

Nikolaos Kokkorakis	BSc. MSc. PhD.
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WORK EXPERIENCE

7/2024 – 9/2025: Postdoctoral Researcher at Neurosignaling group, PI Dr. Maria Gaitanou, Laboratory of Cellular and Molecular Neurobiology – Stem Cells, Hellenic Pasteur Institute, Athens, Greece.

6/2021 – 6/2024: Laboratory Technician at Neurosignaling group, PI Dr. Maria Gaitanou, Laboratory of Cellular and Molecular Neurobiology – Stem Cells, Hellenic Pasteur Institute, Athens, Greece.

EDUCATION

2017 – 2024:

PhD in Neurobiology, NKUA. Degree grade: "Excellent".

PhD Thesis title: "**Study of the role of Minibrain/Dyrk kinases group in the development of the nervous system**". Supervisor: Dr. Maria Gaitanou, Principal Investigator, Laboratory of Cellular and Molecular Neurobiology – Stem Cells, Hellenic Pasteur Institute.

2015 – 2016:

MSc (2-year) in "Molecular Medicine" (specialty in Neurobiology), NKUA. **Degree grade: "Excellent" (9.32/10).**

MSc Thesis: "**Study of Mirk/Dyrk1B kinase in proliferation and differentiation in the developing chick spinal cord**". Supervisor: Dr. Maria Gaitanou, Principal Investigator, Laboratory of Cellular and Molecular Neurobiology – Stem Cells, Hellenic Pasteur Institute and **Thesis grade: "Excellent" (10/10).**

2014 – 2015:

Lab Rotations of the MSc Program in "Molecular Medicine"

- Laboratory of Dr. Laskaro Zagoraïou, Assistant Researcher, Center of Basic Research, Biomedical Research Foundation of Academy of Athens (BRFAA): "**Mapping and study of the population of Pitx2⁺ interneurons in the mouse brain**". **1st Lab Rotation grade: "Excellent" (10/10)** (Duration: six months)
- Laboratory of Dr. Konstantinos Vekrellis, Associate Researcher, Center of Basic Research, Biomedical Research Foundation of Academy of Athens (BRFAA): "**Development of a specific Sandwich ELISA for the detection TDP43 protein levels in cerebrospinal fluid of healthy and patients with amyotrophic lateral sclerosis (ALS) or frontotemporal dementia (FTD)**". **2nd Lab Rotation grade: "Excellent" (10/10)** (Duration: five months).

2011:

BSc in Biology, NKUA. Degree grade: "Very Good".

BSc Thesis: "**Study of the role of a transcription factor in the development of *Drosophila melanogaster***". Supervisor: Dr. Sonia Tsitilou, Associate Professor of Molecular Biology, Faculty of Biology, School of Science, NKUA. **Thesis grade: "Excellent" (10/10).**

2006:

Student Internship within the frame of Operational Programme "Education and Primary Vocational Training" (EPEAEK II) (3rd European Social Fund - ESF, 2000-2006) of Hellenic Ministry of Education, and Religious Affairs, co-founded by the European Union, at the Medical Biochemistry, Hematology, Immunology and Microbiology Laboratories of 417 General Military Hospital (NIMTS), Athens, Greece, as assistant.

SEMINARS - COURCES

2021:

1st Advanced School of the European Society for Neurochemistry (ESN) / International Society for Neurochemistry (ISN) "From Neurodegeneration to Neural Carcinogenesis: Mechanisms and Common Biologies", Biomedical Research Foundation of Academy of Athens (BRFAA), Athens, Greece.

2020:

Course "Recognition of pain, suffering and distress and its application in the evaluation of severity of the procedures (species specific: mice and rats)" Edition 1, organized by the Harmonization & Recognition of LAS education and training in MEMBER States (HERMES) project and by the "Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise «G. Caporale»" (Duration: 10 hours of theory).

2018:

6th Educational Two-day Conferences "Introduction to Laboratory Animals Science and Laboratory Animals Good Practice". Theoretical and Practical (hands-on) Sessions (22/02/2018 - 23/03/2018, respectively), organized by the Department of Animal Models for Biomedical Research of Hellenic Pasteur Institute, Athens, Greece.

2016:

5th Educational Two-day Conferences "Introduction to Laboratory Animals Science and Laboratory Animals Good Practice. "Theoretical and Practical (hands-on) Sessions (25/05/2016 - 26/05/2016), organized by the Department of Animal Models for Biomedical Research of Hellenic Pasteur Institute, Athens, Greece.

2011-2012:

Specific military training and work as Medical Laboratory Scientist (MLS) in the Medical corps, during the military service in Hellenic Army, at the Medical Biochemistry and Microbiology Laboratories and at the Emergency Medicine Department of 401 General Military Hospital (401 GSNA), Athens, as well as at the Military Hospital of Rhodes in collaboration with the General Hospital of Rhodes, Greece.

PUBLICATIONS

- 1. Kokkorakis, N.,** Papoutsi E., Gaitanou, M. Therapeutic horizon for amyotrophic lateral sclerosis: stem cells therapy, gene therapy, gene editing and nanomedicines. *Manuscript in preparation, 2025 World J Stem Cells.* (IF: 4.2)
- 2. Kokkorakis, N.,** Papoutsi, E., Xingi, E., Thomaidou, D., Zagoraiou, L., Matsas, R., Gaitanou, M. AZ191 inhibitor rescues early axonopathy of the embryonic spinal motor neurons in SOD1^{G93A} mice. *Manuscript in preparation, 2025*
- 3. Kokkorakis, N.,** Zouridakis, M., Gaitanou, M. Mirk/Dyrk1B Kinase Inhibitors in Targeted Cancer Therapy. *Pharmaceutics.* 2024 Apr 11;16(4):528. doi: 10.3390/pharmaceutics16040528. PMID: 38675189. Review. (IF: 5.5)
- 4. Kokkorakis, N.,** Douka, K., Nalmpanti, A., Politis, P.K., Zagoraiou, L., Matsas, R., Gaitanou, M. Mirk/Dyrk1B controls ventral spinal cord development via Shh pathway *Cell Mol Life Sci.* 2024 Jan 31;81(1):70. doi: 10.1007/s00018-023-05097-9. PMID: 38294527 (IF: 7.7)
- 5. Kokkorakis, N.,** Gaitanou, M. Minibrain-related kinase/dual-specificity tyrosine-regulated kinase 1B implication in stem/cancer stem cells biology. *World J Stem Cells.* 2020 Dec 26;12(12):1553-1575. doi: 10.4252/wjsc. v12.i12.1553. PMID: 33505600. Review. (IF: 4.2)

22 ANNOUNCEMENTS IN INTERNATIONAL AND NATIONAL CONFERENCES AND WORKSHOPS

- **Kokkorakis N.,** K. Tsimpouki, A. Dedousis, R. Matsas, M. Gaitanou (2025)" Pharmacological inhibition of Mirk/Dyrk1B kinase decreases Tau phosphorylation at T212 residue and confers neuroprotection in THY-Tau22 cortical neurons." **31th Meeting HSN-25th Meeting ESN**, 18-21 May 2025, Naxos, Greece.

- **Kokkorakis N.**, Papoutsi E., Xingi E., Thomaidou D., Zagoraiou L., Matsas R., Gaitanou M. (2025) "AZ191 inhibitor rescues early axonopathy of the embryonic spinal motor neurons in SOD1^{G93A} mice". **31th Meeting HSN-25th Meeting ESN/ Young Scientists Conference**, 18-21 May 2025, Naxos, Greece.
- Papoutsi E., **Kokkorakis N.**, Nalmpanti A., Zagoraiou L., Matsas R., Gaitanou M. (2024) "Mirk/Dyrk1B kinase as a potential drug target in ALS". **7th Hellenic Pasteur Institute Young Scientists Conference**, 17-18 October 2024, Hellenic Pasteur Institute, Athens, Greece.
- Nalmpanti A. **Kokkorakis N.**, Zagoraiou L., Matsas R., Gaitanou M. (2024) "Mirk/Dyrk1B kinase is involved in Neuroinflammation in Amyotrophic Lateral Sclerosis". **7th Congress of the Hellenic Society of Gene Therapy and Regenerative Medicine**, 24-26 May 2024, Aristotle University Research Dissemination Center, Thessaloniki, Greece.
- **Kokkorakis, N.**, Douka, K., Nalmpanti., V., Politis, P.K., Zagoraiou, L., Matsas, R. and Gaitanou, M. (2023) "Mirk/Dyrk1B kinase controls ventral spinal cord development via Shh pathway". Poster presentation, **30th Meeting of the Hellenic Society for Neuroscience (HSfN)**, 24 - 26/10/2023, National Centre for Scientific Research "Demokritos", Athens, Greece.
- **Kokkorakis, N.**, Nalmpanti, V., Zagoraiou, L., Matsas, R. and Gaitanou, M. (2023). "Dyrk1B kinase is involved in neuroinflammation in SOD1^{G93A} mice". Poster presentation, **30th Meeting of the Hellenic Society for Neuroscience (HSfN)**, 24 - 26/10/2023, National Centre for Scientific Research "Demokritos", Athens, Greece.
- **Kokkorakis, N.**, Douka, K., Politis, P.K., Zagoraiou, L., Matsas, R. and Gaitanou, M. (2023) "Mirk/Dyrk1B kinase controls ventral spinal cord development via Sonic Hedgehog pathway". Oral presentation, **6th Day Conference of Postgraduates and Postdoctoral researchers of Hellenic Pasteur Institute**, 4/10/2023, Hellenic Pasteur Institute, Athens, Greece.
- **Kokkorakis, N.**, Politis, P.K., Nalbadi, V., Zagoraiou, L., Matsas, R. and Gaitanou, M. (2023) "Mirk/Dyrk1B kinase controls the generation and columnar organization of spinal motor neurons via Sonic hedgehog pathway". **Poster presentation, 6th Congress of the Hellenic Society of Gene Therapy and Regenerative Medicine (HSGTRM)**, 26 - 28/5/2023, Cotsen Hall, Athens, Greece.
- **Kokkorakis, N.**, Politis, P.K., Zagoraiou, L., Matsas, R. and Gaitanou, M. (2022) "Mirk/Dyrk1B kinase controls the generation and columnar organization of spinal motor neurons in the embryonic chick spinal cord via Sonic hedgehog pathway". **Poster presentation, 32nd Annual NECTAR Meeting of the Network for European CNS Transplantation and Restoration**, 24 - 26/10/2022, Cotsen Hall, Athens, Greece.
- **Kokkorakis, N.**, Politis, P.K., Matsas, R. and Gaitanou, M. (2022) "A novel function for Mirk/Dyrk1B kinase in the columnar organization of medial lateral motor neurons in the embryonic chick spinal cord". **Poster presentation, Federation of European Neuroscience Societies (FENS) FORUM 2022**, 09 - 13/07/2022, Paris Expo Porte de Versailles, Paris, France.
- **Kokkorakis, N.**, Politis, P.K., Stathourou, M., Matsas, R. and Gaitanou, M. (2021) "Mirk/Dyrk1B minibrain kinase overexpression alters lateral columnar organization of motor neurons in the embryonic chick spinal cord". Poster presentation, **29th Meeting of the Hellenic Society for Neuroscience (HSfN)**, 08/10 - 10/10/2021, Thessaloniki, Greece (virtual). **Best Poster Award**.
- **Kokkorakis, N.**, Politis, P.K., Stathourou, M., Matsas, R. and Gaitanou, M. (2021) "Mirk/Dyrk1B minibrain kinase alters the lateral motor column of motor neurons in the embryonic chick spinal cord". Poster presentation, **1st Advanced School of the European Society for Neurochemistry (ESN) / International Society for Neurochemistry (ISN) "From Neurodegeneration to Neural Carcinogenesis: Mechanisms and Common Biologies"**, 19/09/2021 - 26/09/2021, Biomedical Research Foundation of Academy of Athens (BRFAA), Athens, Greece.
- **Kokkorakis, N.**, Politis, P.K., Masouti, E., Matsas, R. and Gaitanou, M. (2019) "Mirk/Dyrk1B minibrain kinase induces cell cycle exit and neuronal differentiation *in vitro* and *in vivo* and marks embryonic and adult neurogenesis". Poster presentation, **28th Meeting of the Hellenic Society for Neuroscience (HSfN)**, 04 - 06/10/2019, Foundation for Research and Technology - Hellas (FORTH), Heraklion, Crete, Greece.
- **Kokkorakis, N.**, Politis, P.K., Masouti, E., Matsas, R. and Gaitanou, M. (2019) "Mirk/Dyrk1B minibrain kinase induces cell cycle exit and neuronal differentiation *in vitro* and *in vivo* and marks embryonic and adult neurogenesis". **Blitz (flash) talk and Poster presentation, Federation of European Neuroscience Societies (FENS) Regional Meeting (FRM)**, 10 - 13/07/2019, Crowne Plaza, Belgrade, Serbia.
- **Kokkorakis, N.**, Politis, P.K., Matsas, R. and Gaitanou, M. (2019) "Mirk/Dyrk1B induces cell cycle exit and neuronal differentiation *in vitro* and *in vivo* and marks embryonic and adult neurogenesis". **Poster presentation, European Molecular Biology Laboratory (EMBL) Course "Genome Engineering: CRISPR/Cas"**, 17 - 22/03/2019, EMBL Heidelberg, Germany.

- **Kokkorakis, N.**, Politis, P.K., Matsas, R. and Gaitanou, M. (2018) "Mirk/Dyrk1B induces cell cycle exit and neuronal differentiation *in vivo* and marks hippocampal adult neurogenesis". **Poster presentation, 4th Day Conference of Postgraduates and Postdoctoral researchers of Hellenic Pasteur Institute**, 27/09/2018, Hellenic Pasteur Institute, Athens, Greece. **Best Poster Award**.
- **Kokkorakis, N.**, Politis, P.K., Matsas, R. and Gaitanou, M. (2018) "Mirk/Dyrk1B is a novel dual inducer of cell cycle exit and neuronal differentiation *in vivo*". **Poster presentation, International scientific meeting of young researchers of Pasteur Institute (Paris) and Hellenic Pasteur Institute (Athens) "YouPI-StaPa Joint retreat"**, 21 - 23/6/2018, Hellenic Pasteur Institute, Athens, Greece.
- **Kokkorakis, N.**, Politis, P.K., Matsas, R. and Gaitanou, M. (2017) "Mirk/Dyrk1B kinase induces cell cycle exit and differentiation of neural progenitors in early embryonic chick spinal cord". **Poster presentation, 27th Meeting of the Hellenic Society for Neuroscience (HSfN)**, 08 - 10/12/2017, Department of Medicine, School of Health Sciences, National and Kapodistrian University of Athens, Athens, Greece.
- **Kokkorakis, N.**, Politis, P.K., Matsas, R. and Gaitanou, M. (2017) "Mirk/Dyrk1B kinase induces cell cycle exit and differentiation of neural progenitors in early embryonic chick spinal cord". **Oral presentation, 5th Young Scientists Forum of HSBMB**, 09/11/2017 and **Poster presentation, 68th Congress of the Hellenic Society of Biochemistry and Molecular Biology (HSBMB)**, 10 - 12/11/2017, Eugenides Foundation, Athens, Greece.
- **Kokkorakis, N.**, Politis, P.K., Matsas, R. and Gaitanou, M. (2017) "Mirk/Dyrk1B kinase induces cell cycle exit and differentiation of neural progenitors in early embryonic chick spinal cord". **Poster presentation, 3rd Day Conference of Postgraduates and Postdoctoral researchers of Hellenic Pasteur Institute**, 28/09/2017, Hellenic Pasteur Institute, Athens, Greece.
- **Kokkorakis, N.**, Politis, P.K., Matsas, R. and Gaitanou, M. (2017) "Mirk/Dyrk1B kinase is a novel dual function molecule inducing cell cycle exit and neuronal differentiation in the embryonic chick spinal cord". **Oral presentation, International Conference "Dyrk1A, related kinases and human disease"**, 28/03/2017 - 01/04/2017, Saint-Malo, France.
- **Kokkorakis, N.**, Politis, P.K., Douka, K., Matsas, R. and Gaitanou, M. (2016) "Mirk/Dyrk1B kinase is a novel cell cycle regulator of neuronal progenitors in the embryonic chick spinal cord". **Poster presentation, 2nd Day Conference of Postgraduates and Postdoctoral researchers of Hellenic Pasteur Institute**, 29/09/2016, Hellenic Pasteur Institute, Athens, Greece.

AWARDS

- **Best Poster Award for: Kokkorakis, N.**, Politis, P.K., Stathourou, M., Matsas, R., Gaitanou, M. (2021) "Mirk/Dyrk1B minibrain kinase overexpression alters lateral columnar organization of motor neurons in the embryonic chick spinal cord", **29th Meeting of the Hellenic Society for Neuroscience (HSfN)**, 08 - 10/10/2021, Thessaloniki, Greece (virtual). The award is a travel grant for participating at **Federation of European Neuroscience Societies (FENS) Forum 2022**, 9 - 13/7/2022, Paris, France.
- **Best Poster Award for: Kokkorakis, N.**, Politis, P.K., Matsas, R., Gaitanou, M. (2018) "Mirk/Dyrk1B induces cell cycle exit and neuronal differentiation *in vivo* and marks hippocampal adult neurogenesis", **4th Day Conference of Postgraduates and Postdoctoral researchers of Hellenic Pasteur Institute**, 27/09/2018, Hellenic Pasteur Institute, Athens, Greece.

FELLOWSHIPS

PhD Fellowships granted by: Hellenic Pasteur Institute (01/01/2017 - 30/06/2017), Operational Programme "Competitiveness, Entrepreneurship and Innovation" (NSRF 2014-2020) (29/11/2017 - 28/03/2019), TOLERANZIA (01/04/2019-31/03/2020), Hellenic Pasteur Institute – Nostos Foundation (15/06/2020 - 14/06/2021).

OTHER PROFESSIONAL ACTIVITIES

- **2/2023 – date: Person in charge for the webpage scientific content and Social Media Manager** of the Hellenic Society of Gene Therapy and Regenerative Medicine (HSGTRM), Athens, Greece.
- **Member of Scientific Societies:** Hellenic Society for Biochemistry and Molecular Biology (HSBMB), Hellenic Society for Neuroscience (HSfN), Hellenic Society of Gene Therapy and Regenerative Medicine (HSGTRM). Hellenic Society of Biomedical and Laboratory Animal Science (HSBLAS)

SCIENCE COMMUNICATION SKILLS

- Participation and representation of the Hellenic Pasteur Institute in the Main celebration of the "European Researchers' Night 2017" at the Central Exhibition Area, as well as with the Educational and School Action Representation of the Brain cell communication", 29/09/2017, Cultural Center "Hellenic Cosmos", Athens, Greece.
- Participation and representation of the Hellenic Pasteur Institute in the Athens Science Festival, in the action "Labs for schools", with the Lab: "A Neurobiologist's zoo", 08/04/2016, Technopolis City of Athens, Athens, Greece.
- Participation in the International Brain Awareness Week, organized by the Hellenic Society for Neuroscience (HSfN), 17-20/3/2016, Syntagma metro station, Athens, Greece.