CURRICULUM VITAE

Personal data

Name	**Andrea Vettori**
Place and Birth date	05-08-1974, Marostica (VI)
Work address	Department of Biotechnology, University of Verona
	Strada Le Grazie, 15 - 37134 Verona
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Education

2005: PhD degree in "Genetics and Developmental Molecular Biology" at the University of Padova

2002: Official State Qualification as a Professional Biologist, Univ. of PD.

1999: Graduation in Biological Sciences MsC, Univ. of PD

Research activity

2022-today: Associate Professor at the Department of Biotechnology, University of Verona (It).

2018-2021: Assistant Professor (SSD BIO-06) at the Department of Biotechnology, University of Verona

2014-2018: Senior post-doctoral fellowship at the University of Padua

2011-2014: Post-doctoral fellowship in Developmental Genetics and Dynamics Lab of Padua

2004-2011: Post-doctoral fellowship in the Human Genetics Lab. at the Dep. of Biology of Padua

2003-2004: visiting researcher in the Genetics Lab. of the Wellcome Trust Centre for Human Genetics, Oxford (UK).

2002: one-year fellowship in the Human Genetics Lab at the Dep. of Biology of Padua

Funded Grant Principal Investigator or Coordinator

1) **2024-2025: Telethon starting Grant** (Research grant n° GSA23P011). Characterization of the zebrafish SLC6A1 KO mutant line and identification of new pharmacological treatments in SLC6A1-associated neurodevelopment disorders". Budget grant 50.000 Euro. Role: Principal investigator.
2) **2023-2025: PRIN 2022 (2022Z5TZ77)** titled **"**Defective renin transport and relocalization as a cause of kidney fibrosis and functional damage in Autosomal Dominant Tubulointerstitial Kidney Disease" Budget grant 94.000 Euro. Role: P.I of Verona's Unit
3) **2023-2027: Italian NIH grant** Ricerca Finalizzata (N°RF-2021-12372538) titled "Dissecting heterogeneity and common pathogenetic pathways in Autosomal Dominant Tubulointerstitial Kidney Disease for the identification of novel therapeutic strategies". Budget grant 67.500,00 Euro. Role: P.I of Verona's Unit
4) **2022-2024: Cariplo and Telethon Joint Call** (research grant 2022-0581)**.** Role of quality control in the early secretory compartment in Autosomal Dominant Tubulointerstitial Kidney Disease. Budget 87.000 Euro. Role: P.I of Verona's Unit.

5) **2021-2022: ARISLA research grant n° PG_63/2020.** Juvenile amyotrophic lateral sclerosis: in search for innovative pharmacological targets using new in-vivo models. 60.000 Euro. Role: Principal Investigator.
6) **2020-2022: AFM-telethon research grant** (#23315). Budget grant: 75.000,00 Euro. Role: Principal Investigator
7) **2015-2018: Italian NIH grant** (Ricerca Finalizzata (N°Gr-2011-02346749) titled. "Identification of new genes for rare neurodevelopmental disorders by homozygosity mapping/next generation sequencing and functional studies in zebrafish". Budget grant: 144.035,00 Euro. Role: P.I of Padova's Unit.
8) **2014-2016 "Young researcher GRANT**: University of Padova. Budget grant: 52.000,00 Euro. Role: Principal investigator

RESEARCH INTEREST

Andrea Vettori's research activity in the field of Human Genetics was initially focused on the localization and characterization of human disease genes by linkage analysis, positional cloning, mutation screening, and protein interaction studies. Prof. Andrea Vettori has conducted extensive research on various genetic diseases that impact the peripheral and central nervous systems, including Charcot-Marie-Tooth disease (CMT), migraine, and Hereditary Spastic Paraplegia (HSP). More recently, his work has shifted towards developmental genetics, utilizing the teleost zebrafish (*Danio rerio*) as a vertebrate model to investigate human genetic disorders and cancer genetics. Currently, Prof. Vettori's research activity focuses on two main areas that use zebrafish. His work includes i) the study of neuromuscular diseases such as CMT, HSP, or neurodegenerative disorders ii) the characterization of specific signaling pathways (i.a, BMP, WNT, HIF-1, TGFb, YAP/TAZ) during the onset and progression of neurodegenerative processes associated with genetic disorders. Since 2016, Prof. Vettori has been leading a research team dedicated to exploring the roles of various disease-associated genes linked to epilepsy, HSP, and kidney diseases in zebrafish models.. The primary goal of this research is to generate and characterize new animal models that accurately replicate the phenotypes observed in patients with different genetic disorders. Prof. Vettori is currently employed as an Associate professor at the Department of Biotechnology of the University of Verona, where he continues to advance his studies on zebrafish as a model for understanding genetic diseases. Currently, he has authored more than 40 articles in peer-reviewed journals, including Circulation, American Journal of Human Genetics, Molecular Psychiatry, Neurology, and PNAS, with more than 1500 citations and an H-index=22.

HONOURS

Winner in 2002 of the award for "young researcher" at the V Congress of the Italian Society of Human genetics for his studies on the molecular genetics of migraine.

Winner of the VII award "Accademia Olimpica" in 2000 with the scientific thesis: "Microsatellite linkage analysis to map a new form of autosomal recessive HMSN (hereditary motor and sensory neuropathy)

Publications

Peer-reviewed articles

1) Auriola, A., Enriqué Steinberg, J. H., Sarubo, M., Maspero, E., Rossi, F. A., Mouri, Y., Pedretti, M., Hajisadeghian, M., Taibi, V., Vettori, A., Vitulo, N., Assfalg, M., D'Onofrio, M., Rossi, M., Yasue, A., Astegno, A., Polo, S., Santi, S., Kudo, Y., & Guardavaccaro, D. (2025). The E3 ligase RNF32 controls the IκB kinase complex and NF-κB signaling in intestinal stem cells. Molecular cell, 85(22), 4254–4267.e9. https://doi.org/10.1016/j.molcel.2025.10.005

2) Astone M, Tesoriero C, Schiavone M, Facchinello N, Tiso N, Argenton F, Vettori A. Wnt/β-Catenin Signaling Regulates Yap/Taz Activity during Embryonic Development in Zebrafish. Int J Mol Sci. 2024 Sep 17;25(18):10005. doi: 10.3390/ijms251810005. PMID: 39337493; PMCID: PMC11432159.

3) Akyürek EE, Greco F, Tesoriero C, Dalla Barba F, Carotti M, Gorni G, Sandonà D, Vettori A, Sacchetto R. The *Accordion* Zebrafish *tq206* Mutant in the Assessment of a Novel Pharmaceutical Approach to Brody Myopathy. Int J Mol Sci. 2024 Aug 25;25(17):9229. doi: 10.3390/ijms25179229.

4) Sammarco A, Beffagna G, Sacchetto R, **Vettori A,** Bonsembiante F, Scarin G, Gelain ME, Cavicchioli L, Ferro S, Geroni C, Lombardi P, Zappulli V. Antitumor Effect of Berberine Analogs in a Canine Mammary Tumor Cell Line and in Zebrafish Reporters via Wnt/β-Catenin and Hippo Pathways.. Biomedicines. 2023 Dec 15;11(12):3317. doi: 10.3390/biomedicines11123317.

5) Celeghin R, Risato G, Beffagna G, Cason M, Bueno Marinas M, Della Barbera M, Facchinello N, Giuliodori A, Brañas Casas R, Caichiolo M, **Vettori A**, Grisan E, Rizzo S, Dalla Valle L, Argenton F, Thiene G, Tiso N, Pilichou K, Basso C. A novel DSP zebrafish model reveals training- and drug-induced modulation of arrhythmogenic cardiomyopathy phenotypes. Cell Death Discov. 2023 Dec 6;9(1):441. doi: 10.1038/s41420-023-01741-2.

6) Guglielmi V, Pancheri E, Cannone E, Nigro V, Malatesta M, **Vettori A**, Giorgetti A, Torella A, Aurino S, Cisterna B, Marchetto G, Tomelleri G, Tonin P, Schiavone M, Vattemi G. A novel in-frame deletion in MYOT causes an early adult onset distal myopathy. Clin Genet. 2023; doi: 10.1111/cge.14413;PMID: 37553249.

7) Murari M, Pesavento S, Greco F, **Vettori A**, Tagliaro F, Gottardo R. Study of metabolism and potential toxicity of nine synthetic opioid analogs using the zebrafish larvae model. Drug Test Anal. 2023 Nov 2. doi: 10.1002/dta.3590.

8) Tesoriero C, Greco F, Cannone E, Ghirotto F, Facchinello N, Schiavone M, **Vettori A**. Modelling Human Muscular Dystrophies in Zebrafish: Mutant Lines, Transgenic Fluorescent Biosensors, and Phenotyping Assays. Int J Mol Sci. 2023; 5;24(9):8314. doi: 10.3390/ijms24098314. PMID: 37176020.

9) Pesante G, Zuliani A, Cannone E, Greco F, Tesoriero C, **Vettori A,** Frison N. Biological conversion of agricultural residues into microbial proteins for aquaculture using PHA-producing mixed microbial cultures. Journal Of Cleaner Production. 2023; 378(12): doi:10.1016/j.jclepro.2022.134554

10) Risato, G., Celeghin, R., Brañas Casas, R., Dinarello, A., Zuppardo, A., **Vettori, A**., Pilichou, K., Thiene, G., Basso, C., Argenton, F., Visentin, S., Cosmi, E., Tiso, N., & Beffagna, G. (2022). Hyperactivation of Wnt/β-catenin and Jak/Stat3 pathways in human and zebrafish foetal growth restriction models: Implications for pharmacological rescue. Frontiers in cell and developmental biology, 10, 943127. https://doi.org/10.3389/fcell.2022.943127

11) Facchinello N, Laquatra C, Locatello L, Beffagna G, Brañas Casas R, Fornetto C, Dinarello A, Martorano L, **Vettori A**, Risato G, Celeghin R, Meneghetti G, Santoro MM, Delahodde A, Vanzi F, Rasola A, Dalla Valle L, Rasotto MB, Lodi T, Baruffini E, Argenton F, Tiso N. Efficient clofilium tosylate-mediated rescue of POLG-related disease phenotypes in zebrafish. Cell Death Dis. 2021;12(1):100. doi: 10.1038/s41419-020-03359-z. PMID: 33469036;

12) **Vettori A**, Paolacci S, Maltese PE, Herbst KL, Cestari M, Michelini S, Michelini S, Samaja M, Bertelli M. Genetic Determinants of the Effects of Training on Muscle and Adipose Tissue Homeostasis in Obesity Associated with Lymphedema. Lymphat Res Biol. 2020 Dec 29. doi: 10.1089/lrb.2020.0057. PMID: 33373545.

13) Ambrosini G, Dalla Pozza E, Fanelli G, Di Carlo C, **Vettori A**, Cannino G, Cavallini C, Carmona CA, Brandi J, Rinalducci S, Scupoli MT, Rasola A, Cecconi D, Palmieri M, Dando I. Progressively de-differentiated pancreatic cancer cells shift from glycolysis to oxidative metabolism and gain a quiescent stem state. Cells. 2020 Jun 9;1-24, doi: 10.3390/cells9071572

14) Peron M, Dinarello A, Meneghetti G, Martorano L, Facchinello N, **Vettori A**, Licciardello G, Tiso N, Argenton F. The stem-like Stat3-responsive cells of zebrafish intestine are Wnt/β-catenin dependent. Development. 2020 Jun 19;147(12): dev188987.doi: 10.1242/dev.188987.

15) Yuniati L, Lauriola A, Gerritsen M, Abreu S, Ni E, Tesoriero C, Onireti JO, Low TY, Heck AJR, **Vettori A**, Cardozo T, Guardavaccaro D. Ubiquitylation of the ER-Shaping Protein Lunapark via the $CRL3^{KLHL12}$ Ubiquitin Ligase Complex. Cell Rep. 2020 May 19;31(7):107664. doi: 10.1016/j.celrep.2020.107664..

16) Schaeffer C, Izzi C, **Vettori A**, Pasqualetto E, Cittaro D, Lazarevic D, Caridi G, Gnutti B, Mazza C, Jovine L, Scolari F, Rampoldi L. Autosomal Dominant Tubulointerstitial Kidney Disease with Adult Onset due to a Novel Renin Mutation Mapping in the Mature Protein. Sci Rep. 2019 Aug 12;9(1):11601.

17) **Vettori A**, Pompucci G, Paolini B, Del Ciondolo I, Bressan S, Dundar M, Kenanoğlu S, Unfer V, Bertelli M; Geneob Project. Genetic background, nutrition and obesity: a review. Eur Rev Med Pharmacol Sci. 2019 Feb;23(4):1751-1761.

18) Astone M, Lai JKL, Dupont S, Stainier DYR, Argenton F, **Vettori A**. Zebrafish mutants and TEAD reporters reveal essential functions for Yap and Taz in posterior cardinal vein development. *Sci Rep*. 2018 8(1):10189. doi: 10.1038/s41598-018-27657-x. I.F 5.47.

19) Diquigiovanni C, Bergamini C, Evangelisti C, Isidori F, **Vettori A**, Tiso N, Argenton F, Costanzini A, Iommarini L, Anbunathan H, Pagotto U, Repaci A, Babbi G, Casadio R, Lenaz G, Rhoden KJ, Porcelli AM, Fato R, Bowcock A, Seri M, Romeo G, Bonora E. Mutant MYO1F alters the mitochondrial network and induces tumor proliferation in thyroid cancer. Int J Cancer. 2018. doi:10.1002/ijc.31548.

20) Giuliodori A, Beffagna G, Marchetto G, Fornetto C, Vanzi F, Toppo S,Facchinello N, Santimaria M, **Vettori A**, Rizzo S, Della Barbera M, Pilichou K, Argenton F, Thiene G, Tiso N, Basso C. Loss of cardiac Wnt/β-catenin signalling in Desmoplakin-deficient AC8 zebrafish models is rescuable by genetic and pharmacological intervention. Cardiovasc Res. 2018 Mar 7 114(8):1082-1097.

21) **Vettori A**, Greenald G, Wilson G.K, Peron M, Facchinello N, Markham E, Sinnakaruppan M, Matthews L.C, McKeating J.A, Argenton A, and van Eeden F.J. M. Glucocorticoids promote Von Hippel Lindau (pVHL) degradation and Hif1a stabilization. Proc Natl Acad Sci U S A. 2017 Sep 12;114(37):9948-9953

22) Turrini L, Fornetto C, Marchetto G, Mallenbroich MC, Tiso N, **Vettori A**, Resta F, Masi A, Mannaioni G, Pavone FS, Vanzi F. Optical mapping of neuronal activity during seizures in zebrafish. *Sci Rep*. 2017 Jun 8;7(1):3025 I.F 5.47.

23) Kim HR, Greenald D, **Vettori A**, Markham E, Santhakumar K, Argenton F, van Eeden F. Zebrafish as a model for von Hippel Lindau and hypoxia-inducible factor signaling. *Methods Cell Biol*. 2017; 138:497-523 I.F. 1.42.

24) Michelini S,*** Vettori A***, Maltese P, Cardone M, Bruson A, Fiorentino A, Cappellino F, Sainato V, Guerri G, Marceddu G, Tezzele S, Bertelli M. Genetic screening in a large cohort of Italian patients affected by primary lymphedema using a next generation sequencing (NGS) approach. *Lymphology* 2016 Sep 49(2): 57-72. I.F. 1.92. ***These two authors contributed equally to this article**

25) Facchinello N, Schiavone M, **Vettori A**, Argenton F, Tiso N. Monitoring Wnt Signaling in Zebrafish Using Fluorescent Biosensors. *Methods Mol Biol.* 2016;1481:81-94 (I.F 1.09).

26) G Gregianin E, Pallafacchina G, Zanin S, Crippa V, Rusmini P, Poletti A, Fang M, Li Z, Diano L, Petrucci A, Lispi L, Cavallaro T, Fabrizi GM, Muglia M, Boaretto F, **Vettori A**, Rizzuto R, Mostacciuolo ML, Vazza G. Loss-of-function mutations in the SIGMAR1 gene cause distal hereditary motor neuropathy by impairing ER-mitochondria tethering and Ca2+ signalling. Hum Mol Genet. 2016 Jul. pii:ddw220. PMID: 27402882. IF 5.6

27) Astone M, Pizzi M, Peron M, Domenichini A, Guzzardo V, Tochterle S, Tiso N, Rugge M, Meyer D, Argenton F, **Vettori A**. A GFP-Tagged Gross Deletion on Chromosome 1 Causes Malignant Peripheral Nerve Sheath Tumors and Carcinomas in Zebrafish. *PLoS One*. 2015 Dec 22;10(12):e0145178. IF 3.2

28) Casari A, Schiavone M, Facchinello N, **Vettori A**, Mayer D, Tiso N, Moro E, Argenton F. A Smad3 transgenic reporter reveals TGFbeta control of zebrafish spinal cord development. *Developmental Biology.* Dev Biol. 2014 Dec 1;396(1):81-93. IF 3,63

29) Bergamin G, Boaretto F, Briani C, Pegoraro E, Cacciavillani M, Martinuzzi A, Muglia M, **Vettori A**, Vazza G, Mostacciuolo ML. Mutation Analysis of MFN2, GJB1, MPZ and PMP22 in Italian Patients with Axonal Charcot-Marie-Tooth Disease. *Neuromolecular Med.* 2014 Sep;16(3):540-50. IF 3,88

30) Moro E, **Vettori A**, Porazzi P, Schiavone M, Rampazzo E, Casari A, Ek O, Facchinello N, Astone M, Zancan I, Milanetto M, Tiso N, Argenton F. Generation and application of signaling pathway reporter lines in zebrafish. *Mol Genet Genomics. 2013 Jun;288(5-6):231-42*. IF 2,63

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32) Bertolin C, Magri C, Barlati S, **Vettori A**, Perini GI, Peruzzi P, Mostacciuolo ML, and Vazza G. Analysis of the complete mt-DNA sequence in patients with schizophrenia and bipolar disorder. *J Hum Genet.* 2011 Dec;56(12):869-72. IF 2,57

33) **Vettori A**, Bergamin G, Moro E, Vazza G, Polo G, Tiso N, Argenton F, Mostacciuolo ML. Developmental defects and neuromuscular alterations due to mitofusin 2 gene (MFN2) silencing in zebrafish: A new model for Charcot-Marie-Tooth type 2A neuropathy. *Neuromuscul Disord.* 2011 Jan;21(1):58-67. IF 2,79

34) Rigon L, **Vettori A**, Busolin G, Egeo G, Pulitano P, Santulli L, Pasini E, Striano P, la Neve A, Vianello Dri V, Boniver C, Gambardella A, Banfi P, Binelli S, Di Bonaventura C, Striano S, de Falco F, Giallonardo AT, Mecarelli O, Michelucci R, Nobile C. ADAM23, a Gene Related to LGI1, Is Not Linked to Autosomal Dominant Lateral Temporal Epilepsy. *Epilepsy Res Treat.* 2011;2011:258365. doi: 10.1155/2011/258365.

35) Boaretto F*****, **Vettori A***, Casarin A,Vazza G, Muglia M, Rossetto MG, Cavallaro T, Rizzuto N, Carelli V, Salviati L, Mostacciuolo ML, Martinuzzi A. Severe CMT type 2 with fatal encephalopathy associated with a novel mfn2 splicing mutation. *Neurology*. 2010 Jun 8;74(23):1919-21. ***These two authors contributed equally to this article.** IF 8,31

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37) Bovo G, Diani E, Bisulli F, Di Bonaventura C, Striano P, Gambardella A, Ferlazzo E, Egeo G, Mecarelli O, Elia M, Bianchi A, Bortoluzzi S, **Vettori A**, Aguglia U, Binelli S, De Falco A, Coppola G, Gobbi G, Sofia V, Striano S, Tinuper P, Giallonardo AT, Michelucci R, Nobile C. Analysis of LGI1 promoter sequence, PDYN and GABBR1 polymorphisms in sporadic and familial lateral temporal lobe epilepsy. *Neurosci Lett.* 2008 May 2;436(1):23-6. IF 2,10

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39) Simonati A, Boaretto F, **Vettori A**, Dabrilli P, Criscuolo L, Rizzuto N, Mostacciuolo ML. A novel missense mutation in the l1cam gene in a boy with L1 disease. *Neurol Sci*. 2006 Jun;27(2):114-7. IF 1,31

40) Pilichou K, Nava A, Basso A, Beffagna A, Bauce B, Lorenzon A, Frigo G, **Vettori A**, Valente M, Towbin J, Thiene G, Danieli GA, Ramazzo A. Mutations in desmoglein-2 gene cause arrhythmogenic right ventricular cardiomyopathy. *Circulation*. 2006 Mar 7;113(9):1171-9. IF 14,7

41) Velayos-Baeza A* **Vettori A*** Copley RR, Dobson-Stone C, Monaco AP. Analysis of the human VSP13 gene family. *Genomics*. 2004 Sep; 84(3):536-49. IF 3,01 * **These two authors contributed equally to this article**

42) Opocher G, Schiavi F, **Vettori A**, Pampinella F, Vitiello L, Murgia A, Martella M, Taccaliti A, Mantero F, Mostacciuolo M.L. Fine analysis of the short arm of chromosome 1 in sporadic and familial pheochromocytoma. *Clin Endocrino (Oxf)*. 2003 Dec; 59(6): 707-715. IF 3,16

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