

PERSONAL INFORMATION

Alessia INDRIERI, PhD

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EDUCATION

- 2011 **PhD**, Molecular Medicine,
European School of Molecular Medicine (SEMM), University of Naples “Federico II”, Italy
- 2005 **MSc**, Biological Sciences, with honors (110/110, cum laude).
Department of Structural Functional Biology, University of Naples “Federico II”, Italy

CURRENT POSITION

- 09/2020 - present *Group Leader*
Telethon Institute of Genetics Medicine (TIGEM), Pozzuoli, Italy
- 11/2019 - present *Researcher (tenured)*
Institute for Genetic Biomedical Research (IRGB), National Research Council (CNR), Milan, Italy
- 01/2020 - present *Lecturer*,
European School of Molecular Medicine (SEMM), Naples – Milan, Italy
- 01/2020 - present *Lecturer*,
Scuola Superiore Meridionale (SSM), Naples, Italy
- 01/2023 - present *Lecturer*,
PhD in Cell Biology, University of Naples “Federico II”, Italy
- 01/2023 - present *Adjunct Professor*,
Applied Biology, School of Medicine and Surgery, University of Rome "Tor Vergata". Roma, Italy

PREVIOUS POSITIONS

- 02/2017 - 11/2019 *Junior Principal Investigator*,
Department of Translational Medical Science, University of Naples “Federico II”, Italy
- 04/2011 - 01/2017 *Postdoctoral Fellow*,
TIGEM, Pozzuoli, Italy
- 01/2007 - 04/2011 *PhD student*,
SEMM, TIGEM, Naples, Italy
- 09/2006 - 05/2007 *Visiting researcher*,
Cajal Institute, Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Spain
- 05/2006 - 12/2006 *Research Fellow*,
TIGEM, Naples, Italy

01/2006 - 04/2006 Research Fellow.
Department of Structural and Functional Biology, University of Naples
"Federico II", Italy

FELLOWSHIPS

09/2006 – 12/2006 Development travelling fellowship from the Company of Biologist.
01/2007 – 03/2007 Short-term fellowship from European Molecular Biology Organization
(EMBO).
01/2007 – 12/2010 PhD student fellowship from SEMM
11/2012 – 10/2014 Fellowship for Advance Training Course in Molecular Cellular Biology from
Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR).
01/2015 – 12/2015 Post-Doctoral Fellowship 2015 from Fondazione Umberto Veronesi.

AWARDS AND HONORS

01/2007 Award from SEMM.
11/2012 Award for the best talk at SIGU 2012 meeting (Sorrento, Italy) from Italian Society
Human Genetics (SIGU).
06/2013 Travel Grant for ESHG 2013 meeting (Paris, France) from European Society Human
Genetics (ESHG).
06/2013 Young Investigator Award for Outstanding Science at ESHG 2013 meeting (Paris,
France) from European Society Human Genetics (ESHG).
01/2015 Award from Fondazione Umberto Veronesi.

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

Since 2008 6 Master students, 2 Technicians, 3 PhD students, 3 Postdocs

COMMISSION OF TRUST

2012- Ad-hoc reviewer for peer-review journals including American Journal of Human Genetics,
Human Molecular Genetics, Neuroscience, Frontiers, Genes.
2019- Reviewer for the French National Research Agency (ANR)
2021- Guest Associate Editor Frontiers in Aging Neuroscience Archive
2021- Guest Associate Editor Frontiers in Cellular and Molecular Mechanisms of Brain-aging
2021- Review Editor Frontiers in Gene and Virotherapy
2021- External member of Evaluation Committee, PhD in Functional genomics, SISSA, Trieste,
Italy.
2021 Member of the selection committee, PhD in Genetic and Experimental Medicine, Scuola
Superiore Meridionale (SSM), Naples, Italy
2021 Member of the Commission for the organization of PhD Courses of the European School of
Molecular Medicine (SEMM) and Scuola Superiore Meridionale (SSM) (TIGEM site).
2021 Organizer and chair of SEMM Technological Roundtable: "Clinical in Vivo Gene Therapy
with AAV Vectors: Now and Beyond".
2022 Member of the Scientific Committee of Euromit 2023, International meeting of mitochondrial
pathology.

INVITED AND ORAL PRESENTATIONS TO NATIONAL AND INTERNATIONAL MEETINGS

2012 17th European Bioenergetics Conference (EBEC), Freiburg, Germany.
15th Italian Human Genetic Conference (SIGU), Sorrento (NA), Italy.
TIGEM Retreat, Sorrento (NA), Italy.
2013 46th European Genetic Conference (ESHG), Paris, France.
2016 1st Telethon Tri-Retreat Meeting. Rome, Italy
5th Neapolitan Brain Group Meeting. Naples, Italy

- 2018 52nd European Genetic Conference (ESHG), Milano, Italy.
8th Neapolitan Brain Group Meeting. Naples, Italy
- 2019 TIGEM Retreat. Paestum (SA), Italy.
9th Italian National Meeting on Mitochondrial Diseases. Rome, Italy.
22nd Italian Human Genetic Conference (SIGU), Rome, Italy
9th Neapolitan Brain Group Meeting. Naples, Italy
Pediatric Research Days, Naples, Italy
- 2021 Mitochondrial Diseases: 20 years of history - Fondazione Mariani. Milan, Italy
Neurogenetic Seminars – Carlo Besta Institute, Milan, Italy
- 2022 IRGB Retreat. Cagliari, Italy
- 2023 XXI Scientific Convention – Telethon, Riva del Garda (TN), Italy
- 2023 Euromit 2023, “International Meeting on Mitochondrial Pathology”, Bologna, Italy

PUBLICATIONS

1. **Indrieri A.**, van Rahden V.A., Tiranti V., Morleo M., Iaconis D., Tammamaro R., D'Amato I., Conte I., Maystadt I., Demuth S., Zvulunov A., Kutsche K., Zeviani M., Franco B. (2012). *Mutations in COX7B cause microphthalmia with linear skin lesions, an unconventional mitochondrial disease*. American Journal of Human Genetics 91, 942-949. <https://doi.org/10.1016/j.ajhg.2012.09.016>
2. **Indrieri A.**, Conte I., Chesi G., Romano A., Quartararo J., Tate R., Ghezzi D., Zeviani M., Goffrini P., Ferrero I., Bovolenta P., Franco B. (2013). *The impairment of HCCS leads to MLS syndrome by activating a non-canonical cell death pathway in the brain eyes*. EMBO Molecular Medicine 5(2), 280-293. <https://doi.org/10.1002/emmm.201201739>
3. **Indrieri A.**, Grimaldi C., Zucchelli S., Tammamaro R., Gustincich S., Franco B. (2016). *Synthetic long non-coding RNAs [SINEUPs] rescue defective gene expression in vivo*. Scientific Reports 6, 27315. <https://doi.org/10.1038/srep27315>
4. Polishchuk E.V., Merolla A., Lichtmanegger J., Romano A., **Indrieri A.**, Ilyechova E.Y., Concilli M., De Cegli R., Crispino R., Mariniello M. et al (2019) *Activation of Autophagy, Observed in Liver Tissues From Patients With Wilson Disease From ATP7B-Deficient Animals, Protects Hepatocytes From Copper-Induced Apoptosis*. Gastroenterology 156: 1173-1189 e1175. <https://doi.org/10.1053/j.gastro.2018.11.032>
5. **Indrieri A.**[§], Carrella S.[§], Romano A., Spaziano A., Marrocco E., Fernandez-Vizarra E., Barbato S., Pizzo M., Ezhova Y., Golia F.M., Ciampi L., Tammamaro R., Henao-Mejia J., Williams A., Flavell R.A., De Leonibus E., Zeviani M., Surace E.M., Banfi S., Franco B. (2019) *miR-181a/b downregulation exerts a protective action on mitochondrial disease models*. EMBO Molecular Medicine 11(5). [§]co-first authors. <https://doi.org/10.15252/emmm.201708734>
6. Iaconis D., Crina C., Brillante S., **Indrieri A.**, Morleo M., Franco, B. (2020). *The HOPS Complex Subunit VPS39 controls ciliogenesis through autophagy*. Human Molecular Genetics 29: 1018-1029. <https://doi.org/10.1093/hmg/ddaa029>
7. **Indrieri A.**[§], Carrella S., Carotenuto P., Banfi S. [§], Franco B.[§]. (2020). *The Pervasive Role of the miR-181 Family in Development, Neurodegeneration, Cancer*. International Journal of Molecular Science 21(6). [§]co-corresponding authors. <https://doi.org/10.3390/ijms21062092>
8. Marrocco E. [§], **Indrieri A.**[§], Esposito F. [§], Tarallo V., Carboncino A., Alvino F.G., De Falco S., Franco B., De Risi M., De Leonibus E. (2020) *α-synuclein overexpression in the retina leads to vision impairment degeneration of dopaminergic amacrine cells*. Scientific Reports, 10: 9619. [§]co-first authors. <https://doi.org/10.1038/s41598-020-66497-6>
9. Carrella S., **Indrieri A.**, Franco B., Banfi S. (2020) *Mutation-Independent Therapies for Retinal Diseases: Focus on Gene-Based Approaches*. Frontiers in Neuroscience 14: 588234. <https://doi.org/10.3389/fnins.2020.588234>
10. **Indrieri A.**[§], Pizzarelli R., Franco B., De Leonibus E[§] (2020) *Dopamine, Alpha-Synuclein, Mitochondrial Dysfunctions in Parkinsonian Eyes*. Frontiers in Neuroscience 14: 567129. [§]co-corresponding authors. <https://doi.org/10.3389/fnins.2020.567129>

11. Botta C., **Indrieri A.**, Garofalo E., Biamonte F., Bruni A., Pasqua P., Cesario F., Costanzo F.S., Longhini F, Mendicino F. (2021) *COVID-19: High-JAKing of the Inflammatory "Flight" by Ruxolitinib to Avoid the Cytokine Storm.* *Frontiers in Oncology* 10, 3115. <https://doi.org/10.3389/fonc.2020.599502>
12. Barbato, A., Iuliano A., Volpe M., D'Alterio R., Brillante S., Massa F., De Cegli R., Carrella S., Salati M., Russo A., Russo G., Riccardo S., Cacchiarelli D., Capone M., Madonna G., Ascierio P. A., Franco B., **Indrieri A.** § and Carotenuto P. §. (2021). "Integrated Genomics Identifies miR-181/TFAM Pathway as a Critical Driver of Drug Resistance in Melanoma." *Int J Mol Sci* 22(4). §co-last authors <https://doi.org/10.3390/ijms22041801>
13. **Indrieri, A.**, and Franco, B. (2021). Linear Skin Defects with Multiple Congenital Anomalies (LSDMCA): An Unconventional Mitochondrial Disorder. *Genes (Basel)* 12(2). <https://doi.org/10.3390/genes12020263>
14. Carrella, S., Massa F. and **Indrieri A.** (2021). "The Role of microRNAs in Mitochondria-mediated Eye Diseases." *Front. Cell Dev. Biol.* <https://doi.org/10.3389/fcell.2021.653522>
15. Tarallo A., Damiano C., Strollo S., Minopoli N., **Indrieri A.**, Polishchuk E., Zappa F., Nusco E., Fecarotta S., Porto C., Coletta M., Iacono R., Moracci M., Polishchuk R., Medina D.L., Imbimbo P., Monti D.M., De Matteis M.A. and Parenti G. (2021). "Correction of oxidative stress enhances enzyme replacement therapy in Pompe disease" *EMBO Molecular Medicine*, Nov 8;13(11):e14434. <https://doi.org/10.15252/emmm.202114434>
16. Carrella, S., Di Guida, M., Brillante, S., Piccolo, D., Ciampi, L., Guadagnino, I., Piqueras, J.C., Pizzo, M., Marrocco, M., Molinari, M., Petrogiannakis, G., Barbato, S., Ezhova, Y., Auricchio, A., Franco, B., De Leonibus, E., Surace, E.M., **Indrieri, A.**, and Banfi S. (2022). "miR-181a/b downregulation: a mutation-independent therapeutic approach for Inherited Retinal Diseases" *EMBO Molecular Medicine*, Nov 8;14(11):e15941. <https://doi.org/10.15252/emmm.202215941>
17. Carotenuto, P., Romano, A., Barbato, A., Quadrano, P., Brillante, S., Volpe, M., Ferrante, L., Tammaro, R., Morleo, M., De Cegli, R., Iuliano, A., Ciliberto, G., Clery, E., Troncone, G., Palma, G., Arra, C., Barbieri, A., Capone, M., Madonna, G., Ascierio, P.A., Lanfrancione, L., **Indrieri A.**, and Franco B. (2022) "Targeting the MITF/APAF-1 axis as salvage therapy for MAPK inhibitors in resistant melanoma." *Cell Report*, Nov 8;41(6):111601. <https://doi.org/10.1016/j.celrep.2022.111601>
18. Rosito M, Sanchini C, Gosti G, Moreno M, De Panfilis S, Giubettini M, Debellis D, Catalano F, Peruzzi G, Marotta R, **Indrieri A.**, De Leonibus E, De Stefano ME, Ragozzino D, Ruocco G, Di Angelantonio S, Bartolini F. (2023) "Microglia reactivity entails microtubule remodeling from acentrosomal to centrosomal arrays." *Cell Rep.* Feb 13;42(2):112104. doi: <https://10.1016/j.celrep.2023.112104>

PATENT:

"mir-181 inhibitors uses thereof" WO/2019/202162 (registered in 20th of April 2018)

AWARDED GRANTS

Ongoing:

- **Fondazione Telethon - Matching Fund**
"Therapeutic efficacy of mir-181a/b down regulation in mitochondrial optic neuropathy"
150.000 €; Funding period: 4/2022 - 3/2025
Role: **PI**
- **MUR (Italian Ministry of Universities and Research) - PRIN2020**
"MicroRNAs miR-181a and b as new therapeutics targets in mitochondrial-mediated neurodegenerations"

- 696.871 €**; Funding period: 4/2022 - 3/2025.
Role: **PI** - Coordinator.
- **AFM-Telethon - Trampoline Grant**
“Therapeutic efficacy of miR-181a/b down regulation in inherited optic neuropathies”
50.000 €; Funding period:12/2021 - 02/2023.
Role: **PI**.
 - **MITO FOUNDATION - Translational Research Grant**
“Adeno Associated Viral (AAV)-mediated miR-181a/b inhibition as new therapeutic strategy for Mitochondrial Optic Neuropathy”
300.000 A\$; Funding period: 11/2021 - 10/2023;
Role: **PI**
Cnr/RFBR
“Metal transporters as potential therapeutic targets in inherited disorders of copper metabolism”
120.000 €; Funding period:01/2021 – 12/ 2023
Role: **PI**
 - **Fondazione Telethon - Core Grant**
210.000 €; Funding period: 09/2020 - 08/2023
Role: **PI**

Completed:

- **BrightFocus Foundation- Standard Award Program in Macular Degeneration Research Grant**
“miR-181a/b modulation as potential therapeutic approach for AMD treatment”
180.000 €; Funding period: 10/2020 - 10/2022
Role: **PI**
- **Fondazione Roche - Roche per la Ricerca**
“Evaluation of the role of microRNAs 181 a e b in Parkinson Disease”
50.000 €; Funding period: 01/2019 - 12/2021
Role: **PI**
- **The United Mitochondrial Disease Foundation - Roadmap Project focused on Leigh’s Syndrome**
“Therapeutic efficacy of miR-181a/b down regulation in Leigh syndrome”
25.000 \$; Funding period:12/2019 - 11/2021
Role: **co-PI**
- **Compagnia di San Paolo, Istituto Banco di Napoli - Bando STAR**
“Evaluation of microRNAs 181a and b as new therapeutic targets in neurodegeneration associated to mitochondrial dysfunction”
98.000 €; Funding period: 01/2017 - 05/2019
Role: **PI**

NAPOLI, 08/06/2023

Alessia Indrieri