

Curriculum Vitae Jacopo Vizioli (Ph. D.)



Associate Professor

University of Tuscia, Department for Innovation in Biological, Agro-food and Forest systems (DIBAF)

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SUMMARY STATEMENT

- Associate Professor of Zoology at the University of Tuscia (Italy)
- Associate Professor of Animal Biology at the University of Lille (France).
- Research member at the Inserm U1192-Laboratory PRISM (Protéomique, Réponse Inflammatoire, Spectrométrie de Masse), director Prof. Michel Salzet (<http://www.laboratoire-prism.fr>).

EDUCATION AND TRAINING

- Ph.D. in Microbiology and Epidemiology - Rome 1 University, Italy (1997)
- Graduated in Biology Sciences (Laurea *cum laude*) - Rome 1 University, Italy (1993)
- Graduated in Natural Sciences (Laurea *cum laude*) - Rome 1 University, Italy (1987)

WORK EXPERIENCE AND CAREER

- 2025- Associate Professor of Zoology at the University of Tuscia (Italy)
- 2018-2021 Member of the Administration board of the University of Lille.
- 2017 Promotion to Associate Professor at the University of Lille
- 2016-2025 Head of the Biology Department at the University of Lille
- 2001 Maître de Conférences (Assistant Professor) at the University of Lille
- 1999-2001 Research member (CNRS contract) at the "Institut de Biologie Moléculaire et Cellulaire – IBMC" (Strasbourg, France). Director Prof. Jules Hoffmann
- 1997-1999 Post-doctoral fellowship (funding: Institute Pasteur-Cenci Bolognetti Foundation, Italy) at the IBMC (Strasbourg, France)
- 1991-1994 Post-graduate fellow at the Parasitology Institute (Rome 1 University, Italy). Team director Prof. Andrea Crisanti
- 1987-1997 Life Sciences and Chemistry high school teacher (1987-1997) at the "Istituto S. Maria" in Rome, Italy

TEACHING ACTIVITIES

- Teacher of Zoology (bachelor's and master's degrees in Forestry and Environmental Sciences at the University of Tuscia (Italy)
- Teacher of Animal Biology (bachelor's degree in Life Sciences) at the University of Lille (France)
- Production of eLearning tools for Animal Biology teaching: design and construction of didactical movies, multimedia textbooks and self-assessment resources on animal anatomy (<http://pod.univ-lille1.fr/biologie-animale/video/2973-supports-multimedias-pour-les-travaux-pratiques-de-biologie-animale/>)
- Design and implementation of the bilingual option of the bachelor's degree in Life Sciences of the University of Lille

RESEARCH ACTIVITIES

Field of activity:

- Identification of inflammatory markers and study of immune response mechanisms in aquatic invertebrates (nervous system and peripheral tissues).
- Characterization of microglia-released Extracellular Vesicles (EVs) and functional studies on nerve repair and neuroinflammation.
- Investigation on microglia recruitment and inflammation control mechanisms in leech (*H. medicinalis*) CNS.

37 publications, 1 book chapter, 37 oral communications and 23 posters in national and international congresses and meetings;

10 invited conferences;

7 invited conferences in the field of biology and scientific heritage dissemination;

2148 citations (source Scopus);

h-index 23 (source Scopus).

OTHER ACTIVITIES

2017-2022 Participation to the COST Action "*Stem cells of marine/aquatic invertebrates: from basic research to innovative applications*" (MARISTEM)

2018-2020 Foreign partner of the PRID (Progetto di Rilevanza di Dipartimento) BIRD183771/18 "Looking for signalling molecules in tunicate immunity: transcriptomes and proteomes of the ascidian *Botryllus schlosseri* haemocytes challenged with non-self".

2010-2014 Participation to the funded French ANR project "Microglial Implication in Modulation of Inflammation during CNS repair (MIMIC)".

Organization of national and international conferences and conventions

- 2020 Organization of a meeting for the COST Action “Stem cells of marine/aquatic invertebrates: from basic research to innovative applications (MARISTEM - Marine invertebrate stem cells)” (5-6 March 2020, Villeneuve d’Ascq, France).

Teaching or official research assignments at international universities and research institutions of high qualification

- 2024 Short-term visiting scientist at the University of Piemonte Orientale (Italy). Seminar: “Production of multimedia resources for animal biology teaching” (18-22 March 2024, Alessandria, Italy)
- 2023 Erasmus+ formation: University of Salento (Lecce, Italy). Workshop for expertise transmission in animal anatomy practical teaching (10-13 January 2023, Lecce, Italy)
- 2022 Erasmus+ formation: University of Palermo (Italy). Workshop for expertise transmission in animal anatomy practical teaching (15-20 June 2022, Palermo, Italy)
- 2015 Invited scientist at the University of Padua. Research activities on Tunicates immunity; lectures on leech neuroimmunity and malaria host-parasite interactions for Ph.D. students of the Biology Department (01-30 September 2015, Padua, Italy)

Achievement of national and international awards and recognitions for research activities

- 2023 Designation to the honor of “*Chevalier des Palmes Académiques*” from French government for academic merit.
- 2012 Prize for the best lecture at the 1st Pedagogic University Movies Festival (FFUP-Lyon 2012, France).

Direction and participation in editorial boards of journals, book series, encyclopedias and treatises of recognized prestige, participation in prestigious academies

- 2024- Board member and head of the scientific committee of the “Group Ornithologique Naturaliste” (GON) of Lille (France), a scientific association for bird and wildlife protection.
- 2022 - Council member of the Italian Society of Developmental and Comparative Immunobiology (SIICS) (<https://sites.units.it/siics/index.html>)
- 2010 - Editorial board member of the *Invertebrate Survival Journal*

Fund raising activities

- 2020 COST Action Meristem: funding (10k€) for the production of dissemination video clips.
- 2008-2018 UNISCIEL (Université des Sciences en Ligne): funding (70 k€) for the production of movies on animal anatomy.
- 2016 University of Lille: funding (56 k€) for the acquisition of a Photo3D digitalization system (call for innovative teaching facilities).

Managerial roles

- 2018-2021 Member of the administration board of the University of Lille
- 2016-2025 Head of the Biology Department
- 2016 - Management of the committee for the department's scientific heritage
- 2011-2016 Member of the Biology Department Council
- 2011 - Referee for the evaluation of teachers from the Biology Department and the Sciences and Technologies Faculty

Activities in the field of scientific heritage valorization and dissemination

- 2024 Member of the scientific committee for the exhibition "*Embryologie : Le cycle éternel*" at the University of Lille
- 2021 Co-director of the international exhibition "Les incroyables modèles du Dr. Auzoux", realized with the partnership of the Universidad Complutense (Madrid, Spain) (<https://3dnum.univ-lille.fr/les-incroyables-modeles-du-dr-auzoux>)
- 2021 Author of two chapters of the Dr. Azoux exhibition catalog (<https://3dnum.univ-lille.fr/expos/de-lobjet-pedagogique-a-lobjet-museal/catalogues>). ISBN 978-84-669-3750-4
- 2020-2021 Scientific editor of 13 video clips for the dissemination of COST Action Maristem research activities. (<https://pod.univ-lille.fr/videos/?sort=title&discipline=biologie&cursus=D&page=>)
- 2012- Conservation and restoration of natural history collections from the Biology Department (University of Lille, France)

PUBLICATIONS

- 1) Dara M., Bertini F., La Corte C., Bisanti L., Staropoli M., **Vizioli J.**, Parrinello D., Cammarata M., Maria Giovanna Parisi M.G. (2025) Combined effect of pollution and bacterial infection in *Sabella spallanzanii* (Gmelin, 1971). *The European Zoological Journal*, 92:1, 123-136. <https://doi.org/10.1080/24750263.2024.2432435>.
- 2) Bisanti L, La Corte C, Dara M, Federica Bertini F, **Vizioli J**, Parisi M.G, Cammarata M, and Parrinello D (2024) The TLR-NFκB signaling pathway and functional immune-related enzymes interplay in the inflammatory response of *Ciona robusta*. *Animals* 2024, 14, 2169. <https://doi.org/10.3390/ani14152169>.
- 3) Parisi M G, Baranzini N, Dara M, La Corte C, **Vizioli J**, Cammarata M (2022) AIF-1 and RNASET2 are involved in the inflammatory response in the Mediterranean mussel *Mytilus galloprovincialis* following *Vibrio* infection. *Fish & Shellfish Immunol.* Volume 127, 109-118. <https://doi.org/10.1016/j.fsi.2022.06.010>.
- 4) **Vizioli J**, Verri T and Pagliara P (2020) Allograft inflammatory factor-1 in Metazoans: focus on Invertebrates. *Biology*. 9, 355. doi:10.3390/biology9110355.
- 5) Geirsdottir L, David E, Keren-Shaul H, Weiner A, Bohlen SC, Neuber J, Balic A, Giladi A, Sheban F, Dutertre CA, Pfeifle C, Peri F, Raffo-Romero A, **Vizioli J**, Matiassek K, Scheiwe C, Meckel S, Mätz-Rensing K, van der Meer F, Thormodsson FR, Stadelmann C, Zilkha N, Kimchi T, Ginhoux F, Ulitsky I, Erny D, Amit I, Prinz M. (2019). Cross-species single-cell analysis reveals divergence of the Primate microglia program. *Cell*. Dec 12;179(7):1609-1622.e16. doi: 10.1016/j.cell.2019.11.010.

- 6) Lemaire Q, Raffo-Romero A, Arab T, Van Camp C, Drago F, Forte S, Gimeno J-P, Begard S, Colin M, **Vizioli J**, Sautière P-E, Salzet M, Christophe L (2019). Isolation of Microglia-derived extracellular vesicles: towards miRNA signatures and neuroprotection. *J. Nanobiotechnol.* 17 :119. doi.org/10.1186/s12951-019-0551-6.
- 7) Raffo-Romero A, Arab T, Van Camp C, Lemaire Q, Wisztorski M, Franck J, Aboulouard S, Le Marrec-Croq F, Sautiere P-E, **Vizioli J**, Salzet M, Lefebvre C (2019) ALK4/5-dependent TGF- β signaling contributes to the crosstalk between neurons and microglia following axonal lesion. *Sci. Rep.* 9(1):6896. doi: 10.1038/s41598-019-43328-x.
- 8) Arab T, Raffo-Romero A, Van Camp C, Lemaire Q, Le Marrec-Croq F, Drago F, Aboulouard S, Slomianny S, Lacoste A-S, Guigon I, Touzet H, Salzet M, Fournier I, Lefebvre C, **Vizioli J** & Sautière P-E. (2019) Proteomic characterisation of leech microglia extracellular vesicles (EVs): comparison between differential ultracentrifugation and OptiprepTM density gradient isolation. *Journal of Extracellular Vesicles*. 8:1, 1603048. DOI: 10.1080/20013078.2019.1603048
- 9) Sautière P-E, Blervacq A-S, **Vizioli J** (2019) Production and uses of e-learning tools for animal biology education at university. *The European Zoological Journal*, 86:1, 63-78. DOI: 10.1080/24750263.2019.1582722
- 10) Baranzini N., Monti L., Vannotti M., Orlandi V.T., Bolognese F., Girardello R., Tettamanti G., de Eguileor M., **Vizioli J.**, Acquati F., Grimaldi A. (2019) AIF-1 and RNASET2 play different but complementary roles in the modulation of innate immune response in medicinal leeches. *Journal of Innate Immunity*. 11:150-167. DOI: 10.1159/000493804.
- 11) Raffo-Romero A, Arab T, Al-Amri I S, Le Marrec-Croq F, Van Camp C, Lemaire Q, Salzet M, **Vizioli J**, Sautiere P-E and Lefebvre C (2018) Medicinal Leech CNS as a Model for Exosome Studies in the Crosstalk between Microglia and Neurons. *Int. J. Mol. Sci.* 2018, 19, 4124. doi:10.3390/ijms19124124.
- 12) Drago F., Lombardi M., Prada I., Gabrielli M., Joshi P., Cojoc D., Franck J., Fournier I., **Vizioli J.** and Verderio C. (2017) ATP modifies the proteome of extracellular vesicles released by microglia and influences their action on astrocytes. *Front. Pharmacol.* 8:910. DOI: 10.3389/fphar.2017.00910.
- 13) Barca A., Vacca F., **Vizioli J.**, Drago F., Vetrugno C., Verri T., Pagliara P. (2017) Molecular and expression analysis of the Allograft inflammatory factor 1 (AIF-1) in the coelomocytes of the common sea urchin *Paracentrotus lividus*. *Fish & Shellfish Immunol.* 71: 136-143.
- 14) **Vizioli J.**, Drago F. and Lefebvre C. (2016) Neuroprotection and immunity in the medicinal leech *Hirudo medicinalis*: what about microglia? In: Ballarin L, Cammarata M. Lessons in Immunity: From Single-cell Organisms to Mammals, 1st Edition. *Chapter 5*. Elsevier ed. DOI: [10.1016/j.fsi.2017.09.078](https://doi.org/10.1016/j.fsi.2017.09.078)
- 15) Girardello R, Drago F, de Eguileor M, Valvassori R, **Vizioli J**, Tettamanti G, Grimaldi A (2015) Cytokine Impregnated Biomatrix: A New Tool to Study Multi-Wall Carbon Nanotubes Effects on Invertebrate Immune Cells. *J Nanomed Nanotechnol* 6: 323. doi:10.4172/2157-7439.1000323.
- 16) Schorn T, Drago F, de Eguileor M, Valvassori R, **Vizioli J**, Tettamanti G, Grimaldi A (2015a) The Allograft Inflammatory Factor-1 (AIF-1) homologous in *Hirudo medicinalis* (medicinal leech) is involved in immune response during wound healing and graft

rejection processes. *ISJ* 12: 129-141.

- 17) Schorn T, Drago F, Tettamanti G, Valvassori R, de Eguileor M, **Vizioli J**, Grimaldi A (2015b) Homolog of Allograft inflammatory factor-1 induces macrophages migration during innate immune response in leech. *Cell & Tissue Research* 359(3):853-864. DOI 10.1007/s00441-014-2058-7.
- 18) Drago F, Sautiere P-E, Le Marrec-Croq F, Accorsi A, Van Camp C, Salzet M, Lefebvre C, **Vizioli J** (2014) Microglia of Medicinal Leech (*Hirudo medicinalis*) Express a Specific Activation Marker Homologous to Vertebrate Ionized Calcium-Binding Adapter Molecule 1 (Iba1/alias Aif-1). *Dev Neurobiol.* 2014. 74(10):987-1001. DOI: [10.1002/dneu.22179](https://doi.org/10.1002/dneu.22179)
- 19) Le Marrec-Croq F, Bocquet-Garcon A, **Vizioli J**, Van Camp C, Drago F, Franck J, Wisztorski M, Salzet M, Sautiere PE, Lefebvre C (2014) Calreticulin contributes to C1q-dependent recruitment of microglia in the leech *Hirudo medicinalis*. *Med Sci Monit*, 2014; 20: 644-653. DOI: [10.12659/MSM.890091](https://doi.org/10.12659/MSM.890091).
- 20) Arafah K., Croix D., **Vizioli J.**, Desmons A., Fournier I., Salzet M. (2013) Involvement of Nitric oxide through endocannabinoids release in microglia activation during the course of CNS regeneration in the medicinal leech. *Glia* 61:636-649.
- 21) Le Marrec-Croq F., Drago F., **Vizioli J.**, Sautiere P-E. & Lefebvre C. (2013). The leech nervous system: a valuable model to study the microglia involvement in regenerative processes. *Clinical and Developmental Immunology*, ISSN: 1740-2522. doi: 10.1155/2013/274019.
- 22) Tahtouh M., Garcon-Bocquet A., Croq F., **Vizioli J.**, Sautiere P-E., Van Camp C., Salzet M., Nagnan-Le Meillour P., Pestel J., Lefebvre C. (2012) Interaction of HmC1q with leech microglial cells: involvement of C1qBP-related molecule in the induction of cell chemotaxis. *Journal of Neuroinflammation* 9:37.
- 23) Grimaldi A., Banfi S., **Vizioli J.**, Tettamanti G., Noonan D. M., de Eguileor M. (2011) Cytokine Loaded Biopolymers as a Novel Strategy to Study Stem Cells during Wound Healing Processes. *Macromol. Biosci.* 11(8):1008-1019.
- 24) Croq F., **Vizioli J.**, Tuzova M., Sautière P-E., Van Camp C., Salzet M., Cruishank WW., Pestel J., Lefebvre C. (2010) A homologous form of human interleukin 16 is implicated in microglia recruitment following nervous system injury in leech *Hirudo medicinalis*. *Glia* 58(14): 1649-1662.
- 25) Tahtouh M., Croq F., **Vizioli J.**, Sautière P-E., Salzet M., Daha M.R., Pestel J., Lefebvre C. (2009) Evidence for a novel chemotactic C1q activity domain-containing factor in the leech nerve cord. *Mol. Immunol.* 46: 523-531.
- 26) Kim, W., Koo, H., Richman, A.M., Seeley, D., **Vizioli, J.**, Klocko, A.D., O'Brochta, D.A. (2004) Ectopic expression of a cecropin transgene in the human malaria vector mosquito *Anopheles gambiae* (Diptera: Culicidae): effects on susceptibility to *Plasmodium*. *J. Med. Entomol.* 41 (3): 447-455.
- 27) Bartholomay, L.C., Fuchs, J.F., Cheng, L.L., Beck, E.T., **Vizioli, J.**, Lowenberger, C. and Christensen, B.M. (2004) Reassessing the role of defensin in the innate immune response of the mosquito, *Aedes aegypti*. *Insect Mol Biol.* **13** (2):125-132.
- 28) **Vizioli, J.** & Salzet, M. (2002) Antimicrobial peptides from animals: focus on

invertebrates. *Trends Pharm. Sci.* **23** (11): 494-496.

- 29) **Vizioli, J.** & Salzet, M. (2002) Antimicrobial peptides versus parasitic infections? *Trends Parasitol.* **18**: 475-476.
- 30) **Vizioli, J.**, Bulet, P., Hoffmann, J.A., Kafatos, F.C., Müller, H.M., and Dimopoulos, G. (2001) Gambicin: a novel immune responsive antimicrobial peptide from the malaria vector *Anopheles gambiae*. *Proc. Natl. Acad. Sci. U.S.A.* **98** (22): 12630-12635.
- 31) Cheng, L.L., Bartholomay, L.C., Olson, K.E., Lowenberger, C., **Vizioli, J.**, Higgs, S., Beaty, B.J., Christensen, B.M. (2001) Characterization of an endogenous gene expressed in *Aedes aegypti* using an orally infectious recombinant sindbis virus. *Journal of Insect Science*, 1.10 (<http://www.insectscience.org/1.10>).
- 32) **Vizioli, J.**, Catteruccia, F., della Torre, A., Reckmann I., and Müller, H.M. (2001) Blood digestion in the malaria mosquito *Anopheles gambiae*: molecular cloning and biochemical characterization of two inducible chymotrypsins. *Eur. J. Biochem.* **268**: 4027-4035.
- 33) **Vizioli, J.**, Richman, A., Uttenweiler-Joseph, S., C., Blass, C., Bulet, P. (2001) The defensin peptide of the malaria vector mosquito *Anopheles gambiae*: antimicrobial activity and expression in adult mosquitoes. *Insect Biochem. Mol. Biol.* **31** (3): 241-248.
- 34) Giannoni, F., Müller, H.M., **Vizioli, J.**, Catteruccia, F., Kafatos, F.C., Crisanti A. (2001) Nuclear factors bind to a conserved DNA element that modulates transcription of *Anopheles gambiae* trypsin genes. *J. Biol. Chem.* **276** (1): 700-707.
- 35) **Vizioli, J.**, Bulet, P., Charlet, M., Lowenberger, C., Blass, C., Müller, H.M., Dimopoulos, G., Hoffmann, J., Kafatos, F.C., Richman, A. (2000) Cloning and analysis of a cecropin gene from the malaria vector mosquito, *Anopheles gambiae*. *Insect Mol. Biol.* **9** (1): 75-84.
- 36) Lowenberger, C., Charlet, M., **Vizioli, J.**, Kamal, S., Richman, A., Christensen, B., Bulet, P. (1999) Antimicrobial activity spectrum, cDNA cloning, and mRNA expression of a newly isolated member of the cecropin family from the mosquito vector *Aedes aegypti*. *J. Biol. Chem.* **274** (29): 20092-20097.
- 37) Müller H.M., Catteruccia F., **Vizioli J.**, della Torre A., Crisanti A. (1995) Constitutive and blood meal-induced trypsin genes in *Anopheles gambiae*. *Exp. Parasitol.* **81**: 371-385.
- 38) Müller HM, **Vizioli J**, della Torre A, Crisanti A (1993). Temporal and spatial expression of serine proteases genes in *Anopheles gambiae*. *Parassitologia* **35**: 73-76.