

Curricular Summary

Name: Adalberto Luis Val

1) Education/Training

Year of completion	Title or activity	Institution
1980	Undergraduate degree	Barão de Mauá University Center - Jardim Paulista, CBM, Ribeirão Preto, Brazil
1983	Graduate degree (MSc)	Brazilian National Institute for Research of the Amazon (INPA)
1986	Graduate degree (Dr, PhD)	Brazilian National Institute for Research of the Amazon (INPA)
1992	Post-Doc	University of British Columbia, UBC, Vancouver, Canada
	Other courses, trainings or certifications (if applicable)	

2) Professional History. List of key professional positions occupied, reporting starting and ending dates, and the name of the institutions (these positions can be academic or in companies). Associative activities (participation in associations, federations, thematic/technical commissions, councils of companies/institutes/universities), as well as activities in entrepreneurship and startups may also be listed.

1. Full member of The World Academy of Sciences, since 2022
2. Vice President Northern Region of the Brazilian Academy of Sciences, from 2019
3. Professor, Graduate School, Université Laval, ULAVAL, Canada, from 2017
4. Director of International Affairs, CAPES, from 2015 to 2016
5. Member of CTNBio, CTNBIO, Brazil, from 2009 to 2012
6. Member of the Bunge Foundation Board, from 2008
7. Vice President Northern Region of the Brazilian Academy of Sciences, from 2007 to 2012
8. SBPC Board Member, from 2007, to 2011
9. General Director, INPA, from 2006 to 2014
10. Full member of the Brazilian Academy of Sciences, from 2005
11. Member of CAPES Advisory Committee in Biology from 1998 to 2006
12. Consultant Member of the Amazonas Sustainable Foundation - FAS, from 2008
13. Member of the Aquaculture and Fisheries Resources Committee of CNPq, from 1996 to 2000
14. Ad-hoc Consultant of the São Paulo State Research Support Foundation, FAPESP from 1996
15. Member of the Fish Biology Council of the American Fisheries Society, from 1994 to 2008
16. Post-Doc at the University of British Columbia, UBC, Canada, from 1990 to 1992
17. INPA Graduate Coordinator, from 1986 to 1990
18. Regional Secretary, SBPC, from 1986 to 1988

3) List of 15 (out 229) scientific contributions

Braz-Mota, S., Ollerhead, K.M., Lamarre, S.G., Almeida-Val, V.M.F., Val, A.L. and MacCormack, T.J. 2024. Acclimation to constant and fluctuating temperatures promotes distinct metabolic responses in Arctic char (*Salvelinus alpinus*). J. exp. Biol. 227, jeb249475.

Braz-Mota, S. and Val, A.L. 2024. Fish mortality in the Amazonian drought of 2023: the role of experimental biology in our response to climate change. J. exp. Biol. 227, jeb247255.

Gonzalez, R.J., Patrick, M.L. and Val, A.L. 2024. Ion uptake in naturally acidic water. J. Comp. Physiol. B 2024.

Marmontel, M., Fleischmann, A.S., Val, A.L. and Forsberg, B. 2024. Safeguard Amazon's aquatic fauna against climate change. Nature 625, 450.

Perry, S.F., Gilmour, K.M., Duarte, R.M., Wood, C.M., Almeida-Val, V.M.F. and Val, A.L. 2021. The effects of dissolved organic carbon on the reflex ventilatory responses of the

neotropical teleost (*Colossoma macropomum*) to hypoxia or hypercapnia. *Chemosphere* 277, 130314.

Pörtner, H.-O., Scholes, R.J., Arneth, A., Barnes, D.K.A., Burrows, M.T., Diamond, S.E., Duarte, C.M., Kiessling, W., Leadley, P., Managi, S., McElwee, P., Midgley, G., Ngo, H.T., Obura, D., Pascual, U., Sankaran, M., Shin, Y.J. and Val, A.L. 2023. Overcoming the coupled climate and biodiversity crises and their societal impacts. *Science* 380(256), eabl4881.

Souza, S.S., Braz-Mota, S. and Val, A.L. (2025) *The future of Amazonian Aquatic Biota*, Springer, Heidelberg.

Souza, S.S., Bruce, K.H.R., Costa, J.C., Pereira, D., Silva, G.S. and Val, A.L. 2024. Effects of climate change and mixtures of pesticides on the Amazonian fish *Colossoma macropomum*. *Science of the Total Environment* 922, 171379.

Sylvain, F.-E., Leroux, N., Normandeau, E., Custodio, J., Mercier, P.L., Bouslama, S., Holland, A., Barroso, D., Val, A.L. and Derome, N. 2023. Important role of endogenous microbial symbionts of fish gills in the challenging but highly biodiverse Amazonian blackwaters. *Nature Communications* 14, 3903.

Thomas, A., Sylvain, F.E., Normandeau, E., Leroux, N., Holland, A., Val, A.L. and Derome, N. 2025. Low Genetic Diversity and Complex Population Structure in Black Piranha (*Serrasalmus rhombeus*), a Key Amazonian Predator. *Ecology and Evolution* 15, e70824.

Val, A.L. and Almeida-Val, V.M.F. (1995) *Fishes of the Amazon and Their Environment. Physiological and Biochemical Aspects*, Springer Verlag, Heidelberg.

Val, A.L., Duarte, R.M., Campos, D. and Almeida-Val, V.M.F. (2022) *Fish Physiology. Conservation Physiology for the Anthropocene – Issues and Applications*. Fangue, N.A., Cooke, S.J., Farrell, A.P., Brauner, C.J. and Eliason, E.J. (eds), pp. 209–271, Academic Press.

Val, A.L. and Wood, C.M. 2022. Global change and physiological challenges for fish of the Amazon today and in the near future. *J. exp. Biol.* 225, jeb216440.

Wood, C.M., Crémazy, A., Morris, C., Johannsson, O.E., De Boeck, G. and Val, A.L. 2025. The effect of environmental factors on transepithelial potential in a model Amazonian teleost, the tambaqui (*Colossoma macropomum*): Implications for sodium balance in harsh environments. *J. Fish Biol.* 2025, 16050.

Zingel, P., Tuvikene, A., Zingel, T., Val, A.L. and Agasild, H. 2025. How do extreme fluctuations in water level affect fish condition in Amazonian Floodplain Lakes? *Journal Fish Biology* 2025, 1–12.

4) Current research grants awarded by any agency or company to the researcher. List of current research grants, indicating project titles, coordinator's name, financial resources, duration, and funding agency. If you received a fellowship from any funding agency, please inform the name of the agency, the fellowship type, level and duration.

Project title: ADAPTA-III INCT for Adaptation of the Aquatic Biota of the Amazon

Coordinator's name: Adalberto Luis Val

Resources: R\$ 14.000.000,00

Validity: 2025 to 2030

Funding agency: National Council for Scientific and Technological Development

Project title: ADAPTA-II INCT for Adaptation of the Aquatic Biota of the Amazon
Coordinator's name: Adalberto Luis Val
Resources: R\$ 8.000.000,00
Validity: 2016 to 2025
Funding agency: National Council for Scientific and Technological Development

If you are a scholar for any development agency, indicate:

Agency: National Council for Scientific and Technological Development
Type of scholarship: Research
Productivity Level: 1A
Validity: 2024 to 2029

5) List of ongoing supervisions, with students holding fellowships. List of ongoing supervisions with fellowships: indicating type (undergraduate, Masters or Doctorate), project titles, and funding agencies.

Type of Orientation: Scientific Initiation

Project title: Resposta osmorregulatória à hipóxia em peixe amazônico, *Colossoma macropomum* (Cuvier, 1818), frente às mudanças climáticas

Agency: Amazonas State Research Support Foundation (FAPEAM)

Type of Orientation: Scientific Initiation

Project title: O papel protetivo do carbono orgânico dissolvido de diferentes fontes sobre os efeitos causados pelas mudanças climáticas para a espécie *Colossoma macropomum*

Agency: Amazonas State Research Support Foundation (FAPEAM)

Type of Orientation: Scientific Initiation

Project title: Alterações hematológicas e histológicas do tecido branquial do camarão-da-Amazônia em resposta ao estresse térmico

Agency: Brazilian National Research Council (CNPq)

Type of Orientation: Master

Project title: Physiological, reproductive and behavioral changes in the development of fish exposed to polystyrene nanoparticles in environments with different temperatures

Agency: Brazilian National Research Council (CNPq)

Type of Orientation: Master

Project title: Exposição combinada a benzo[a]pireno e mercúrio: efeitos em microRNAs e histologia branquial de *Danio rerio* e *Apistogramma agassizii*

Agency: Brazilian National Research Council (CNPq)

Type of Orientation: Master

Project title: Entre o fogo e a água: efeitos das cinzas de incêndios florestais sobre parâmetros fisiológicos e histopatológicos do tambaqui (*Colossoma macropomum*)

Agency: Brazilian National Research Council (CNPq)

Type of Orientation: PhD

Project Title: Effect of future climate scenarios on the life cycle and infectivity of *Anopheles aquasalis* (Diptera: Culicidae) to *Plasmodium vivax*

Agency: Amazonas State Research Support Foundation (FAPEAM)

Type of Orientation: PhD

Project title: Growth, morphophysiology and expression of genes related to the digestive system of the tambaqui *Colossoma macropomum* (Cuvier, 1818) and the pirarucu *Arapaima gigas* (Schinz, 1822) in response to variations in water temperature in the Amazon

Agency: Coordination for the Improvement of Higher Education Personnel (CAPES)

Type of Orientation: PhD

Project Title: Does climate change affect the well-being of the Amazon turtle, *Podocnemis expansa*?

Agency: Coordination for the Improvement of Higher Education Personnel (CAPES)

Type of Orientation: PhD

Project title: Evaluation of the effects of copper on the quality of semen of *Pterophyllum scalare* (Schultze, 1833) and *Pterygoplichthys pardalis* (Castelnau, 1855)

Agency: Coordination for the Improvement of Higher Education Personnel (CAPES)

Type of Orientation: PhD

Project Title: Effect of monogenoid parasites and environmental stressors on the osmoregulation, growth and immunity of *Colossoma macropomum*

Agency: Brazilian National Research Council (CNPq)

Type of Orientation: PhD

Project Title: Estressores Ambientais e Plasticidade Fenotípica: O Futuro dos Ciclídeos Nativos e exóticos na Era do Antropoceno na Amazônia

Agency: Brazilian National Research Council (CNPq)

6) **Academic quantitative indicators.** Please separately indicate the total amount of: 1) books, 2) publications in journals with selective editorial policy, 3) book chapters, 4) supervised and concluded Master's dissertations, 5) supervised and concluded Doctoral theses, 6) number of citations received in the international scientific literature according to ISI, Scopus or Google Scholar; 7) patents applied for, granted patents and licensed patents; 8) products developed and launched on the market; 9) optimized processes implemented in companies or social organizations.

1) Books: 18

2) Publications in journals with selective editorial policy: 265

3) Book chapters: 78

4) Supervised and concluded Master's dissertations: 61

5) Supervised and concluded Doctoral theses: 28

6) Number of citations received in the international scientific literature, according to ISI, Scopus or Google Scholar:

Google scholar: 12,585 citations, 58 h-index

Research Gate: 9,580 citations, 51 h-index

Scopus: 7,125 citations, 44 h-index

7) Patents applied for, granted patents and licensed patents: 2

8) Products developed and launched on the market: Nothing to declare

9) Optimized processes implemented in companies or social organizations: 2

10) **Links** to the web pages ORCID, My Researcher ID (ISI) or My Citations (Google Scholar):

<https://orcid.org/0000-0002-3823-3868>

https://scholar.google.com/citations?user=lyX_vwsAAAAJ&hl=en

https://www.researchgate.net/profile/Adalberto_Val

<https://twas.org/directory/val-adalberto-luis>

11. **Other information.** Other relevant biographical information for assessing your recent professional work (past ten years), and documenting your experience and expertise in the field of knowledge or economic branch of the proposed project.

Adalberto Luis Val received the Commendation of the National Order of Scientific Merit (Class Commander) in 2002 and the Excellence Award from the American Fisheries Society in 2004. In 2005 he was elected full member of the Brazilian Academy of Sciences and served as its vice president for the Northern Region from 2007 to 2012 and from 2019 onwards. He acted as General Director of the Brazilian National Institute for Research of the Amazon from 2006 to 2014. In 2008 he received the Grand Order of Legislative Merit from the State of Amazonas and in 2013 he was honored with Commendation of the National Order of Scientific Merit (Grand Cross Class). In 2015 he received the title of Citizen of Amazonas. In 2016 he received the honorable "Anísio Teixeira" award from CAPES/MEC. In 2017 he was accredited as a Professor at the Graduate School of the University of Laval, Quebec, Canada. In 2024, he received the prestigious Bunge Award for Lifetime Achievement. He is currently serving as member of the Steering Scientific Committee of the Scientific Panel for the Amazon of the United Nations, that aims a full scientific evaluation of the Amazon. He is also serving as Scientific Coordinator of the

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Platform for Sustainable Solutions for the Amazon, SDSN-AM (Sustainable Development Solutions Network - Amazonia), also an activity of the United Nations. In November 2021 he was elected as a full member of The World Academy of Sciences (TWAS). In 2023 he received the Bunge Foundation's "Work and Life" award, one of the most prestigious prizes in Brazil.