



## Giulio De Leo

Professor of Oceans, of Earth System Science, Senior Fellow at the Woods Institute for the Environment and Professor, by courtesy of Biology

 Curriculum Vitae available Online

### Bio

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#### BIO

I am a theoretical ecologist by formation, I am generally interested in investigating factors and processes driving the dynamics of natural and harvested populations and in understanding how to use this knowledge to inform practical management.

In recent years I have been particularly interested in investigating factors and processes that provide resilience of natural or managed population to natural and anthropogenic stressors, environmental shocks and climate change. I study resilience from two very different points of view: on the one hand, I have focused my attention on populations that prove to be resilient despite our effort to control or eradicate them, namely parasitic and infectious diseases. On the other hand, I have been working extensively to understand how to increase resilience of population of commercial or conservation interest to extensive harvesting, environmental shocks, climate change and land use change.

I have been working on a number of theoretical and applied problems ranging from the conservation of the European eel to the sustainable management of the abalone fishery in Baja California in the face of climate change, the biocontrol of schistosomiasis in west Africa and the relationship between resource exploitation, infectious diseases and poverty traps.

In the last five years, I focused most of my effort on building the Program for Disease Ecology Health and the Environment as a pillar of Human and Planetary Health at Stanford University, with the ultimate goal of discovering novel ecological solutions that can improve human wellbeing and the health of the environment that underpins it.

#### ACADEMIC APPOINTMENTS

- Professor, Oceans
- Professor, Earth System Science
- Professor, Biology
- Senior Fellow, Stanford Woods Institute for the Environment
- Professor (By courtesy), Biology
- Member, Bio-X
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Senior Fellow, Stanford Woods Institute for the Environment

## BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Faculty Fellow, Stanford Center for Innovation in Global Health (2015 - present)

## PROFESSIONAL EDUCATION

- Ph.D., University of Parma & University of Ferrara , Ecology (1993)
- B.E. & M.Sc., Politecnico di Milano , Civil and Environmental Engineering (1989)

## LINKS

- My Lab web site: <https://deleolab.stanford.edu/>
- Program for Disease Ecology, Health and the Environment: <https://ecohealthsolutions.stanford.edu/>
- video documentary on our project in Senegal: <https://www.biographic.com/protected-by-prawns/>
- The Upstream Alliance: <http://www.theupstreamalliance.org/>
- Collaborative Sustainability Research in Coastal Ecosystems: <https://upwelling.stanford.edu/>
- web site for k-12 education in ocean acidification: <https://kidsandclimate.stanford.edu/>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

I am a population biologist and my primary research interest is the use of ecological theory, particularly life history-based models, in population dynamics and management. I make use of advanced mathematical and computational techniques to analyse a wide variety of ecological problems ranging from the identification of basic first-principles in the ecology of infectious diseases, to the analysis of costs and benefits of alternative policies for natural resource management in a multi-objective, multi-attribute framework, to the investigation of population dynamics and extinction risk in endangered populations. I dedicated a considerable effort to assess the effect of anthropogenic pressures as well as of ecological and environmental heterogeneities - including temperature, oxygen and pH anomalies - on population dynamics and management of marine resources and to estimate key parameters that may be incorporated into population models useful for decision-making. I have been working for more than two decades on the demography and management of the European eel (*A. anguilla*) and, more recently, the conservation of marble trout (*S. marmoratus*), the optimal bioeconomic management of mollusc farming, the problem of algal bloom control in Adriatic coastal lagoons and the development of Rapid Assessment Methods to assess the status of coastal lagoons. I am currently investigating how the interaction between networks of Marine Protected Areas and different schemes of fishery management might impact the resilience, productivity and persistence of the abalone fisheries in Baja California, Mexico under alternative scenarios of climate change, including increase frequency and intensity of low oxygen, low pH and variable temperature.

I recently started to work on the bio-control of schistosomiasis in Senegal with dr. Sanna Sokolow and I keep working with Luca Bolzoni on the optimal control of infectious diseases in the wildlife and in farmed animals.

My interest for pursuing solutions for a more sustainable world brought me to take a non-academic, governmental job from 2001 to 2004 as director of the Program for Technological Innovation and Sustainable Development for the Environmental Protection Agency of the Lombardy region (Italy), where I developed agreements with business and industrial associations to foster the adoption of environmental management schemes and to improve corporate environmental performances.

I am currently associated editor of Ecology Letters and reviewers for several ecological journals. From 1999 to 2005 I was president of the Italian Association of Environmental Engineering (AIAT), member of the administration board of WWF Italy (2005-2007) and, from 2007 to 2012, chair of the Ethics and Sustainability Committee of Eurizon Capital, the investment management company of Intesa SanPaolo, the first Italian Bank. In the effort to increase awareness about the threats imposed by climate change and to foster actions to curb emissions, increase energy efficiency and saving, I wrote a book "Energia e Salute della Terra" (Energy and Planet Health, Fondazione Boroli publisher) that was distributed to 40 thousands students in high schools and colleges in Italy.

I hold a BE in Civil Engineering and a MS in Environmental Engineering from Politecnico di Milano (1989, Italy), a PhD in Applied Ecology from the Universities of Ferrara and Parma (1993, Italy) a three years research experience at Princeton University (1994-1996) and three more years (1996-1998) back to Politecnico di Milano . After more than a decade at the University of Parma, in 2012 I happily moved to Stanford as full time faculty.

## Teaching

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### COURSES

#### 2023-24

- Catalyzing Solutions for a Sustainable Ocean: Learning with Local Communities: BIO 123, OCEANS 123H, OCEANS 223H (Spr)
- Get to Know Your Oceans: OCEANS 300A (Aut)
- Get to Know Your Oceans: OCEANS 300B (Win)
- Human and Planetary Health: MED 103, PUBLPOL 183, SOC 103, SUSTAIN 103 (Aut)
- Managing Your PhD: OCEANS 301 (Aut)
- Quantitative Methods for Marine Ecology and Conservation: BIO 143, BIO 243, CEE 164, CEE 264H, EARTHSYS 143H, OCEANS 143 (Win)
- Scientific Communications: An Introduction: OCEANS 305 (Spr)

#### 2022-23

- Catalyzing Solutions for a Sustainable Ocean: Learning with Local Communities: BIO 123, BIOHOPK 123H, BIOHOPK 223H, OCEANS 123, OCEANS 223 (Spr)
- Environmental Humanities: Finding Our Place on a Changing Planet: BIO 184, ENGLISH 140D, SUSTAIN 140 (Aut)
- Human and Planetary Health: BIO 103, BIO 203, SOC 103, SUSTAIN 103 (Aut)

#### 2021-22

- Human and Planetary Health: BIO 103, BIO 203, SOC 103 (Aut)
- Managing Your PhD: BIO 305 (Aut)
- People and Nature of Monterey Bay: BIOHOPK 119H, BIOHOPK 219H (Spr)
- Quantitative methods for marine ecology and conservation: BIO 143, BIO 243, BIOHOPK 143H, BIOHOPK 243H, CEE 164H, CEE 264H, EARTHSYS 143H, EARTHSYS 243H (Win)

#### 2020-21

- Current Topics and Concepts in Quantitative Fish Dynamics and Fisheries Management: BIOHOPK 153H, BIOHOPK 253H (Win)
- HUMAN AND PLANET HEALTH: BIO 103, BIO 203 (Aut)
- Managing Your PhD: BIO 305 (Aut, Spr)
- Quantitative methods for marine ecology and conservation: BIOHOPK 143H, BIOHOPK 243H, CEE 164H, CEE 264H, EARTHSYS 143H, EARTHSYS 243H (Win)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Desire Nalukwago, Chinmay Sonawane

#### Postdoctoral Faculty Sponsor

Ibrahim Aslan

#### Doctoral Dissertation Advisor (AC)

Joy Kumagai, Kaitlyn Mitchell, Julie Pourtois

#### Master's Program Advisor

Jacob Dunlop

#### Doctoral Dissertation Co-Advisor (AC)

Camille Effler, Ryan OConnor

**Doctoral (Program)**

Julie Pourtois, Ao Yu

**GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS**

- Biology (School of Humanities and Sciences) (Phd Program)

**Publications**

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**PUBLICATIONS**

- **Reframing Optimal Control Problems for Infectious Disease Management in Low-Income Countries.** *Bulletin of mathematical biology*  
Igoe, M., Casagrandi, R., Gatto, M., Hoover, C. M., Mari, L., Ngonghala, C. N., Remais, J. V., Sanchirico, J. N., Sokolow, S. H., Lenhart, S., de Leo, G.  
2023; 85 (4): 31
- **Climatic, land-use and socio-economic factors can predict malaria dynamics at fine spatial scales relevant to local health actors: Evidence from rural Madagascar.** *PLOS global public health*  
Pourtois, J. D., Tallam, K., Jones, I., Hyde, E., Chamberlin, A. J., Evans, M. V., Ihantamalala, F. A., Cordier, L. F., Razafinjato, B. R., Rakotonanahary, R. J., Tsirinomen'ny Aina, A., Soloniaina, P., Raholiarimanana, et al  
2023; 3 (2): e0001607
- **Modeling the efficacy of CRISPR gene drive for snail immunity on schistosomiasis control.** *PLoS neglected tropical diseases*  
Grewelle, R. E., Perez-Saez, J., Tycko, J., Namigai, E. K., Rickards, C. G., De Leo, G. A.  
2022; 16 (10): e0010894
- **Shifting fish distributions impact predation intensity in a sub-Arctic ecosystem** *ECOGRAPHY*  
Goodman, M. C., Carroll, G., Brodie, S., Gruss, A., Thorson, J. T., Kotwicki, S., Holsman, K., Selden, R. L., Hazen, E. L., De Leo, G. A.  
2022
- **Modelling the effect of habitat and fishing heterogeneity on the performance of a Total Allowable Catch-regulated fishery** *ICES JOURNAL OF MARINE SCIENCE*  
Pourtois, J. D., Provost, M. M., Micheli, F., De Leo, G. A.  
2022
- **Rapid recovery of depleted abalone in Isla Natividad, Baja California, Mexico** *ECOSPHERE*  
Smith, A., Aguilar, J., Boch, C., De Leo, G., Hernandez-Velasco, A., Houck, S., Martinez, R., Monismith, S., Torre, J., Woodson, C., Micheli, F.  
2022; 13 (3)
- **Concomitant Immunity and Worm Senescence May Drive Schistosomiasis Epidemiological Patterns: An Eco-Evolutionary Perspective.** *Frontiers in immunology*  
Buck, J. C., De Leo, G. A., Sokolow, S. H.  
2020; 11: 160
- **Development, environmental degradation, and disease spread in the Brazilian Amazon.** *PLoS biology*  
Castro, M. C., Baeza, A., Codeco, C. T., Cucunuba, Z. M., Dal'Asta, A. P., De Leo, G. A., Dobson, A. P., Carrasco-Escobar, G., Lana, R. M., Lowe, R., Monteiro, A. M., Pascual, M., Santos-Vega, et al  
2019; 17 (11): e3000526
- **Precision mapping of snail habitat provides a powerful indicator of human schistosomiasis transmission.** *Proceedings of the National Academy of Sciences of the United States of America*  
Wood, C. L., Sokolow, S. H., Jones, I. J., Chamberlin, A. J., Lafferty, K. D., Kuris, A. M., Jocque, M., Hopkins, S., Adams, G., Buck, J. C., Lund, A. J., Garcia-Vedrenne, A. E., Fiorenza, et al  
2019
- **Ecological interventions to prevent and manage zoonotic pathogen spillover.** *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*  
Sokolow, S. H., Nova, N., Pepin, K. M., Peel, A. J., Pulliam, J. R., Manlove, K., Cross, P. C., Becker, D. J., Plowright, R. K., McCallum, H., De Leo, G. A.  
2019; 374 (1782): 20180342
- **Unavoidable Risks: Local Perspectives on Water Contact Behavior and Implications for Schistosomiasis Control in an Agricultural Region of Northern Senegal.** *The American journal of tropical medicine and hygiene*

- Lund, A. J., Sam, M. M., Sy, A. B., Sow, O. W., Ali, S., Sokolow, S. H., Merrell, S. B., Bruce, J., Jouanard, N., Senghor, S., Riveau, G., Lopez-Carr, D., De Leo, et al  
2019
- **Modelled effects of prawn aquaculture on poverty alleviation and schistosomiasis control** *NATURE SUSTAINABILITY*  
Hoover, C. M., Sokolow, S. H., Kemp, J., Sanchirico, J. N., Lund, A. J., Jones, I. J., Higginson, T., Riveau, G., Savaya, A., Coyle, S., Wood, C. L., Micheli, F., Casagrandi, et al  
2019; 2 (7): 611–20
  - **Gene drives for schistosomiasis transmission control.** *PLoS neglected tropical diseases*  
Maier, T. n., Wheeler, N. J., Namigai, E. K., Tycko, J. n., Grewelle, R. E., Woldeamanuel, Y. n., Klohe, K. n., Perez-Saez, J. n., Sokolow, S. H., De Leo, G. A., Yoshino, T. P., Zamanian, M. n., Reinhard-Rupp, et al  
2019; 13 (12): e0007833
  - **THE ROLE OF IRRIGATED AGRICULTURE IN SCHISTOSOMIASIS RISK IN A DAMMED LANDSCAPE IN WEST AFRICA**  
Lund, A., Rehkopf, D., Sokolow, S., Jouanard, N., Sam, M., Fall, A., Riveau, G., Andrews, J., De Leo, G., Lopez-Carr, D.  
AMER SOC TROP MED & HYGIENE.2019: 11
  - **Potential Biological Control of Schistosomiasis by Fishes in the Lower Senegal River Basin.** *The American journal of tropical medicine and hygiene*  
Arostegui, M. C., Wood, C. L., Jones, I. J., Chamberlin, A., Jouanard, N., Faye, D. S., Kuris, A. M., Riveau, G., De Leo, G. A., Sokolow, S. H.  
2018
  - **Estimating the elimination feasibility in the 'end game' of control efforts for parasites subjected to regular mass drug administration: Methods and their application to schistosomiasis.** *PLoS neglected tropical diseases*  
Arakala, A., Hoover, C. M., Marshall, J. M., Sokolow, S. H., De Leo, G. A., Rohr, J. R., Remais, J. V., Gambhir, M.  
2018; 12 (11): e0006794
  - **Agrochemicals increase risk of human schistosomiasis by supporting higher densities of intermediate hosts** *NATURE COMMUNICATIONS*  
Halstead, N. T., Hoover, C. M., Arakala, A., Civitello, D. J., De Leo, G. A., Gambhir, M., Johnson, S. A., Jouanard, N., Loerns, K. A., McMahon, T. A., Ndione, R. A., Nguyen, K., Raffel, et al  
2018; 9: 837
  - **To Reduce the Global Burden of Human Schistosomiasis, Use 'Old Fashioned' Snail Control** *TRENDS IN PARASITOLOGY*  
Sokolow, S. H., Wood, C. L., Jones, I. J., Lafferty, K. D., Kuris, A. M., Hsieh, M. H., De Leo, G. A.  
2018; 34 (1): 23–40
  - **Ecological control of schistosomiasis in Sub-Saharan Africa: restoration of predator-prey dynamics to reduce transmission** *ECOLOGY AND EVOLUTION OF INFECTIOUS DISEASES: PATHOGEN CONTROL AND PUBLIC HEALTH MANAGEMENT IN LOW-INCOME COUNTRIES*  
Jones, I., Lund, A., Riveau, G., Jouanard, N., Ndione, R. A., Sokolow, S. H., De Leo, G. A., Roche, B., Broutin, H., Simard, F.  
2018: 236–51
  - **AN ECO-EVOLUTIONARY PERSPECTIVE ON SCHISTOSOMIASIS**  
Buck, J., De Leo, G., Rosental, B., Sokolow, S.  
AMER SOC TROP MED & HYGIENE.2018: 418
  - **LOCAL PERCEPTIONS OF SEASONALITY AND REPORTED WATER CONTACT BEHAVIOR IN THE SAHEL: IMPLICATIONS FOR SCHISTOSOMIASIS TRANSMISSION**  
Lund, A., Sow, O., Sokolow, S., Chamberlin, A., Jones, I., Jouanard, N., Riveau, G., Lopez-Carr, D., De Leo, G.  
AMER SOC TROP MED & HYGIENE.2018: 418–19
  - **COMPUTER VISION AND MACHINE LEARNING ENABLE ENVIRONMENTAL DIAGNOSTICS FOR TARGETING SCHISTOSOMIASIS CONTROL**  
Sokolow, S., Liu, Z., Chamberlin, A., Le Boa, C., Wood, C., Jones, I., Grewelle, R., De Leo, G.  
AMER SOC TROP MED & HYGIENE.2018: 418
  - **The spatial spread of schistosomiasis: A multidimensional network model applied to Saint-Louis region, Senegal** *ADVANCES IN WATER RESOURCES*  
Ciddio, M., Mari, L., Sokolow, S. H., De Leo, G. A., Casagrandi, R., Gatto, M.  
2017; 108: 406–15
  - **General ecological models for human subsistence, health and poverty** *NATURE ECOLOGY & EVOLUTION*  
Ngonghala, C. N., De Leo, G. A., Pascual, M. M., Keenan, D. C., Dobson, A. P., Bonds, M. H.

2017; 1 (8): 1153–59

- **Nearly 400 million people are at higher risk of schistosomiasis because dams block the migration of snail-eating river prawns** *PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES*  
Sokolow, S. H., Jones, I. J., Jocque, M., La, D., Cords, O., Knight, A., Lund, A., Wood, C. L., Lafferty, K. D., Hoover, C. M., Collender, P. A., Remais, J. V., Lopez-Carr, et al  
2017; 372 (1722)
- **Disease ecology, health and the environment: a framework to account for ecological and socio-economic drivers in the control of neglected tropical diseases** *PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES*  
Garchitorena, A., Sokolow, S. H., Roche, B., Ngonghala, C. N., Jocque, M., Lund, A., Barry, M., MORDECAI, E. A., Daily, G. C., Jones, J. H., Andrews, J. R., Bendavid, E., Luby, et al  
2017; 372 (1722)
- **Big-data-driven modeling unveils country-wide drivers of endemic schistosomiasis** *SCIENTIFIC REPORTS*  
Mari, L., Gatto, M., Ciddio, M., Dia, E. D., Sokolow, S. H., De Leo, G. A., Casagrandi, R.  
2017; 7
- **The Potential Role of Direct and Indirect Contacts on Infection Spread in Dairy Farm Networks.** *PLoS computational biology*  
Rossi, G., De Leo, G. A., Pongolini, S., Natalini, S., Zarengi, L., Ricchi, M., Bolzoni, L.  
2017; 13 (1)
- **Global Assessment of Schistosomiasis Control Over the Past Century Shows Targeting the Snail Intermediate Host Works Best.** *PLoS neglected tropical diseases*  
Sokolow, S. H., Wood, C. L., Jones, I. J., Swartz, S. J., Lopez, M., Hsieh, M. H., Lafferty, K. D., Kuris, A. M., Rickards, C., De Leo, G. A.  
2016; 10 (7)
- **Infection with schistosome parasites in snails leads to increased predation by prawns: implications for human schistosomiasis control** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Swartz, S. J., De Leo, G. A., Wood, C. L., Sokolow, S. H.  
2015; 218 (24): 3962-3967
- **Reconciling predator conservation with public safety** *FRONTIERS IN ECOLOGY AND THE ENVIRONMENT*  
Ferretti, F., Jorgensen, S., Chapple, T. K., De Leo, G., Micheli, F.  
2015; 13 (8): 412-417
- **A Theoretical Analysis of the Geography of Schistosomiasis in Burkina Faso Highlights the Roles of Human Mobility and Water Resources Development in Disease Transmission** *PLOS NEGLECTED TROPICAL DISEASES*  
Perez-Saez, J., Mari, L., Bertuzzo, E., Casagrandi, R., Sokolow, S. H., De Leo, G. A., Mande, T., Ceperley, N., Froehlich, J., Sou, M., Karambiri, H., Yacouba, H., Maiga, et al  
2015; 9 (10)
- **ECOLOGICAL THEORY. A general consumer-resource population model.** *Science*  
Lafferty, K. D., DeLeo, G., Briggs, C. J., Dobson, A. P., Gross, T., Kuris, A. M.  
2015; 349 (6250): 854-857
- **A general consumer-resource population model** *SCIENCE*  
Lafferty, K. D., DeLeo, G., Briggs, C. J., Dobson, A. P., Gross, T., Kuris, A. M.  
2015; 349 (6250): 854-857
- **Epidemiological modelling for the assessment of bovine tuberculosis surveillance in the dairy farm network in Emilia-Romagna (Italy)** *EPIDEMICS*  
Rossi, G., De Leo, G. A., Pongolini, S., Natalini, S., Vincenzi, S., Bolzoni, L.  
2015; 11: 62-70
- **React or wait: which optimal culling strategy to control infectious diseases in wildlife** *JOURNAL OF MATHEMATICAL BIOLOGY*  
Bolzoni, L., Tesson, V., Groppi, M., De Leo, G. A.  
2014; 69 (4): 1001-1025
- **Does biodiversity protect humans against infectious disease?** *ECOLOGY*  
Wood, C. L., Lafferty, K. D., DeLeo, G., Young, H. S., Hudson, P. J., Kuris, A. M.  
2014; 95 (4): 817-832

- **Data-poor ecological risk assessment of multiple stressors** *Ecological Informatics*  
Grewelle, R. E., Mansfield, E., Micheli, F., De Leo, G.  
2023
- **Pyrethroid insecticides pose greater risk than organophosphate insecticides to biocontrol agents for human schistosomiasis.** *Environmental pollution (Barking, Essex : 1987)*  
Haggerty, C. E., Delius, B. K., Jouanard, N., Ndao, P. D., De Leo, G. A., Lund, A. J., Lopez-Carr, D., Remais, J. V., Riveau, G., Sokolow, S. H., Rohr, J. R.  
2022: 120952
- **Ecological and socioeconomic factors associated with the human burden of environmentally mediated pathogens: a global analysis** *LANCET PLANETARY HEALTH*  
Sokolow, S. H., Nova, N., Jones, I. J., Wood, C. L., Lafferty, K. D., Garchitorena, A., Hopkins, S. R., Lund, A. J., MacDonald, A. J., LeBoa, C., Peel, A. J., Mordecai, E. A., Howard, et al  
2022; 6 (11): E870-E879
- **Evidence gaps and diversity among potential win-win solutions for conservation and human infectious disease control** *LANCET PLANETARY HEALTH*  
Hopkins, S. R., Lafferty, K. D., Wood, C. L., Olson, S. H., Buck, J. C., De Leo, G. A., Fiorella, K. J., Fomberg, J. L., Garchitorena, A., Jones, I. J., Kuris, A. M., Kwong, L. H., LeBoa, et al  
2022; 6 (8): E694-E705
- **Evidence gaps and diversity among potential win-win solutions for conservation and human infectious disease control.** *The Lancet. Planetary health*  
Hopkins, S. R., Lafferty, K. D., Wood, C. L., Olson, S. H., Buck, J. C., De Leo, G. A., Fiorella, K. J., Fornberg, J. L., Garchitorena, A., Jones, I. J., Kuris, A. M., Kwong, L. H., LeBoa, et al  
2022; 6 (8): e694-e705
- **Deep Learning Segmentation of Satellite Imagery Identifies Aquatic Vegetation Associated with Snail Intermediate Hosts of Schistosomiasis in Senegal, Africa** *REMOTE SENSING*  
Liu, Z., Chamberlin, A. J., Tallam, K., Jones, I. J., Lamore, L. L., Bauer, J., Bresciani, M., Wolfe, C. M., Casagrandi, R., Mari, L., Gatto, M., Diongue, A., Toure, et al  
2022; 14 (6)
- **The Potential for Aquaculture to Reduce Poverty and Control Schistosomiasis in Cote d'Ivoire (Ivory Coast) during an Era of Climate Change: A Systematic Review** *REVIEWS IN FISHERIES SCIENCE & AQUACULTURE*  
Ozretich, R. W., Wood, C. L., Allan, F., Koumi, A., Norman, R., Brierley, A. S., De Leo, G. A., Little, D. C.  
2022
- **Ecological and socioeconomic factors associated with the human burden of environmentally mediated pathogens: a global analysis.** *The Lancet. Planetary health*  
Sokolow, S. H., Nova, N., Jones, I. J., Wood, C. L., Lafferty, K. D., Garchitorena, A., Hopkins, S. R., Lund, A. J., MacDonald, A. J., LeBoa, C., Peel, A. J., Mordecai, E. A., Howard, et al  
2022; 6 (11): e870-e879
- **Environmental Persistence of the World's Most Burdensome Infectious and Parasitic Diseases.** *Frontiers in public health*  
Hopkins, S. R., Jones, I. J., Buck, J. C., LeBoa, C., Kwong, L. H., Jacobsen, K., Rickards, C., Lund, A. J., Nova, N., MacDonald, A. J., Lambert-Peck, M., De Leo, G. A., Sokolow, et al  
2022; 10: 892366
- **Editorial: Planetary health impacts of pandemic coronaviruses.** *Frontiers in public health*  
Lopez-Carr, D., Sokolow, S., De Leo, G., Murray, K., Barry, M.  
2022; 10: 987167
- **BEHAVIORAL RESPONSES TO A SEASONAL ENVIRONMENT REDUCE FREQUENCY BUT INCREASE EXTENT OF WATER CONTACT IN A SCHISTOSOMIASIS-ENDEMIC REGION OF WEST AFRICA**  
Lund, A., Sam, M., Sy, A., Sow, O., Sokolow, S., Merrell, S., Bruce, J., Jouanard, N., Senghor, S., Riveau, G., De Leo, G., Lopez-Carr, D.  
AMER SOC TROP MED & HYGIENE.2021: 405
- **IDENTIFICATION OF SNAILS AND SCHISTOSOMA OF MEDICAL IMPORTANCE VIA CONVOLUTIONAL NEURAL NETWORKS**  
Tallam, K., Liu, Z. Y., Chamberlin, A. J., Jones, I. J., Shome, P., Riveau, G., Ndione, R. A., Bandagny, L., Jouanard, N., Eck, P. V., Ngo, T., Sokolow, S. H., De Leo, et al  
AMER SOC TROP MED & HYGIENE.2021: 295

- **Exposure, hazard, and vulnerability all contribute to *Schistosoma haematobium* re-infection in northern Senegal.** *PLoS neglected tropical diseases*  
Lund, A. J., Sokolow, S. H., Jones, I. J., Wood, C. L., Ali, S., Chamberlin, A., Sy, A. B., Sam, M. M., Jouanard, N., Schacht, A., Senghor, S., Fall, A., Ndione, et al  
2021; 15 (10): e0009806
- **A comparative analysis of European eel's somatic growth in the coastal lagoon Santo Andre (Portugal) with growth in other estuaries and freshwater habitats** *ENVIRONMENTAL BIOLOGY OF FISHES*  
Correia, M., Domingos, I., De Leo, G. A., Costa, J.  
2021
- **Identification of Snails and *Schistosoma* of Medical Importance via Convolutional Neural Networks: A Proof-of-Concept Application for Human Schistosomiasis** *FRONTIERS IN PUBLIC HEALTH*  
Tallam, K., Liu, Z., Chamberlin, A. J., Jones, I. J., Shome, P., Riveau, G., Ndione, R. A., Bandagny, L., Jouanard, N., Van Eck, P., Ngo, T., Sokolow, S. H., De Leo, et al  
2021; 9: 642895
- **Variable coastal hypoxia exposure and drivers across the southern California Current.** *Scientific reports*  
Low, N. H., Micheli, F., Aguilar, J. D., Arce, D. R., Boch, C. A., Bonilla, J. C., Bracamontes, M. A., De Leo, G., Diaz, E., Enriquez, E., Hernandez, A., Martinez, R., Mendoza, et al  
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