



PERSONAL INFORMATION

Salvatore D'Aniello

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Date of birth 24/02/1975

Nationality Italian

CF DNLSVT75B24F839W

PRESENT POSITION

Senior Scientist – Primo Ricercatore (II livello)

Stazione Zoologica Anton Dohrn

Department of Biology and Evolution of Marine Organisms (BEOM)

Villa Comunale, 80121 Napoli (Italy)

ORCID

0000-0001-7294-1465

EDUCATION AND TRAINING

01/12/1999 - 13/12/2003

PhD in Neuroscience

Università degli Studi della Campania Luigi Vanvitelli (previously called Seconda Università degli Studi di Napoli - SUN) and Research Internship at the Department of Molecular Biology, Stazione Zoologica Anton Dohrn, Napoli (Italy).

PhD thesis title: Characterization of an Rx homolog in *Ciona intestinalis*: Study of its function during embryonic development.

[Attached file: PhD Neuroscience 2003]

15/07/2002

State Examination to become a Qualified Biologist

01/09/1993 - 21/10/1999

Bachelor's Degree in Biological Sciences - Curriculum in Molecular Biology

Università degli Studi di Napoli Federico II, Naples (Italy)

Received top marks, 110/110 summa cum laude.

[Attached file: Laurea 1999]

1999

High School Diploma

Liceo Scientifico A.M. De Carlo, Giugliano (Italy). Marks: 56/60.

Research interests

I am **Group Leader** (Senior Scientist) of a research group at the Department of Biology and Evolution of Marine Organisms (BEOM), Stazione Zoologica Anton Dohrn of Naples (Italy).

I am particularly interested in the study of the evolution of metazoan genomes and development, as well as the genetic events that led to the acquisition of functional innovations, such as genomic duplications, expansion or loss of genes families (gene duplication), and in changes in gene regulatory mechanisms that allowed the enormous increase and diversification of animal complexity. My research group work on evolutionary mechanisms that control embryonic development, mostly dedicated to the study of deuterostome nervous system evolution.

My areas of expertise are: Evolutionary and Developmental Biology (Evo-Devo), Genetics, Comparative Genomics, Phylogeny, and Evolution.

I obtained the PhD in Neuroscience (2003) in Italy and then I moved to Spain where I spent 7 years (2004-2010) for two research post doctorates in Genetics and a brief experience as temporary Lecturer at the Department of Genetics, University of Barcelona. I was hired as Researcher (III level) in 2010 at the Department of Biology and Evolution of Marine Organisms (BEOM), Stazione Zoologica Anton Dohrn Napoli (SZN), and in 2019 as Senior Researcher (II level). I got the Full Professor Qualification (Abilitazione Scientifica Nazionale - Prima Fascia) in Comparative Anatomy and Cytology (05/B2) and in Zoology and Anthropology (05/B1), on top of the Lecturer Professor Qualification obtained in Spain.

In my scientific career I published almost 80 scientific products (74 research articles, 3 book chapters and 2 conferences proceedings) with a total IF 2020/2021 = 408.

I was invited as speaker in about 30 international Conferences, PhD courses, Summer Schools, Research Institutes and University. I have demonstrated to be able to attract national and international funding, and to have built a solid network of international collaborations. Additionally, I have tutored 7 PhD students, 4 postdoc fellows, 9 University master students and 2 Erasmus mundi students.

My current research lines are:

1. Evolution of Nitric Oxide signaling in chordates
2. New fluorescent proteins (FP) from the oceans and their possible biotechnological application
3. Photoreception in deep-sea cephalopods
4. Opsin evolution and phylogenics

WORK EXPERIENCE

04/11/2019 – present	Senior Scientist (Primo Ricercatore, II livello) Stazione Zoologica Anton Dohrn, Napoli (Italy) Department of Biology and Evolution of Marine Organisms (BEOM)
15/09/2010 - 03/11/2019	Researcher Stazione Zoologica Anton Dohrn, Napoli (Italy) Department of Biology and Evolution of Marine Organisms (BEOM)
23/03/2010 - 14/09/2010	Assistant Professor Department of Genetic, University of Barcelona, Barcelona (Spain) Department of Genetic, Faculty of Biology [Attached file: Contract Assistant Prof. Spain]
09/12/2009 - 14/09/2010	Research Postdoctoral Fellow Institute of Molecular Biology of Barcelona (IBMB-CSIC), Barcelona (Spain) Project GESHape (CSD-2007-00008)

[Attached file: Postdoc Fellowship IBMB-CSIC]

01/12/2006 - 30/11/2009

Research Postdoctoral Fellow

Department of Genetic, University of Barcelona, Barcelona (Spain)
 Fellowship Juan de la Cierva (JDC)
 Spanish Ministry of Science, Innovation and University
 [Attached file: Postdoc Fellowship Juan de La Cierva]

01/09/2004 - 31/09/2006

Research Postdoctoral Fellow

Department of Genetic, University of Barcelona, Barcelona (Spain)
 Marie Curie RTN Postdoctoral Fellowship
 [Attached file: Marie Curie RTN]

2004

Research Postdoctoral Fellow

Japan Society for the Promotion of Science (JSPS), Tokyo (Japan)
 FY2004 JSPS Postdoctoral Fellowship for Foreign Researchers
 (JSPS/FF1/190; ID No. P 04492)
 Host laboratory: Professor Yasushi Okamura (declined)
 [Attached file: Postdoc Fellowship Japan]

PERSONAL SKILLS

Mother tongue Italian

Foreign languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
Spanish	C1	C1	C1	C1	C1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user

Communication skills

Excellent communication skills testified by numerous invitations as speaker to Conferences and Departmental Seminars, and by Teaching and Outreach activities.

Managerial skills

- Leadership gained as Principal Investigator (PI) of research team including PhD, master and undergraduate students since the permanent position as a Researcher at SZN (2010).
- Participation to Scientific Committee and Panels;
- Organization and teaching in several international Meetings, Workshops and Courses.

Job-related skills

- Advanced expertise in Molecular Biology, Genetics, Developmental Biology, Evolutionary Biology, Comparative Genomics, Phylogeny.
- Mentoring skills gained through (i) the supervision of more than 15 students and (ii) and the interaction with more than 100 among students and postdocs met since 2004 at International Schools, Courses and Workshops.
- Grant writing and fundraising testified by the international and few national grants received since 2010.
- Digital and bioinformatics skills, proficient user.

ADDITIONAL INFORMATION

Honours and Awards

2017. Full Professor Qualification in Comparative Anatomy and Cytology (**Abilitazione Scientifica Nazionale - Prima Fascia**, Bando DD n. 1532/2016 - settore concorsuale 05/B2 ANATOMIA COMPARATA E CITOLOGIA). Valid until 29/03/2024.
[Attached file H&A1 – ASN 05/B2]

2017. Full Professor Qualification in Zoology and Antropology (**Abilitazione Scientifica Nazionale - Prima Fascia**, Bando DD n. 1532/2016 - settore concorsuale 05/B1 ZOOLOGIA ED ANTROPOLOGIA). Valid until 29/03/2024.
[Attached file H&A2– ASN 05/B1]

2009. Lecturer Professor Qualification (Abilitazione Scientifica) from the Agency for the Quality of University in Cataluña (AQU). Document number: U1443/9829983-92, obtained the 14/12/2009.
[Attached file H&A3 - AQU]

2006. Juan de la Cierva (JDC) Research Postdoctoral Fellowship - Ministry of Science, Innovation and University (Spain). Host Institute: Department of Genetic, Faculty of Biology, University of Barcelona, Barcelona (Spain).
[Attached file H&A4 - JDC]

2004. ALBERTO MONROY AWARD from the Alberto Monroy Foundation, Department of Cellular and Developmental Biology, University of Palermo (Italy). This award allow to only one Italian young researcher per year to participate to the prestigious international course (6 weeks): "Embryology: Concepts and Techniques in Modern Development Biology" at the Marine Biological Laboratory in Woods Hole, MA (USA) from the 12 June to 25 July 2004.
[Attached file H&A5 – Monroy Award]

2004. JSPS Research Postdoctoral Fellowship for Foreign Researchers (FY2004) of the Japan Society for the Promotion of Science (JSPS). Host laboratory: Professor Yasushi Okamura (JSPS/FF1/190; ID No. P 04492) (declined)
[Attached file H&A6 - JSPS Japan]

Editorial Activities

2020 – 2021. Co-Editor for the Research Topic "New Approaches in Chordate and Vertebrate Evolution and Development" in *Frontiers in Cell and Developmental Biology*. It includes 23 original articles and reviews, 128 authors and more than 46 thousand views.
[<https://www.frontiersin.org/research-topics/16239/new-approaches-in-chordate-and-vertebrate-evolution-and-development>]

2018 - to date. Member of the Editorial Board of *Frontiers in Cell and Developmental Biology* and *Frontiers in Ecology and Evolution* (special section Evolutionary Developmental Biology).
[<https://www.frontiersin.org/journals/cell-and-developmental-biology/sections/evolutionary-developmental-biology#editorial-board>].
[Attached file FRONTIERS Editorial Board]

2021 - to date. Member of the Editorial Board of *Genes* (MDPI) for the Molecular Genetics and Genomics Section
[see <https://www.mdpi.com/journal/genes/editors>]

Committees

2017 to present. Member of the International Consortium for the genome sequencing of the hagfish *Eptatretus burgeri* (manuscript in preparation for Nature).

2010 - 2018. Member of the International Consortium for the genome sequencing of the amphioxus *Branchiostoma lanceolatum* (published in Nature 2018).

2015. Member of the Council of the International PhD Program of the Stazione Zoologica Dohrn Napoli (Italy) and the Open University London (UK).

2013. Phallusia Genome Annotation Jamboree. Member of the International Consortium for the *Phallusia mammillata* genome assembly. Cell Biology Research Centre in Montpellier (France) - 28-30 May 2013.

Memberships

2006 - to date. Member of EED: European Society for Evolutionary Developmental Biology.

Member of Committees

2017 - to date. Member of the Comitato di Coordinamento del PhD of the Stazione Zoologica Dohrn Napoli (Delibera of the SZN President n. 23 - 02/05/2017).
[Attached file IC1]

2016 - 2019. Member of the Comitato Unico di Garanzia – CUG of the Stazione Zoologica Dohrn Napoli (Delibera of the SZN President n. 32 - 07/04/2016).
[Attached file: IC2]

2016. Member of the Committee for the Paolo Brancaccio Fellowship (€ 8.000) to award the best young researcher in Italy. Determina del Direttore Generale SZN n. 70 del 14/03/2016.
[Attached file: IC3]

2014 - 2016. Member of the Commissione Seminari of the Stazione Zoologica Dohrn Napoli - Institutional Seminar Series Committee. Delibera of the SZN President n. 23 - 23/09/2014).
[Attached file: IC4]

2013 - 2016. Member of the Comitato Biblioteca of the Stazione Zoologica Dohrn Napoli. Delibera of the SZN President n. 81 - 01/10/2013.
[Attached file: IC5]

2011 - to date. Internal Examiner or Chair at VIVAs and Course Teacher for the PhD Stazione Zoologica Dohrn Napoli - Open University London (UK).

Research Grants

My role in each grant is indicated as:

- Coordinator/Principal Investigator
- Research Unit Responsible
- Participant

2022 (pending). **PRIN MIUR** as Coordinator/Principal Investigator.

2022. Programma Nazionale di Ricerche in Antartide (PNRA), call 2019, Ministero dell'Università e della Ricerca (MIUR - Italy). Title of the project: Functional and molecular characterization of the circadian clock in the Antarctic key species, *Euphausia superba*. Project number PNRA19_00065.
Budget 119.688 €. Role: SZN Unit Responsible.

[Attached file: Decreto Direttoriale n. 2840]

2021. Grant CRIMAC - Centro Ricerche ed Infrastrutture Marine Avanzate in Calabria - of the Stazione Zoologica Anton Dohrn. Title of the project: Bioluminescent and biofluorescent proteins from Amendolara Bank (BISCA). Delibera of the SZN President Prof. Roberto Danovaro n. 127 of 14/06/2021 and Istruttoria of SZN Grant and Innovation Office (GIO) of the 23/07/2021.
Budget 45.000 €. Role: Coordinator/Principal Investigator.

[Attached file - Delibera SZN n.127]

2021. Spanish Ministry Research Project. Projects I+D+I of the Ministerio de Ciencia e Innovacion. Title of the project: Evolutionary landscapes of the maternal-to-zygotic transition across Metazoa (EVOLMAZYT).
Budget 200.000 €. Role: Participant.

2020. Project I+D+i" PAIDI 2020, University of Cadiz (Spain). Title of the project: Venómica evolutiva del caracol marino *Lautoconus ventricosus*: estudios transcriptómicos y proteómicos orientados a posibles aplicaciones farmacológicas.
Role: Participant.

2019. Grant LIFEELIFE. Title of the project: Elasmobranchs Low-Impact Fishing Experience (LIFE 18 NAT/IT/000846).
Budget 3.360.445.00 €. Role: Participant.
[Attached file: LifeElife 2020]

2018. International Grant DIGITALMARINE (Erasmus+, EU Programme) – KA203 Strategic Partnership for higher education - European Project Horizon 2020. Project 2018-1-FR01-KA203-048206 (01/09/2018 – 31/08/2021).
Budget 119.688 €. Role: Participant.
[Attached file: DIGITALMARINE 2018]

2018. Spanish Ministry Research Project. Title of the project: Regulacion por edición de RNA y el complejo Halex en las transiciones de vertebrados y mamíferos: implicaciones en complejidad y enfermedad. Financing entity: Ministerio de Economia y Competitividad (MCOG). Project number: BFU2017-86152-P.
Budget 205.000 €. Role: Participant.

2017. Extra-EU Scientific Research & Cooperation Project – NOEVO. Internal call Stazione Zoologica Anton Dohrn to collaborate with research groups outside Europe. I visited the laboratory of Prof. Shigeru Kuratani at RIKEN Kobe (Japan) working on the genome and biology of the inshore hagfish *Eptatretus burgeri*. Delibera of the SZN President Prof. Roberto Danovaro n. 7 del 09.11.2017.
Budget 20.000 €. Role: Coordinator/Principal Investigator.
[Attached file: Grant Extra EU 2017]

2015. Progetto Premiale TERABIO from the Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR - Italy). Title of the project: Innovative technologies for therapy with radionuclides and biological imaging (TERABIO). Decreto Ministeriale 2014 destinato al Finanziamento Premiale (n. 286).
Budget 119.688 €. Role: Participant.

2015. EU INFRADEV CORBEL - Coordinated Research Infrastructures Building Enduring Life Science Services - EU Horizon 2020 Research and Innovation Programme (n. 654248).
Budget 90.700 €. Role: Participant.
[Attached file: CORBEL 2015]

2013-2019. FIRB from Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR - Italy), Title of the project: Non-Coding RNA Explosion: Novel Implications in Neurotrophin Biology. Project number RBF12QW41.
Budget 712.500 €. Role: Grant National Coordinator and Responsible of the SZN Unit.
[Attached file: FIRB 2012]

2015. Spanish Ministry Research Project. Gene complex and RNA regulation during the transition of vertebrates and mammals. Financing Entity: Ministry of Economy and Competitiveness (MCOG). Project number: BFU2014-58908-P.
Budget 230.000 €. Role: Participant.
[Attached file: Halex 2015]

2013. Infrastructural project PONA3_00239, Title of the project: "Potenziamento di una piattaforma integrata per lo studio di malattie umane di grande impatto

attraverso l'uso del phenotyping system di modelli animali: Mouse e Zebrafish clinic", Ricerca e Competitività 2007-2013. MIUR (Italy).

Role: Participant.

[Attached file: PONA3 2013]

2011. CARRER INTEGRATION GRANT (CIG) of the Marie Curie Action (European Commission). Title of the project: EvoDevoNOS. Call: FP7-PEOPLE-2011-CIG, Project number: 293871.

Budget 100.000 €. Role: Coordinator/Principal Investigator.

[Attached file: CIG 2011]

2010 to 2018. EU ASSEMBLE Grants - Association of European Marine Biological Laboratories (2010, 2th call) - (2011, 4th call) - (2012, 5th and 6th calls) - (2013, call 7) - (2014, 9th call) - (2018, 1th TA call). Role: Coordinator/Principal Investigator.

[Attached file: ASSEMBLE]

2009. Spanish Ministry Research Grant, Title of the project: Amphioxus and experimental Evo-Devo in Chordates. Financing Entity: Ministry of Education and Science (MEDU, Spain). Project number: BFU2008-03776/BMC.

Budget € 220.000. Role: Participant.

2012. Research Grant, Title of the project: Genomic change and innovation in the nervous system of vertebrates. Financing Entity: Ministry of Science and Innovation (MCNN, Spain). Project number: BFU2011-23921

Budget 307.000 €. Role: Participant.

[Attached file: BFU2011-23921]

2005. Research Grant, Title of the project: Evolution and Development (Evo-Devo). Financing: DURSI - Department of University, Research and Information (Generalitat de Catalunya, Spain). Project number: 2005SGR00578.

Budget 26.600 €. Role: Participant.

2005. Research Grant, Title of the project: Postgenomics of European amphioxus: towards the functional Evo-Devo functional at the origin of vertebrates. Financing: MEDU – Ministry of Education and Science (Spain). Project number: BFU2005-00252/BMC.

Budget 170.000 €. Role: Participant.

Organization of Meetings, Workshops and Courses

Co-Organizer of the **SZN Summer School** "The System biology approach to discover marine life: from a big eye to a microscopic picture", held at the Stazione Zoologica Anton Dohrn of Naples (Italy), 10 - 14 October 2022.

[Attached file: O1 Mail SZN President and flyer]

Organizer of the **International Summer School** STC "Established and Emerging Model Organisms for Marine Science" held at the Stazione Zoologica Anton Dohrn of Naples, Italy, from the 24th of May to 4th of June, 2021. International participation of 20 students and 16 teachers.

[Attached file: O2 STC Summer School Napoli 2021]

Member of the Local Organizing Committee of the international **EuroEvoDevo Meeting 2022** of the European Society for Evolutionary Developmental Biology, to be held at the Stazione Marittima, Napoli (Italy), 31 May - 03 June 2022.

[<https://www.evodevonapoli.eu/organizingcommittee/>]

Organizer of the **Amphioxus Satellite Meeting** 2022 at the Stazione Zoologica Dohrn Napoli, 30-31 May 2022, Napoli (Italy).

[<https://www.evodevonapoli.eu/satellite-meetings/>]

Organizer of the **International Epigenetics & Development Symposium** held at the Stazione Zoologica Anton Dohrn of Naples (Italy), 20th September 2017.

[Attached file: O3 Epigenetic Symposium]

Co-Organizer of the **Workshop: Molecular Phylogeny** at the Stazione Zoologica Anton Dohrn of Naples (Italy), 10-13 April 2017.
[Attached file: O4 Workshop SZN 2017]

Co-Organizer of the **Workshop: Comparative Methods in Evolutionary Biology** at the Stazione Zoologica Anton Dohrn of Naples (Italy), 5-7 December 2016.
[Attached file: O5 Workshop SZN 2016]

2016-2020. Co-Organizer and Teacher of the International **Schmid Training Courses: Established and Emerging Model Organisms for Marine Science**, Biological Station of Roscoff (France), 7-18/03/2016; 6-17/03/2017; 5-16/03/2018; 4-15 March 2019.
[Attached file: O6 STC Course]

Co-Organizer of the **BCN DEVELOPMENTAL BIOLOGY JOINT RETREAT 2010** - Sant Feliu de Guixols, Girona (Spain), 14-15 October 2010.
[Attached file: O7 Dev Biol Retreat]

Scientific Committee and Organizing Committee of the international meeting: **Second EURO EVO-DEVO Conference** of the European Society for Evolutionary Developmental Biology, Ghent (Belgium), 29 July to 1 August 2008.
[Attached file: O8 EEV Conference 2018]

Marine Genomics Europe Summer Course: **Evo-Devo meets Marine Genomics**, at the Stazione Zoologica Anton Dohrn of Naples (Italy), 2 – 13 July 2007.
[Attached file: O9 Marine Genomics]

Expert Reviewer

National and International Grant Agencies:

MIUR - Ministero dell'Istruzione, dell'Università e della Ricerca (Italy).

Expert in sectors:

LS3_9: Development, Developmental Genetics, Pattern Formation and Embryology in Animals.

LS2_1: Genomics, Comparative Genomics, Functional Genomics.

LS5_6: Developmental Neurobiology.

[Attached file: Revisore MIUR]

BARD - USA-Israel Bi-National Agricultural Research and Development Fund (USA/Israel)

FNSNF - Swiss National Science Foundation (Switzerland)

ANR - National Agency for the Research (France)

Peer-Reviewer for International Journals

Current Biology; Molecular Biology and Evolution; Genome Biology and Evolution; BMC Developmental Biology; BMC Biology; Developmental Biology; Frontiers in Cell and Developmental Biology; Frontiers in Ecology and Evolution; International Journal of Developmental Biology; Scientific Reports; PlosOne; Gene; Genes; Gene Expression Pattern; Proceedings of the Royal Society B; Briefings in Functional Genomics; Cells; Marine Genomics; Marine Ecology; Journal of Histochemistry and Cytochemistry; Microscopy Research and Technique; Journal of Morphology; Acta Zoologica; Acta Histochemica; Anatomical Records; Amino Acids.

Others: National Geographic Society (NGS).

Examiner for PhD thesis

University of Barcelona (Spain)

University Autonoma of Madrid (Spain)

Open University at Stazione Zoologica Anton Dohrn Napoli (Italy)

Teaching Activity

2016-2017-2018-2020. Teacher at the **International Schmid Training Course:** Established and Emerging Model Organisms for Marine Science, held at the Biological Station of Roscoff (France).

[Attached file T1]

2016-2019-2022. Teacher at the PhD Programme Course: **Eco-Evo-Devo Course** at the Stazione Zoologica Anton Dohrn Napoli (Italy), 22 - 26 February 2016.

[Attached file T2]

2013. Teacher for young Researchers of the **National Program PON (PONa3_00239)** - Docente per la Formazione di giovani borsisti PON (PONa3_00239): Potenziamento di una piattaforma integrata per lo studio di malattie umane di grande impatto attraverso l'uso del *system phenotyping* di modelli animali: Mouse e Zebrafish clinic, with Delibera of the SZN President n. 2140/E1.

[Attached file T3]

2012. Teacher at the **Assemble Workshop:** Functional Genomics of Marine Model Organisms. Stazione Zoologica Anton Dohrn Napoli (Italy), 22-23th May 2012.

[Attached file T4]

2010. Associate Professor at the Department of Genetics, Faculty of Biology, University of Barcelona, Barcelona (Spain) from 23/03/2010 to 14/09/2010. Contract n. 53.

[Attached file T5]

2007. Teacher at the **MGE Summer Course:** Evo-Devo meets Marine Genomics - Comparative functional analysis of gene regulatory networks in marine species. Stazione Zoologica Anton Dohrn Napoli (Italy), 02-13 July 2007.

[Attached file T6]

2007-2009. Teacher at University courses 2007/2008 and 2008/2009: Developmental Biology and Genetics and Biochemistry at the Department of Genetics, Faculty of Biology, University of Barcelona, Barcelona (Spain).

[Attached file T7]

2019. Teacher at the EvoDevo PhD course 2019 of the Stazione Zoologica Anton Dohrn Napoli (Italy).

[Attached file T8]

2022. Teacher at the EvoDevo PhD course 2022 of the Stazione Zoologica Anton Dohrn Napoli (Italy).

[Attached file T9]

Student Supervision

Director of Studies of PhD students

- **Giacinto de Vivo** (2021-2024) PhD of the Open University/SZN Program – XXIII° cycle. Title of the project: Keep an eye on the Argonauta! A comparative evolutionary analysis of key genes for vision in littoral versus deep-sea octopuses. Fellowship supported by SZN.

- **Marie-Lyne Macel** (2017-2021) PhD of the Open University/SZN Program - XIX° cycle. Title of the project: New fluorescent proteins from the sea. Fellowship supported by SZN TERABIO grant.

- **Filomena Caccavale** (2014-2017) PhD of the Open University/SZN Program - XVI° cycle. Title of the project: Study of the evolutionary role of Nitric Oxide (NO) in the cephalochordate amphioxus, *Branchiostoma lanceolatum*. Fellowship supported by SZN.
- **Ylenia D'Agostino** (2014-2017) PhD of the Università degli Studi di Napoli Federico II - XXIX° cycle. Title of the project: Generation and characterization of Bdnf *knock-out* in zebrafish by CRISPR/Cas9 system. Fellowship supported by FIRB (MIUR).
- **Giovanni Annona** (2012-2015) PhD of the Università degli Studi di Napoli Federico II - XXVII° cycle. Title of the project: Study of evolution, expression and function of Nitric Oxide Synthase in the cephalochordate *Branchiostoma lanceolatum*. Fellowship supported by CIG Marie Curie grant.
- **Evgeniya Anishchenko** (2011-2013) PhD of the Open University - XIII° cycle. Title of the project: Testing trans-phyletic conservation of neuronal differentiation regulatory states in deuterostomes. Fellowship supported by SZN.
- **Juan Anaya-Pascual** (2005-2009) PhD of the University of Barcelona, Department of Genetics - Spain (UB). Title of the project: Characterization and regulation of the expression of Hox cluster in the European amphioxus” (original title: Caracterizacion y regulacion de la expresion del cluster Hox en el anfioxo europeo).

Mentor of Post-doctorate Fellows

- **Lorena Buono** (2020-2021). Project title: Functional study of the role of nitric oxide during the amphioxus embryonic development.
- **Luigi Caputi** (2019-2020). Project title: Study of the physiological processes of planktonic organisms exposed to environmental variations through metadata analysis.
- **Filomena Caccavale** (2017-2019). Project title: Differential transcriptomic analysis of Nitric Oxide deprived amphioxus *Branchiostoma lanceolatum* embryos.
- **Giovanni Annona** (2015-2017). Project title: Origin and evolution of developmental mechanisms in deuterostomes.

Mentor of Master students

- **Margaux de Raemy** (2022). University of Friburg (Switzerland)
- **Federica Gaudiosi** (2022-2023). Università degli Studi della Campania Luigi Vanvitelli, Caserta (Italy)
- **Miriam Ferretti** (2020-2021). Università degli Studi di Napoli Federico II, Napoli (Italy)
- **Sonia Sacco** (2017-2018). Università degli Studi della Campania Luigi Vanvitelli, Caserta (Italy)
- **Giuseppina Lambiase** (2015-2016). Università degli Studi di Napoli Federico II, Napoli (Italy)
- **Marta Scelzo** (2015-2016). Università degli Studi di Napoli Federico II, Napoli (Italy)
- **Sarah Pinon** (2014-2015). University of Barcelona, Barcelona (Spain)
- **Ugo Coppola** (2013-2014). Università degli Studi di Napoli Federico II, Napoli (Italy)

- **Enrique Navas** (2011-2012). University of Barcelona, Barcelona (Spain)
- **Stephanie Bosne** (2010-2011). University of Barcelona, Barcelona (Spain)

Erasmus Mundi students

- **Hector Huerga-Encabo** (2011). University of Barcelona, Barcelona (Spain)
- **Berta Canal-de Torres** (2011). University of Barcelona, Barcelona (Spain)

Third-Party Monitoring Open University PhD SZN

- **Annalisa Zuccarotto**, Department of Biology and Evolution of Marine Organisms (BEOM), Stazione Zoologica Dohrn, Napoli (Italy)
- **Johanna Berlinghof**, Department of Integrative Marine Ecology (EMI), Stazione Zoologica Dohrn, Napoli (Italy)

Invited speaker to International Conference Courses and Seminars

- 2022.** Talk at the 2022 Meeting of the Società Italiana di Biologia Evoluzionistica (SIBE) Ancona (Italy). Reconstruction of Nitric Oxide regulatory networks during chordate embryonic development and novel insights in fish gill development.
- 2021.** Kick-Off Meeting of the CRIMAC Grant - Centro Ricerche ed Infrastrutture Avanzate in Calabria - Stazione Zoologica Anton Dohrn of Amendolara (Italy), 3-4 November 2021.
- 2021.** Invited speaker for the Biology PhD program of the Università degli Studi di Napoli Federico II (Napoli, Italy). Invited by Prof. Luisa Cigliano. 29th June 2021 (remote).
- 2016-2022.** Emerging Model Organisms for Marine Science. Biological Station of Roscoff (France). 7-18 March 2016; 6-17 March 2017; 5-16 March 2018; 4-15 March 2019.
- 2018.** Marine Plenary Lecture at 64^o Convegno of the Società Italiana di Biologia dello Sviluppo e della Cellula (GEI-SIBSC) at L'Aquila (Italy), 11-14th June 2018. Invited by the GEI Scientific Committee.
- 2017.** Speaker at the Workshop: The Crispr-Cas9 system: from bacterial genome watchdog to molecular wand for genome engineering. Aula Magna «M. Carfagna», Università degli Studi della Campania Luigi Vanvitelli, Caserta (Italy), 14th November 2017. Invited by Prof. Nicoletta Potenza.
- 2016.** Speaker at the 5^o Meeting of the Neapolitan Brain Group (NBG), CEINGE, Napoli (Italy), 15th December 2016. Invited by Prof. Ennio del Giudice and by the Organizing Committee.
- 2012.** Speaker at the Coastal Station of Marine research - Estación Costera de Investigaciones Marinas, Las Cruces (Cile), 01-05 March 2012 (Assemble Project).
- 2011.** Speaker at the Observatoire Océanologique de Banyuls-sur-Mer (France), 16-20 May 2011. Invited by Dr. Héctor Escrivà.
- 2011.** Speaker at the Institute of Cellular and Organismic Biology, Academia Sinica, Taipei (Taiwan), 11-15 November 2011. Invited by Dr. Jk Yu.
- 2010.** Speaker at the Workshop "Evolution of Complex Systems" at the Okinawa Institute of Science and Technology Graduate University (OIST), Okinawa (Japan), 1-10 December 2010. Invited by Prof. Nori Satoh.

2010. Speaker at the Department of Traduction, Cycle Cellulaire et Développement, Station Biologique de Roscoff (France), 10th November 2010. Invited by Dr. Sylvie Mazan.

2007. Speaker at the Marine Genomics Europe Summer Course "EvoDevo meets Marine Genomics", Stazione Zoologica Anton Dohrn, Napoli (Italy), 2-13 July 2007.

2005. Speaker at the SEB, Society for Experimental Biology - Annual Main Meeting. Univeritat Autònoma de Barcelona, Barcelona (Spain), 11-15 July 2005.

2001. Speaker at the Comparative Development Biology Meeting. Sant'Angelo d'Ischia, Napoli. (Italy), 17-23 April 2001.

**National &
International
collaborations
/ networks**

Mediterranean amphioxus evolution and genome

(long-standing collaboration; Role Collaborator)

Dr. Hector Escrivà & Dr. Stephanie Bertrand, Laboratoire Arago, CNRS et Université Pierre et Marie Curie, Banyuls sur Mer (France).

Prof. Jordi Garcia Fernandez, Prof. Ricard Albalat, Prof. Cristian Canestro, Dr. Ignacio Maeso, Department of Genetics, University of Barcelona, Barcelona (Spain).

Dr. Manuel Irimia, Department of Systems Biology, Centre for Genomic Regulation, Barcelona (Spain).

Dr. Jk Yu, Institute of Cellular and Organismic Biology, Academia Sinica, Taipei (Taiwan).

Prof. Peter WH Holland, Department of Zoology, University of Oxford, Oxford (UK).

The evolution of Opsin family using the TARA Ocean Project

(Role Principal Investigator)

Dr. Patrick Wincker, Institut de Génomique, Génoscope, Evry (France)

Dr. Roberto Feuda, School of Earth Sciences, University of Bristol (UK), and SZN Associate. Dr. Maria Ina Arnone, Dr. Elijah Lowe, Stazione Zoologica Dohrn of Naples (Italy)

The ecological role of Pelagic Tunicates in TARA Ocean Project

(Role Collaborator)

Dr. Patrick Wincker, Institut de Génomique, Génoscope, Evry (France)

Dr. Paolo Sordino, Dr. Luigi Caputi, Dr. Daniele Iudicone, Stazione Zoologica Dohrn of Naples (Italy)

The evolution and genome of hagfish, *Eptatretus burgeri*

(Role Collaborator)

Prof. Shigeru Kuratani, Dr. Juan Pascual-Anaya, Evolutionary Morphology Laboratory at RIKEN, Kobe (Japan)

Circadian Rhythm regulation and evolution

(Role Principal Investigator)

Prof. Cristiano Bertolucci, Department of Life Sciences and Biotechnology, University of Ferrara, Ferrara (Italy), and SZN Associate.

**Outreach
Science**

2016 - to date. Participation to the **FUTURO REMOTO** for the city of Naples, the main Italian event of science outreach and social innovation in Italy.

2016. Scientific outreach article in **Acqua Marina** entitled: Un mare di plastica!

2015. Scientific outreach article in **Acqua Marina** entitled: La posidonia oceanica.

2014. Interview by the Italian TV program **LINEA BLU (RAI 1)**: Storia di un fossile vivente, l'anfiosso mediterraneo (*Branchiostoma lanceolatum*) – On a living fossil, the mediterranean amphioxus (*Branchiostoma lanceolatum*).

2013. Scientific outreach article in **PLATINUM** journal of “Gruppo 24 ORE” (www.platinum-online.com), in the “Research & Innovation” session.

Publications

Author of **80 original manuscripts** on ISI peer-review journals, **2 conference proceedings** (ISI) and **3 book chapters**.

Outstanding contribution in terms of scientific productivity in 200 and 2021.
[Attached file: Scientific Productivity 2021]

GOOGLE SCHOLAR (February 2022)

<https://scholar.google.it/citations?user=thUw9fAAAAAJ&hl=it&oi=ao>

Number of products: 80

H-index: 29

i10-index: 50

Total Citations: 2649

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79. Nishimura O, Rozewicki J, Yamaguchi K *et al.* Squalomix: shark and ray genome analysis consortium and its data sharing platform. **F1000Research** (2022) 11: 1077.
doi: 10.12688/f1000research.123591.1.

78. Lucon-Xiccato T*, Tomain M, [D'Aniello S](#), Bertolucci C. bdnf loss affects activity, sociability, and anxiety-like behaviour in zebrafish. **Behavioural Brain Research** (2022): 114115.
doi: 10.1016/j.bbr.2022.114115.

77. Annona G, Sato I, Pascual-Anaya J, Osca D, Braasch I, Randal VS, Stundl J, Soukup V, Ferrara A, Fontenot Q, Kuratani S, Postlethwait JH, [D'Aniello S*](#). Evolution of the nitric oxide synthase family in vertebrates and novel insights in gill development. **Proceedings of the Royal Society B** (2022) 289: 20220667.
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76. Annona G*, Ferran JL, De Luca P, Conte I, Postlethwait JH, [D'Aniello S*](#). Expression Pattern of *nos1* in the Developing Nervous System of Ray-Finned Fish. **Genes** (2022) 13: 918.
doi: 10.3390/genes13050918.

75. Maffioli E, Angiulli E, Nonnis S, Grassi Scalvini F, Negri A, Tedeschi G, Arisi I, Frabetti F, [D'Aniello S](#), Alleva E, Cioni C, Toni M. Brain proteome and behavioural analysis in wild type, BDNF^{+/-} and BDNF^{-/-} adult zebrafish (*Danio rerio*) exposed to two different temperatures. **International Journal Molecular Science** (2022) 23: 5606.
doi: 10.3390/ijms23105606.

74. Pascual-Anaya J*, [D'Aniello S](#), Bertrand S. New Approaches in Chordate and Vertebrate Evolution and Development. **Frontiers in Cell and Developmental Biology** (2022) 10: 917101.
doi: 10.3389/fcell.2022.917101.

(Invited editorial manuscript to comment the Research Topic co-edited with Dr. Juan Pascual-Anaya and Dr. Stephanie Bertrand).

73. D'Aniello S*. Evolution: NO signal at the stem of animal life. **Current Biology** (2022) 32: R530-R532. doi: 10.1016/j.cub.2022.04.058.
72. Paganos P, Caccavale F, La Vecchia C, D'Aniello E, D'Aniello S, Arnone MI*. FISH for All: A Fast and Efficient Fluorescent In situ Hybridization (FISH) Protocol for Marine Embryos and Larvae. **Frontiers in Physiology** (2022) 13: 878062. doi: 10.3389/fphys.2022.878062.
71. Flom H, Adamska M, Lami R, Gazave E, D'Aniello S, Schierwater B, Boutet A*. DigitalMarine, a pedagogical project to set up flipped, blended learning in graduate-level marine biology courses. **BioEssay** (2022): e2100264. doi: 10.1002/bies.202100264.
70. D'Agostino Y, Frigato E, Noviello TMR, Toni M, Frabetti F, Cigliano L, Ceccarelli M, Sordino P, Cerulo L, Bertolucci C*, D'Aniello S*. Loss of circadian rhythmicity in *bdnf* knock-out zebrafish larvae. **iScience** (2022) 25: 104054. doi: 10.1016/j.isci.2022.104054.

2021

69. Caccavale F, Annona G, Subirana L, Escriva H, Bertrand S, D'Aniello S*. Crosstalk between nitric oxide and retinoic acid pathways is essential for amphioxus pharynx development. **eLife** (2021) 10: e58295. doi: 10.7554/eLife.58295.
68. Rendell-Bhatti F, Paganos P, Pouch A, Mitchell C, D'Aniello S, Godley BJ, Pazdro K, Arnone MI, Jimenez-Guri E*. Developmental toxicity of plastic leachates on the sea urchin *Paracentrotus lividus*. **Environmental Pollution** (2021) 269: 115744. doi: 10.1016/j.envpol.2020.115744
67. Esposito A, Ambrosino L, Piazza S, D'Aniello S, Chiusano ML, Locascio A*. Evolutionary adaptation of the thyroid hormone signalling toolkit in chordates. **Cells** (2021) 10: 3391. doi: 10.3390/cells10123391.
66. Truchado-Garcia M, Caccavale F, Grande C, D'Aniello S. Expression Pattern of Nitric Oxide Synthase during Development of the Marine Gastropod Mollusc, *Crepidula fornicata*. **Genes** (2021) 12: 314. doi.org/10.3390/genes12020314
65. Caccavale F, Osca D, D'Aniello S*, Crocetta F. Molecular taxonomy confirms that the northeastern Atlantic and Mediterranean Sea harbor a single lancelet, *Branchiostoma lanceolatum* (Pallas, 1774) (Cephalochordata: Leptocardii: Branchiostomatidae). **PlosOne** (2021) 16: e0251358. doi: 10.1371/journal.pone.0251358.
64. Annona G, Tarallo A, Nittoli V, Varricchio E, Sordino P, D'Aniello S, Paolucci M*. Short-term exposure to the simple polyphenolic compound gallic acid induces neuronal hyperactivity in zebrafish larvae. **European Journal of Neuroscience** (2021) 53: 1367-1377. doi: 10.1111/ejn.15021.
62. Caputi L, Osca D, Ceruso M, Venuti I, Sepe RM, Anastasio A, D'Aniello S, Crocetta F, Pepe T, Sordino P*. The complete mitochondrial genome of the white seabream *Diplodus sargus* (Perciformes: Sparidae) from the Tyrrhenian sea. **Mitochondrial DNA B Resources** (2021) 6: 2581-2583. doi: 10.1080/23802359.2021.1915209.

2020

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60. D'Aniello E*, Paganos P, Anishchenko E, [D'Aniello S](#), Arnone MI*. Comparative Neurobiology of Biogenic Amines in Animal Models in Deuterostomes. **Frontiers in Ecology and Evolution** (2020) 8: 587036.

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58. Sordino P, [D'Aniello S](#), Pelletier E, Wincker P, Nittoli V, Stemmann L, Mazzocchi MG, Lombard F, Iudicone D, Caputi L. Into the bloom: Molecular response of pelagic tunicates to fluctuating food availability. **Molecular Ecology** (2020) 29: 292-307.

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55. Caccavale F, Coppola U, Vassalli QA, La Vecchia C, Palumbo A, D'Aniello E, Locascio A, Ristoratore F, [D'Aniello S*](#). Transphyletic conservation of nitric oxide synthase regulation in cephalochordates and tunicates. **Development Genes and Evolution** (2020) 230: 329-338.

doi: 10.1007/s00427-020-00668-3.

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54. Caputi L, Carradec Q, Eveillard D, Kirilovsky A, Pelletier E, Pierella Karlusich JJ, Rocha F, Jimenez Vieira J, Villar E, Chaffron S, Malviya S, Scalco E, Acinas SG, Alberti A, Aury JM, Benoiston AS, Bertrand A, Biard T, Bittner L, Boccara M, Brum JR, Brunet C, Busseni G, Carratalà A, Claustre H, Coelho LP, Colin S, [D'Aniello S](#), Da Silva C, Del Core M, Doré H, Gasparini S, Kokoszka F, Jamet JL, Lejeune C, Lepoivre C, Lescot M, Lima-Mendez G, Lombard F, Lukeš J, Maillat N, Madoui MA, Martinez E, Mazzocchi MG, Néou MB, Paz-Yepes J, Poulain J, Ramondenc S, Romagnan JB, Roux S, Salvagio Manta D, Sanges R, Speich S, Sprovieri M, Sunagawa S, Taillandier V, Tanaka A, Tirichine L, Trottier C, Uitz J, Veluchamy A, Veselá J, Vincent F, Yau S, Kandels-Lewis S, Searson S, Dimier C, Picheral M, Bork P, Boss E, de Vargas C, Follows MJ, Grimsley N, Guidi L, Hingamp P, Karsenti E, Sordino P, Stemmann L, Sullivan MB, Tagliabue A, Zingone A, Garczarek L, D'Ortenzio F, Testor P, Not F, D'Alcalà MR, Wincker P, Bowler C, Iudicone D, Tara Oceans Coordinators. Community level responses to iron availability in open ocean planktonic ecosystems. **Global Biogeochemical Cycles** (2019) 33: 391-419.

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53. Capriello T, Grimaldi MC, Cofone R, [D'Aniello S](#), Ferrandino I*. Effects of aluminium and cadmium on hatching and swimming ability in developing zebrafish. **Chemosphere** (2019) 222: 243-249.

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52. Ambrosino L, Vassalli QA, D'Agostino Y, Esposito R, Cetrangolo V, Caputi L, Amoroso A, Aniello F, [D'Aniello S](#), Chatzigeorgiou M, Chiusano ML, Locascio A*. Functional conserved non-coding elements among tunicates and chordates. **Developmental Biology** (2019) 448: 101-110.

doi: 10.1016/j.ydbio.2018.12.012.

51. Galasso C, [D'Aniello S](#), Sansone C, Ianora A, Romano G*. Identification of Cell Death Genes in Sea Urchin *Paracentrotus lividus* and Their Expression Patterns during Embryonic Development. **Genome Biology and Evolution** (2019) 11: 586-596.

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50. Coppola U, Ristoratore F, Albalat R*, [D'Aniello S*](#). The evolutionary landscape of the Rab family in chordates. **Cellular and Molecular Life Sciences** (2019) 76: 4117-4130.
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49. Nittoli V, Sepe RM, Coppola U, D'Agostino Y, De Felice E, Palladino A, Vassalli QA, Locascio A, Ristoratore F, Spagnuolo A, [D'Aniello S](#), Sordino P*. A comprehensive analysis of neurotrophins and neurotrophin tyrosine kinase receptors expression during development of zebrafish. **Journal of Comparative Neurology** (2018) 526: 1057-1072.
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doi: 10.1038/s42003-018-0127-2 (Nature group)

45. Coppola U, Caccavale F, Scelzo M, Holland ND, Ristoratore F, [D'Aniello S*](#). Ran GTPase, an eukaryotic gene novelty, is involved in amphioxus mitosis. **PLoS ONE** (2018) 13: e0196930.
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Certifications

*“A conoscenza di quanto prescritto agli artt 46 e seguenti del D.P.R. 28 dicembre 2000 n. 445, sulla responsabilità penale cui può andare incontro in caso di falsità in atti e di dichiarazioni mendaci, nonché di quanto prescritto dall'art. 76 del D.P.R. 28 dicembre 2000 n. 445, sulla decadenza dai benefici eventualmente conseguenti al provvedimento emanato sulla base di dichiarazioni non veritiere, ai sensi e per gli effetti del citato D.P.R. n. 445/2000 art 46, e sotto la propria personale responsabilità, **dichiaro** che tutte le informazioni contenute nel mio curriculum vitae sono veritiere. Presto consenso all'utilizzo dei dati personali ai sensi del Decreto legislativo 196/2003 e s.m.i.”.*

Napoli, 16/02/2023

Dr. Salvatore D'Aniello

