oleanolico nella prevenzione delle ulcere del piede diabetico"
29° National Meeting SID Rimini 26-29/10/2022
POSTER
- C. Pipino, **I. Cappellacci**, P. Di Tomo, Á. Bernabé-García, J. Stelling-Férez, N. Di Pietrantonio, L. Pelusi, M.P.A. Baldassarre, G. Formoso, F.J. Nicolás, A. Pandolfi
"Studio dei meccanismi antinfiammatori e pro-angiogenici della membrana amniotica nel piede diabetico"
29° National Meeting SID Rimini 26-29/10/2022
DISCUSSED POSTER

- T. Romasco, V. Schiavone, N. Di Pietrantonio, M.P.A. Baldassarre, P. Di Tomo, I. **Cappellacci**, G. Formoso, R. Ragno, A. Pandolfi, N. Di Pietro
"Oli essenziali e loro effetti in un modello di infiammazione endoteliale associato ad iperglicemia"
29° National Meeting SID Rimini 26-29/10/2022
DISCUSSED POSTER
- P. Di Tomo, G. Formoso, N. Di Pietrantonio, M.P.A. Baldassarre, P. Lanuti, V. Cordone, I. **Cappellacci**, S. Falone, F. Amicarelli, A. Pandolfi
"Epigenetic regulation of eNOS expression by acetyltransferase p300 in endothelial cells exposed to high glucose in vitro."
XX National Meeting AIBG 23-24/09/2022
BOOK OF ABSTRACTS
- C. Pipino, I. **Cappellacci**, P. Di Tomo, Á. Bernabé-García, J. Stelling-Férez, N. Di Pietrantonio, L. Pelusi, M.P.A. Baldassarre, F.J. Nicolás, A. Pandolfi
"Effect of human amniotic membrane on umbilical vein endothelial cells of gestational diabetic mothers: new insight in wound healing and diabetic foot ulcer"
58th annual meeting European Association for the Study of Diabetes (EASD)
 Stockholm 19-23/09/2022
ORAL PRESENTATION
- I. **Cappellacci**, J. Stelling-Férez, Á. Bernabé-García, P. Di Tomo, N. Di Pietrantonio, F.J. Nicolás, A. Pandolfi, C. Pipino
"Human amniotic membrane enhances migration and angiogenesis in an in vitro model of endothelial cells isolated from umbilical cord of gestational diabetes affected women."
IPLASS and COST SPRINT Action Joint Scientific Meeting
 Brescia 2-3/09/2022
POSTER
- J. Stelling-Férez, C. Pipino, I. **Cappellacci**, P. Di Tomo, N. Di Pietrantonio, J.A. Gabaldón, A. Pandolfi, F.J. Nicolás
"Oleanolic acid anti-inflammatory and pro-angiogenic effects on endothelial cells obtained from umbilical cord of gestational diabetes affected women"
IPLASS and COST SPRINT Action Joint Scientific Meeting
 Brescia 2-3/09/2022
POSTER
- I. **Cappellacci**, Á. Bernabé-García, J. Stelling-Férez, P. Di Tomo, N. Di Pietrantonio, D. Mandatori, L. Pelusi, F.J. Nicolás, A. Pandolfi, C. Pipino
"Human amniotic membrane promotes migration and tube formation of endothelial cells isolated from umbilical cord vein of gestational diabetes affected mothers"
XI meeting SCR Italy Genova 8-10/06/2022
POSTER

- F.J. Nicolas, C. Pipino, Á. Bernabe-Garcia, P. Di Tomo, J. Stelling-Ferez, **I. Cappellacci**, S. Pappadà, D. Mandatori, L. Pelusi, A. Pandolfi
"Anti-inflammatory and pro-angiogenic role of amniotic membrane on endothelial cells derived from umbilical cord of women affected by gestation diabetes mellitus: new insight in diabetic foot ulcer."
 6th World Congress of the Tissue Engineering and Regenerative Medicine International Society (**TERMIS 2021**) Maastricht 15-19/11/2021
ORAL PRESENTATION

- C. Pipino, Á. Bernabé-García, **I. Cappellacci**, J. Stelling-Férez, P. Di Tomo, M. Santalucia, N. Di Pietrantonio, N. Di Pietro, A. Pandolfi, F.J. Nicolás
"Role of amniotic membrane on endothelial cells from umbilical cord of women affected by gestational diabetes: new insights into the treatment of non-healing diabetic foot ulcers."
 First Meeting of Federation of Stem Cells Research Associations (**STEMNET**) Padova 22-24/09/2021
ORAL PRESENTATION

Book Chapters

- C. Pipino, **I. Cappellacci**, J. Stelling-Férez, Á. Bernabé-García, D. Mandatori, N. Di Pietrantonio, C. Navalón, F.J. Nicolás, A. Pandolfi
"Perinatal Tissues to Study In vitro Mechanisms of Inflammation and Angiogenesis: Novel Insight on Diabetic Non-Healing Wound"
 Research Highlights in Disease and Health Research Vol. 3, **2023** March 1, Page 46-70 (Chapter 4)
 DOI: 10.9734/bpi/rhdhr/v3/9248F
 Print ISBN: 978-81-19102-20-4, eBook ISBN: 978-81-19102-27-3

- C. Pipino, **I. Cappellacci**, L. Pelusi, N. Di Pietrantonio, D. Mandatori, N. Di Pietro, A. Pandolfi
"Amniotic Fluid Mesenchymal Stromal Cells as Innovative and Advantageous Resource for Bone Regeneration"
 New Horizons in Medicine and Medical Research Vol. 4, **2022** April 7, Page 1-20 (Chapter 1)
 DOI: 10.9734/bpi/nhmmr/v4/3653E
 Print ISBN: 978-93-5547-600-5, eBook ISBN: 978-93-5547-601-2

Publications

- J. Stelling-Férez, I. Cappellacci, A. Pandolfi, J.A. Gabaldón, C. Pipino, F.J. Nicolás
“Oleanolic acid rescues critical features of umbilical vein endothelial cells permanently affected by hyperglycemia.”
Front. Endocrinol. Sec. Cardiovascular Endocrinology Volume 14 – 2023
DOI: 10.3389/fendo.2023.1308606

- N. Di Pietrantonio, I. Cappellacci, D. Mandatori, M.P.A. Baldassarre, A. Pandolfi, C. Pipino
“Role of Epigenetics and Metabolomics in Predicting Endothelial Dysfunction in Type 2 Diabetes.”
Adv Biol (Weinh). 2023 Sept;7(9):e2300172.
DOI: 10.1002/adbi.202300172. Epub 2023 Aug 24. PMID: 37616517.

- C. Pipino, Á. Bernabé-García, I. Cappellacci, J. Stelling-Férez, P. Di Tomo, M. Santalucia, C. Navalón, A. Pandolfi, F.J. Nicolás
“Effect of human amniotic membrane on umbilical vein endothelial cells of gestational diabetic mothers: new insight on inflammation and angiogenesis”
Front. Bioeng. Biotechnol. 10:854845. 2022 Jul 5.
DOI: 10.3389/fbioe.2022.854845
PMID: 35866032; PMCID: PMC9294233
Online ISSN: 2296-4185

10th September 2024