

# Curriculum Vitae

Konstadia Lika

January 2024

## Personal Information

Name: Konstadia (Dina) Lika  
Marital status: Married, 1 child  
Citizenship: Greek

### **Work address:**

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AAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/citations?hl=en&user=ABDXREAA<br/>AAAJ&view_op=list_works&sortby=pubdate)

## Current Position

Professor, Department of Biology, University of Crete, Greece (appointed January 2024)

## Education

### **December 1996**

#### **Doctor of Philosophy (Mathematics)**

Department of Mathematics, University of Tennessee, Knoxville, USA

Dissertation Topic: *Interactions of Predator-Prey Ecological Processes and Advective Movement in a Spatially Heterogeneous Environment*

Supervisor: Professor Thomas G. Hallam

### **December 1992**

#### **Master of Science (Mathematics)**

Department of Mathematics, University of Tennessee, Knoxville, USA

Dissertation Topic: *Spectral analysis of chemically stressed population data*

Supervisor: Professor Thomas G. Hallam

### **July 1987**

#### **Bachelor of Science (Mathematics)**

Department of Mathematics, University of Crete, Greece

## Fellowships

**1984-1987** State Fellowship Foundation of Greece (IKY)

**1991-1996** Science Alliance Fellowship Award, Univ. of Tennessee, Knoxville, USA

**1996** Senior Graduate Student Award University of Tennessee, Knoxville, USA

## Research Interests

Mathematical modeling of biological systems based on the underlying mechanisms. The overarching theme of all of my projects is the use of a unified biological theory: the Dynamic Energy Budget (DEB) theory.

- Ecophysiology and investigation of the effect of stress factors (e.g. temperature, oxygen, toxicants, pathogens) on the metabolism of animal organisms.
- Physiology of phytoplankton, including the ecophysiology of mixotrophs and their impact on marine pelagic food webs
- Quantifying relationships between underlying processes of molecular/cellular mechanisms and bio-energetics at the individual level
- Aquaculture Applications: Developing modeling tools for designing experiments in aquaculture research facilities - Virtual laboratories
- [AmP](http://www.bio.vu.nl/thb/deb/deblab/add_my_pet/index.html) (Add-my-pet) project [http://www.bio.vu.nl/thb/deb/deblab/add\\_my\\_pet/index.html](http://www.bio.vu.nl/thb/deb/deblab/add_my_pet/index.html)

## Professional Experience

<b>2024 – present</b>	Professor, Department of Biology, University of Crete
<b>2015 – 2023</b>	Associate Professor, Department of Biology, University of Crete
<b>2006 2015</b>	Assistant Professor, Department of Biology, University of Crete
<b>1999-2006</b>	Lecturer, Univ. of Crete, Dept. of Biology
<b>1998-1999</b>	Visiting Professor, Univ. of Crete, Dept. of Biology
<b>1996-1998</b>	Postdoctoral Researcher and Lecturer, Dept. of Ecology Evolution and Marine Biology, Univ. of California, Santa Barbara, USA
<b>1990-1996</b>	Research and Teaching Associate, Univ. of Tennessee, Knoxville, Dept. of Mathematics, USA
<b>1985-1987</b>	Research Assistant Institute of Applied Mathematics, Research Center of Crete, Heraklion, Crete, Greece
<b>1989-1990</b>	Research Assistant Institute of Applied Mathematics, Research Center of Crete, Heraklion, Crete, Greece

## Institutional Responsibilities

<b>2021</b>	Member of the Special Account for Research Funds committee, University of Crete, Greece
<b>2017 – 2020</b>	Director of the Graduate Program “Environmental Biology”, Department of Biology, University of Crete, Greece
<b>2017 – 2020</b>	Member of the Graduate Curriculum Committee, Department of Biology, University of Crete, Greece

<b>2014 – present</b>	Member of the Undergraduate Curriculum Committee, Department of Biology, University of Crete, Greece
<b>2014 – present</b>	Experimental protocol Bioethics and evaluation/authorization committee
<b>2001 – 2010</b>	Vice Director of the Graduate Program “Environmental Biology”, Department of Biology, University of Crete, Greece
<b>2020 – 2022</b>	
<b>1999 – present</b>	Faculty member, University of Crete, Greece

### Talks in conferences and workshops

- 4th Autumn Course on Mathematical Ecology, International Centre of Theoretical Physics, Trieste, Italy (1994) (Invited Speaker)
- The Second World Congress of Nonlinear Analysts, Athens, Greece (1996)
- NSF-CBMS Conference on Dynamical Systems in Structured Population Dynamics, North Carolina State University, Raleigh, NC, USA (1997) (Invited Speaker)
- 928<sup>th</sup> AMS meeting, Albuquerque, New Mexico, USA (1997)
- 4<sup>th</sup> ERCIM Environmental Modeling Working Group Workshop on Environmental Models and Computational Methods, Heraklion, Crete, Greece (1998) (Invited Speaker)
- Theory and Mathematics in Biology and Medicine, Amsterdam, the Netherlands (1999)
- The Third World Congress of Nonlinear Analysts, Catania, Sicily, Italy (2000) (Invited Speaker)
- Scientific meeting entitled "Mathematical Modeling in Science and New Technologies: Developments and Prospects." Department of Mathematics, University of Aegean. Karlovasi, Samos, June 6-8 2002. (Invited Speaker)
- 2<sup>nd</sup> International conference on Mathematical Ecology, Alcalá, Madrid, Spain (5-9 Sep., 2003)
- 1st Summer School in "Mathematical Modeling in Marine Science", Department of Marine Sciences, Aegean University, Mytilene 4-15 July 2005. (Invited Speaker)
- 7<sup>th</sup> European Conference on Mathematical and Theoretical Biology (ESMTB08), Edinburgh, UK (29<sup>th</sup> -4<sup>th</sup> July, 2008)
- 2nd International Symposium on Dynamic Energy Budget Theory, 13-5 April, 2011 Lisboa, Portugal (keynote speaker)
- 3rd International Symposium on Dynamic Energy Budget Theory, 24-26 April, 2013 Texel, the Netherlands
- 4<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 28-30 May, 2015 Marseille, France
- MEMS Brest Summer school - Combining Modeling and Experimental Approaches for Marine Organisms under Stress. August 29th to September 2nd, 2016 (Invited Speaker)
- Add-my-pet curator workshops (25/6/2016-2/7/2016 & 23-27/1/2017) - Developments in add-my-pet/ DEB course 2017.
- NIMBioS Working Group: Modeling Molecules-to-Organisms (4 workshops in 2015, 2016, 2017).
- 5<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 31 May to 2 June, 2017 Tromsø, Norway
- 6<sup>th</sup> International Symposium on Dynamic Energy Budget Theory for metabolic organization, 8-12 April, 2019 Brest, France
- Rudjer Boskovic Institute, Zagreb, December 2019, (Invited Speaker)
- Mathematical Biology *on the Mediterranean* Conference, FORTH, Heraklion, Crete, 29/8-6/9 2022 (Invited Speaker)
- Aquaculture Europe 2022, Rimini, Italy, September 27-30, 2022

- 8<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 14-16 June 2023, Baton Rouse, Louisiana, USA

## Teaching Experience

### Department of Biology, Univ. Crete

Taught and developed material for the following undergraduate courses:

- **Biomathematics** (every spring semester since 1998 )
- **Biostatistics** (every fall semester since 1998)
- **Computer Applications in Biology** (Spring 2002 – Spring 2008)
- **Introduction to Programming** (Spring 2009 – Spring 2018). Programming and graphics with MatLab (30%)
- **Computational Biology** (Spring 2009) Mathematical modeling (25%)

Since Fall 2017, taught the following course in the Graduate Program “Environmental Biology”:

- **Analysis of Biological Data** (40 credit hours) – Duties: Coordination and (70%) teaching.

1998-2017, taught the following courses in the Graduate Program “Environmental Biology - Management of Terrestrial and Marine Biological Resources”:

- **Data Analysis** (25 credit hours) – Duties: Coordination and teaching.
- **Mathematical Ecology** (15 credit hours) – Duties: Coordination and teaching.
- **Research Methodology** (10 credit hours) – Duties: Coordination and (20%) teaching.

### Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara

- Dynamics of Ecological Systems (Spring 1998) - Undergraduate course

### Department of Mathematics, University of Tennessee, Knoxville

- Mathematics for life science students (Fall 1995, Spring 1996) - Undergraduate course

### Department of Mathematics, Univ. Aegean

- **Age-structured models** - In the spring of 2003 I participated (upon invitation) with 10 hours teaching (30%) in the graduate course " Mathematical Models in Biological Sciences" in the Graduate program 'Mathematical Modeling in Natural Sciences and Modern Technologies '.

### International courses

- DEB course 2011, April 4th to 12th, Lisbon, Portugal
- DEB course 2013, April 15th to 23th, Texel, the Netherlands
- DEB course 2015, April 20th to 27th, Marseille, France
- DEB course 2017, May 21st to June 2nd, Tromso, Norway
- DEB course 2019, April 1st to April 6th, Brest, France
- DEB course 2021, May 17th to May 22nd, online
- DEB course 2023, 4-13 June 2023, Baton Rouge, Louisiana, USA

- "Care and use of laboratory animals: Science, Philosophy and Society", Heraklion, Greece. An annual course since 2014. Contributing lecture on Experimental design, Statistical analysis and Interpretation of results.
- Biomathematics ESMTB Summer School 2019, Modelling in Marine Ecology, Isola delle Femmine (PA), Sicily, Italy, 8-21 September 2019

## Student Supervision

- Current Ph.D Students: E. Klagkou
- Graduated Ph.D Student: I.A. Papadakis, E. Livanou, O. Stavrakidis-Zachou
- Graduated M.Sc. Students: I.A. Papadakis, M. Defigou, G. Lagonikakis, C. Barsakis, S. Drakou, D. Petsa (Mathematics Dept.)
- M.Sc. Students: I have supervised 27 three-month projects
- Undergraduate Students: L. Lili (Mathematics Dept.), C. Trilirakis, P. Panagiotaki, A. Leivadiotoy (Appl. Math. Dept.), M. Pantourakis, E. Livanou

## Publications

**Konstadia Lika**, "Interactions of Predator-Prey Ecological Processes and Advective Movement in a Spatially Heterogeneous Environment", Ph.D. Thesis, University of Tennessee, Knoxville, 1996

## Journal Publications

1. D.L. DeAngelis, K.A. Rose, L.B. Crowder, E.A. Marschall, and **D. Lika**. 1993. Fish Cohort Dynamics: Application of Complementary Modeling Approaches. *The American Naturalist*, 142 (4): 604-622
2. T.G. Hallam, G.A. Canziani, and **K. Lika**. 1996. On the Relationships Between Bioassays and Dynamics in Chemically Stressed, Aquatic Population Models. *Ecologia Austral*, 6: 45-54
3. T.G. Hallam, E.T. Funasaki, **K. Lika**, and H.L. Lee. 1997. Utilities and Indicators of Stress Dynamics in Physiologically Structured Population Models. *Environmental Modeling and Assessment*, 2: 1-6
4. T.G. Hallam and **K. Lika**. 1997. Modeling the Effects of Toxicants on a Fish Population in a Spatially Heterogeneous Environment: I. Behavior of the Unstressed, Spatial Model. *Nonlinear Analysis, Theory, Methods & Applications*, 30(3): 1699-1707
5. **K. Lika** and T.G. Hallam. 1997. Modeling the Effects of Toxicants on a Fish Population in a Spatially Heterogeneous Environment: II. Lethal Effects. *Nonlinear Analysis, Theory, Methods & Applications*, 30(3): 1709-1719
6. **K. Lika** and T.G. Hallam. 1999. Traveling Wave Solutions of a Nonlinear Reaction-Advection Equation. *Journal of Mathematical Biology*, 38: 346-358
7. **K. Lika** and R.M. Nisbet. 2000. A Dynamic Energy Budget Model based on Partitioning of Net Production. *Journal of Mathematical Biology*, 41:361-386
8. R.M. Nisbet, E.B. Muller, **K. Lika** and S.A.L.M. Kooijman. 2000. From molecules to ecosystem through dynamic energy budget models. *Journal of Animal Ecology*, 69: 913-926

9. K.A. Triantis, M. Mylonas, **K. Lika** and K. Vardinogiannis. 2003. A model for species area-habitat relationship. *Journal of Biogeography*, 30: 19-27
10. **K. Lika** and S.A.L.M. Kooijman. 2003. Life history implications of allocation to growth versus reproduction in Dynamic Energy Budgets. *Bulletin of Mathematical Biology*, 65: 809-834
11. **K. Lika** and N. Papandroulakis. 2005. Modeling feeding processes: a test of a new model for sea bream (*Sparus aurata* L.) larvae. *Canadian Journal of Fisheries and Aquatic Sciences*, 62: 425-435
12. I.A. Papadakis, K. Kotzabasis and **K. Lika**. 2005. A cell-based model for the photo- and CO<sub>2</sub> – acclimation of the photosynthetic apparatus. *Biochimica et Biophysica Acta-Bioenergetics*, 1708: 250-261
13. K.A. Triantis, M. Mylonas, **K. Lika** and K. Vardinogiannis. 2005. Species richness, habitat diversity and area: A case study based on land snails in Skyros archipelago (Aegean Sea, Greece). *Journal of Biogeography*, 32: 1727-1735
14. K.A. Triantis, K. Vardinogiannis, E. Tsolaki, I. Botsaris, **K. Lika** and M. Mylonas. 2006. Re-approaching small island effect., *Journal of Biogeography*. 33 (5): 914–923
15. **K. Lika** and I. A. Papadakis. 2009. Modeling the biodegradation of phenolic compounds by microalgae. *Journal of Sea Research* 62: 135–146
16. V. Freitas, J.F.M.F. Cardoso, **K. Lika**, M. A. Peck, J. Campos, S.A.L.M. Kooijman, H.W. van der Veer. 2010. Temperature tolerance and energetics: a Dynamic Energy Budget-based comparison of North Atlantic marine species. *Philosophical Transactions of the Royal Society B* . 365: 3553–3565
17. A. Palialexis, S. Georgakarakos, I. Karakassis, **K. Lika**, V. D. Valavanis. 2011. Prediction of marine species distribution from presence-absence acoustic data: comparing the fitting efficiency and the predictive capacity of conventional and novel distribution models. *Hydrobiologia*. 670:241–266
18. A. Palialexis, S. Georgakarakos, I. Karakassis, **K. Lika**, V. D. Valavanis. 2011. Fish distribution predictions from different points of view: comparing associative neural networks, geostatistics and regression models. *Hydrobiologia*, 670:165–188
19. **K. Lika**, M. R. Kearney, V. Freitas, H. W. v. d. Veer, J. v. d. Meer, J. W. M. Wijsman, L. Pecquerie and S. A. L. M. Kooijman. 2011. The 'covariation method' for estimating the parameters of the standard Dynamic Energy Budget model I: philosophy and approach. *Journal of Sea Research*. 66:270–277
20. **K. Lika**, M. R. Kearney and S. A. L. M. Kooijman. 2011. The 'covariation method' for estimating the parameters of the standard Dynamic Energy Budget model II: properties and preliminary patterns. *Journal of Sea Research*, 66:278–288
21. V. Freitas, **K. Lika**, J. IJ. Witte, H.W. van der Veer. 2011. Food conditions of the sand goby *Pomatoschistus minutus* in shallow waters: an analysis in the context of Dynamic Energy Budget theory. *Journal of Sea Research*. 66:440–446
22. **K. Lika** and S.A.L.M. Kooijman. 2011. The comparative topology of energy allocation in budget models. *Journal of Sea Research*, 66:281–291
23. I.A. Papadakis, K. Kotzabasis and **K. Lika**. 2012. Modeling the dynamic modulation of light energy in photosynthetic algae. *Journal of Theoretical Biology*, 300:254–26
24. N. Papandroulakis, **K. Lika**, T.S. Kristiansen, F. Oppedal, P. Divanach and M. Pavlidis. 2012. Behaviour of European sea bass, *Dicentrarchus labrax* L., in cages - impact of early life rearing conditions and management. *Aquaculture Research*, 45: 1545-1558
25. S.A.L.M. Kooijman and **K. Lika**. 2014. Resource allocation to reproduction in animals. *Biological Reviews*, 89: 849-859
26. **K. Lika**, S.A.L.M. Kooijman and N. Papandroulakis. 2014. Metabolic acceleration in mediterranean perciformes. *Journal of Sea Research*, 94:37-46.
27. **K. Lika**, S. Augustine, L. Pecquerie and S.A.L.M. Kooijman. 2014. The bijection from data to parameter space with the standard deb model quantifies the supply-demand spectrum. *Journal of Theoretical Biology*. 354:35-47
28. S. A. L. M. Kooijman and **K. Lika**. 2014. Comparative energetics of the 5 fish classes on the basis of dynamic energy budgets. *Journal of Sea Research*, 94: 19-28

29. A. Rinaldi, V. Montalto, **K. Lika**, K. Sanfilippo, M. Manganaro and G. Sarà. 2014. Estimation of dynamic energy budget parameters for the mediterranean tootcarp (*Aphanius fasciatus*). *Journal of Sea Research*, 94: 65-70
30. **K. Lika**, M. Pavlidis, N. Mitritzakis, A. Samaras and N. Papandroulakis. 2015. Do experimental units of different scale affect the biological performance of European sea bass larvae (*Dicentrarchus labrax*)? *Journal of Fish Biology*, 86:1271-1285
31. A. Samaras, M. Pavlidis, **K. Lika**, A. Theodoridi and N. Papandroulakis. 2015. Scale matters: performance of European sea bass, *Dicentrarchus labrax*, L. (1758), reared in cages of different volumes. *Aquaculture Research*, 48:1-16, [doi:10.1111/arc.12942](https://doi.org/10.1111/arc.12942)
32. S. Augustine, **K. Lika**, and S.A.L.M. Kooijman. 2017. Comment on the ecophysiology of the Greenland shark, *Somniosus microcephalus*. *Polar Biology*, 40:2429–2433. [DOI 10.1007/s00300-017-2154-8](https://doi.org/10.1007/s00300-017-2154-8)
33. L. Pecquerie and **K. Lika**. 2017. Is reproduction limiting growth? Comment on “Physics of metabolic organization” by Marko Jusup et al. *Phys Life Rev.*, 20:75-77. <https://doi.org/10.1016/j.pprev.2017.01.026>
34. C.M. Marques, S. Augustine, **K. Lika**, L. Pecquerie and S.A.L.M. Kooijman. 2018. The AmP project: Comparing Species on the Basis of Dynamic Energy Budget Parameters. *PLoS Computational Biology*, 14(5): e1006100 [doi.org/10.1371/journal.pcbi.1006100](https://doi.org/10.1371/journal.pcbi.1006100)
35. C.A. Murphy, R.M. Nisbet, P. Antczak, N. Garcia-Reyero, A. Gergs, **K. Lika**, T. Mathews, E.B. Muller, D. Nacci, A. Peace, C.H. Remien, I.R. Schultz, L.M. Stevenson, K.H. Watanabe. 2018. Incorporating sub-organismal processes into dynamic energy budget models for ecological risk assessment. *Integrated Environmental Assessment and Management (IEAM)*, 14(5):615–624. [doi.org/10.1002/ieam.4063](https://doi.org/10.1002/ieam.4063)
36. A. Samaras, N. Papandroulakis, **K. Lika**, M. Pavlidis. 2018. Water temperature modifies the acute stress response of European sea bass, *Dicentrarchus labrax* L. (1758). *Journal of Thermal Biology*, 78:84–91. <https://doi.org/10.1016/j.jtherbio.2018.09.006>
37. S. Augustine, **K. Lika**, and S.A.L.M. Kooijman. 2019. Why big-bodied animal species cannot evolve a waste-to-hurry strategy. *Journal of Sea Research*, 143:18-26. <https://doi.org/10.1016/j.seares.2018.06.002>
38. **K. Lika**, S. Augustine, and S.A.L.M. Kooijman. 2019. Body size as emergent property of metabolism. *Journal of Sea Research*, 143:8-17. [doi.org/10.1016/j.seares.2018.04.005](https://doi.org/10.1016/j.seares.2018.04.005)
39. S. Augustine, **K. Lika**, and S.A.L.M. Kooijman. 2019. Altricial-precocial spectra in animal kingdom. *Journal of Sea Research*, 143:27-34. [doi.org/10.1016/j.seares.2018.03.006](https://doi.org/10.1016/j.seares.2018.03.006)
40. O. Stavrakidis-Zachou, N. Papandroulakis, **K. Lika**. 2019. A DEB model for European sea bass (*Dicentrarchus labrax*): parameterisation and application in aquaculture. *Journal of Sea Research*, 143:262-271. [doi.org/10.1016/j.seares.2018.05.008](https://doi.org/10.1016/j.seares.2018.05.008)
41. C.M. Marques, **K. Lika**, S. Augustine, L. Pecquerie and S.A.L.M. Kooijman. 2019. Fitting multiple models to multiple data sets. *Journal of Sea Research*, 143:48-56. <https://doi.org/10.1016/j.seares.2018.07.004>
42. E. Livanou, A. Lagaria, S. Psarra, K. Lika. 2019. A DEB-based approach of modeling dissolved organic matter release by phytoplankton. *Journal of Sea Research*, 143:140-151., [doi.org/10.1016/j.seares.2018.07.016](https://doi.org/10.1016/j.seares.2018.07.016)
43. O. Stavrakidis-Zachou, N. Papandroulakis, A. Sturm, P. Anastasiadis, F. Wätzold, **K. Lika**. 2019. Towards a computer-based Decision Support System for aquaculture stakeholders in Greece in the context of climate change. *International Journal of Sustainable Agricultural Management and Informatics*, 4(3/4):219-234. [10.1504/IJSAMI.2018.099235](https://doi.org/10.1504/IJSAMI.2018.099235).
44. E. Muller, **K. Lika**, R. Nisbet, I. Schultz, J. Casas, A. Gergs, C. Murphy, D. Nacci, K. Watanabe. 2019. Regulation of Reproductive Processes with Dynamic Energy Budgets *Functional Ecology*, 33:819-832, [doi: 10.1111/1365-2435.13298](https://doi.org/10.1111/1365-2435.13298)

45. E. Livanou , A. Lagaria, I. Santi, M. Mandalakis, A. Pavlidou, **K. Lika**, S. Psarra. 2019. Pigmented and heterotrophic nanoflagellates: Abundance and grazing on prokaryotic picoplankton in the ultra-oligotrophic Eastern Mediterranean Sea. *Deep-Sea Research Part II*, 164:100-111. <https://doi.org/10.1016/j.dsr2.2019.04.007>
46. S.A.L.M. Kooijman, **K. Lika**, S. Augustine, N. Marn, B.W. Kooi. 2020. The Energetic basis of population growth in animal Kingdom. *Ecological Modelling*, 428: 109055. <https://doi.org/10.1016/j.ecolmodel.2020.109055>
47. E. Livanou, K. Barsakis, S. Psarra, K. Lika. 2020. Modelling the nutritional strategies in mixotrophic nanoflagellates. *Ecological Modelling*, 428: 109053. <https://doi.org/10.1016/j.ecolmodel.2020.109053>
48. **K. Lika**, S. Augustine, S.A.L.M. Kooijman. 2020. The use of augmented loss functions for estimating Dynamic Energy Budget parameters. *Ecological Modelling*, 428:109110. <https://doi.org/10.1016/j.ecolmodel.2020.109110>
49. S. Augustine, **K. Lika**, S.A.L.M. Kooijman. 2020. Comparing lossfunctions and interval estimates for survival data. *Ecological Modelling*, 430:109077. <https://doi.org/10.1016/j.ecolmodel.2020.109077>
50. O. Stavrakidis-Zachou, **K. Lika**, P. Anastasiadis, N. Papandroulakis. 2021. Projecting climate change impacts on Mediterranean finfish production: A case study in Greece. *Climatic Change* 165:67, doi.org/10.1007/s10584-021-03096-y
51. O. Stavrakidis-Zachou, A. Sturm, **K. Lika**, Frank Wätzold N. Papandroulakis. 2021. ClimeGreAq: A software-based DSS for the climate change adaptation of Greek aquaculture. *Environmental Modelling and Software*. 143:105121, <https://doi.org/10.1016/j.envsoft.2021.105121>
52. E. Livanou, A. Oikonomou, S. Psarra, **K. Lika**. 2021. The role of mixotrophic nanoflagellates in the Eastern Mediterranean microbial food web. *Marine Ecology Progress Series*. 672:15-32.. <https://doi.org/10.3354/meps13782>
53. O. Stavrakidis-Zachou, **K. Lika**, A. Tsalafouta, M. Pavlidis, A.H. Mohamed, N. Papandroulakis 2021. Thermal tolerance, metabolic scope and performance of meagre, *Argyrosomus regius*, reared under high water temperatures, *Journal of Thermal Biology*. 100:103063. <https://doi.org/10.1016/j.jtherbio.2021.103063>
54. S.A.L.M. Kooijman, **K. Lika**, S. Augustine and N. Marn. 2021. Multidimensional scaling for animal traits in the context of dynamic energy budget theory. *Conserv Physiol* 9(1): coab086. [doi:10.1093/conphys/coab086](https://doi.org/10.1093/conphys/coab086)
55. O. Stavrakidis-Zachou, **K. Lika**, M. Pavlidis, A.H. Mohamed, N. Papandroulakis. 2022. Metabolic scope, performance and tolerance of juvenile European sea bass *Dicentrarchus labrax* upon acclimation to high temperatures. *PLOS ONE* 7(8):e0272510. | <https://doi.org/10.1371/journal.pone.0272510>
56. **K. Lika**, S. Augustine, S.A.L.M. Kooijman. 2022. The comparative energetics of the ray-finned fish in an evolutionary context. *Conserv Physiol* 10(1):coac039. doi:10.1093/conphys/coac039.
57. S. Augustine, **K. Lika**, S.A.L.M. Kooijman. 2022. The comparative energetics of the chondrichthyans reveals universal links between respiration, reproduction and lifespan. *J. Sea Res.* 185:102228. <https://doi.org/10.1016/j.seares.2022.102228>
58. N. Marn, **K. Lika**, S. Augustine, B. Goussen, M. Ebeling, D. Heckmann, A. Gergs. 2022. Energetic basis for bird ontogeny and egg-laying applied to the bobwhite quail. *Conserv Physiol* 10(1): coac063. doi:10.1093/conphys/coac063.
59. T. J. Firkus, **K. Lika**<sup>\*\*</sup>, N. Dean, C. A. Murphy. 2023. The consequences of sea lamprey parasitism on lake trout energy budgets. *Conserv Physiol* 11(1):coad006. doi:10.1093/conphys/coad006
60. O. Stavrakidis-Zachou, Papandroulakis, **K. Lika**, 2023. A bioenergetics approach to modelling tolerance limits under acute thermal stress in farmed finfish. *Frontiers Marine Sciences*. 10:1173358. doi: 10.3389/fmars.2023.1173358
61. **K. Lika**, S.A.L.M. Kooijman. 2024. The metabolic interpretation of the von Bertalanffy growth rate. *Ecological Modelling*, 488: 110591. <https://doi.org/10.1016/j.ecolmodel.2023.110591>



## Book chapter

1. J. Val, F. Villa, **K. Lika**, and C. Boe. 1997. Nonlinear Models of Structured Populations: Dynamic Consequences of Stage Structure and Discrete Sampling Compared. In *Structured Population Models in Marine, Freshwater, and Terrestrial Systems* by S. Tuljapurkar and H. Caswell (eds). Chapman & Hall, pp. 587-613.
2. C.A. Murphy, R.M. Nisbet, P. Antczak, N. Garcia-Reyero, A. Gergs, K. Lika, T. Mathews, E.B. Muller, D. Nacci, A. Peace, C.H. Remien, I.R. Schultz, K.H. Watanabe. 2017. Linking Adverse Outcome Pathways to Dynamic Energy Budgets: A conceptual model, In N. Garcia-Reyero and C.A. Murphy (eds) *A Systems Biology Approach to Advancing Adverse Outcome Pathways for Risk Assessment*. Springer, 401 pp.

## Conference publications

1. **K. Lika** and R.M. Nisbet. A Dynamic Energy Budget Model based on Partitioning of Net Production. 4<sup>th</sup> ESMB meeting and SMB annual meeting in Theory and Mathematics in Biology and Medicine, Amsterdam, the Netherlands, June 29-July 3 1999.
2. D. Chatziplis and **K. Lika**. Method for sibling pair analysis using multiple regression for detecting multiple Quantitative Trait Loci. 18th Annual Scientific Conference of the Greek Society of Animal Production, Ioannina, 5-7 June 2002.
3. **K. Lika** and S.A.L.M. Kooijman. 2003. Life history implications of allocation to growth versus reproduction in Dynamic Energy Budgets. 2<sup>nd</sup> International conference on Mathematical Ecology, Alcala, Madrid, Spain, 5-9 September 2003
4. K. A. Triantis K. Vardinoyannis, E. Tsolaki, I. Botsaris, **K. Lika**, M. Mylonas. Re-approaching the small island effect. Annual Conference of Greek Zoological Society, Mytilini 18-21 November 2004.
5. **K. Lika** and I. A. Papadakis. Modeling the biodegradation of phenolic compounds by microalgae. 7<sup>th</sup> European Conference on Mathematical and Theoretical Biology (ESMTB08), Edinburgh, UK 29<sup>th</sup> June - 4<sup>th</sup> July, 2008.
6. A. Palialexis, S. Georgakarakos, I. Karakassis, **K. Lika** and V. D. Valavanis. Use of GIS, remote sensing and regression models for the identification and forecast of small pelagic fish distribution. 2nd International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE) and SECOTOX Conference Mykonos, June 21-26, 2009
7. A. Palialexis, S. Georgakarakos, I. Karakassis, **K. Lika** and V. D. Valavanis. Comparing novel approaches used for prediction of species distribution from presence/absence acoustic data 2nd International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE) and SECOTOX Conference Mykonos, June 21-26, 2009
8. M. G. Lirakis, A. Kousathanas, **K. Lika** & E. Ladoukakis. Studying the variability of the length of animal mtDNA. Proceedings of the 7th conference of the Hellenic Society for Computational Biology & Bioinformatics - HSCBB12, FORTH, Heraklion, Crete, Greece, 4-6/10/2012
9. I. Tsirigotakis, G. Fragkiadakis, N. Panopoulos, **K. Lika**. Escherichia coli defined as a continuous hazard for food safety and for Public Health. Characteristics, genome and metabolism plasticity, virulence ability and preventive measures. MEAT DAYS 19-21 October, 2012
10. **K. Lika**. Topology and Metrics in DEB theory. 2<sup>nd</sup> International Symposium on Dynamic Energy Budget Theory, April 13th to 15th, 2011 Lisboa, Portugal (oral presentation/abstract)

11. **K. Lika** and N. Papandroulakis. Fish larval development: A dynamic energy budget-based comparison of fish species. 3<sup>rd</sup> International Symposium on Dynamic Energy Budget Theory, April 24th to 26th, 2013 Texel, The Netherlands. (oral presentation/abstract)
12. E. Livanou and **K. Lika**. A benthic-pelagic coupled model to identify possible drivers of hypoxia in coastal ecosystems. 4<sup>th</sup> symposium on DEB theory, Marseille, France (28 – 30/04/2015) (poster/abstract)
13. K. Barsakis and **K. Lika**. Modeling phagotrophy and toxicity in mixotrophic phytoplankton: a dynamic energy budget approach. 4<sup>th</sup> symposium on DEB theory, Marseille, France (28 – 30/04/2015) (oral presentation /abstract)
14. **K. Lika**, C. A. Murphy, E. B. Muller, D. Nacci, R. M. Nisbet, C. H. Remien, I. R. Schultz and K. H. Watanabe. Hormone-driven energy allocation for egg loading incorporated into the standard dynamic energy budget model to predict the effects of endocrine disruption. 38<sup>th</sup> annual meeting in North America of the Society of Environmental Toxicology and Chemistry (SETAC), 12–16 November 2017, Minneapolis, Minnesota. (oral presentation /abstract)
15. **C.15.** O. Stavrakidis-Zachou, N. Papandroulakis, P. Anastasiadis, A. Sturm, **K. Lika**. Towards a computer-based ClimeFish DSS for aquaculture stakeholders in Greece. 4th ICDSSST - EWG -DSS Conference on Decision Support Systems Technology & PROMETHEE Days 2018, Hellenic Centre for Marine Research, Heraklion, Greece, May 2018. (oral presentation /abstract)
16. E. Livanou, A. Lagaria, I. Santi, **K. Lika**, S. Psarra. Pigmented and heterotrophic flagellates: abundance and bacterivory in the Eastern Mediterranean Sea. 12<sup>o</sup> Πανελλήνιο Συνέδριο Ωκεανογραφίας και Αλιείας, Πανεπιστήμιο Ιονίου, Κέρκυρα, Ελλάδα (30/5 – 3/6/2018) (oral presentation /abstract)
17. **K. Lika**, E. Muller, C. Murphy, R. Nisbet, D. Nacci, C. Remien, I. Schultz, K. Watanabe. Linking Adverse Outcome Pathways to Dynamic Energy Budgets: the case of hormone-driven energy allocation for egg loading. 6<sup>th</sup> International Symposium on Dynamic Energy Budget Theory for metabolic organization, 8-12 April 2019, Brest, France (oral presentation /abstract)
18. **K. Lika**, O. Stavrakidis-Zachou, N. Papandroulakis. Impacts of climate-related drivers on finfish aquaculture. 6<sup>th</sup> International Symposium on Dynamic Energy Budget Theory for metabolic organization, 8-12 April 2019, Brest, France (oral presentation /abstract)
19. O. Stavrakidis-Zachou, **K. Lika**, N. Papandroulakis. 2019. Forecasting climate change impacts on Greek aquaculture production: a ClimeFish case study. Aquaculture Europe 2019, International Conference and Exposition, Oct 2019, Berlin, Germany. (oral presentation /extended abstract)
20. O. Stavrakidis-Zachou, **K. Lika**, J. Alarcon, M. A. Al-Suwailem, N. Papandroulakis. Biological performance of meagre (*Argyrosomus regius*) under high temperature. Aquaculture Europe 2019, International Conference and Exposition, Oct 2019, Berlin, Germany. (oral presentation / extended abstract)
21. O. Stavrakidis-Zachou, **K. Lika**, M. Pavlidis, N. Papandroulakis. Dynamic Energy Budget models for studying the thermal tolerance of European sea bass (*Dicentrarchus labrax*) and meagre (*Argyrosomus regius*). Aquaculture Europe 2020, International Conference and Exposition, Apr 2021, online. (oral presentation / extended abstract)
22. E. Livanou, A. Lagaria, A. Oikonomou, S. Psarra, **K. Lika**. Modelling nanoflagellates – bacteria interactions in the oligotrophic Eastern Mediterranean Sea. 7<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 17-28 May 2021 Online (oral presentation / extended abstract)
23. B. Goussen, S. Augustine, M. Ebeling, D. Heckman, **K. Lika**, N. Marn, A. Gergs. A DEB egg-laying module for birds exposed to pesticides. 7<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 17-28 May 2021 Online (oral presentation/extended abstract)
24. O. Stavrakidis-Zachou, **K. Lika**, M. Pavlidis, N. Papandroulakis. Preliminary Dynamic Energy Budget models for E. seabass and meagre to predict growth and body composition under high temperatures. Aquaculture Europe 2021, International Conference and Exposition, Oct '21, Funchal, Madeira. (oral presentation/extended abstract)
25. **K. Lika**. O. Stavrakidis-Zachou, E. H. Eding, J. W. Schrama, N. Papandroulakis. A nutritional bioenergetics model: fish growth, oxygen consumption and waste production in response to food composition. Aquaculture Europe 2022, International Conference and Exposition, Sep 2022, Rimini, Italy. (oral presentation/extended abstract)
26. O. Stavrakidis-Zachou, **K. Lika**, N. Papandroulakis. A bioenergetic approach to modeling oxygen availability in fish cages. Towards a tool for early warning in aquaculture. Aquaculture Europe 2022, International Conference and Exposition, Sep 2022, Rimini, Italy. (oral presentation/extended abstract)

27. B. Goussen, N. Marn, **K. Lika**, S. Augustine, M. Ebeling, B. Heckmann, A. Gergs. What does it take to make an egg: A DEB egg laying module for birds applied to the bobwhite quail, SETAC Europe 33rd Annual meeting (30th Apr-04th May 2023), Dublin, Ireland (poster/extended abstract)
28. B. Goussen, S. Augustine, N. Marn, **K. Lika**, M. Ebeling, B. Heckmann, A. Gergs. DEB-TKTD analysis of avian reproduction study: the bobwhite quail exposed to fluopyram, SETAC Europe 33rd Annual meeting (30th Apr-04th May 2023), Dublin, Ireland (poster/extended abstract)
29. E. Klagkou, A. Gergs, C. Baden, and **K. Lika**. Dynamic Energy Budget approach for modeling growth and reproduction of Neotropical stink bugs. 8<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 14-16 June 2023, Baton Rouge, Louisiana, USA (oral presentation/abstract)
30. N. Marn, **K. Lika**, S. Augustine, B. Goussen, M. Ebeling, D. Heckman, and A. Gergs. Energetics of bird reproduction and egg-laying: case study of bobwhite quail. 8<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 14-16 June 2023, Baton Rouge, Louisiana, USA (oral presentation/abstract)
31. O. Stavrakidis-Zachou, N. Papandroulakis and **K. Lika**. Determining energy-limited tolerance to acute thermal stress in farmed finfish. 8<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 14-16 June 2023, Baton Rouge, Louisiana, USA (oral presentation/abstract)
32. S. Augustine, **K. Lika**, N. Marn, and S.A.L.M. Kooijman. Dynamic Energy Budget theory based invariants of life histories. 8<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 14-16 June 2023, Baton Rouge, Louisiana, USA (oral presentation/abstract)
33. S.A.L.M. Kooijman, S. Augustine, N. Marn, **K. Lika**, and M. Kearney. Remarkable combinations of data types in the AmP collection. 8<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 14-16 June 2023, Baton Rouge, Louisiana, USA (oral presentation/abstract)
34. S. Augustine, B. Goussen, **K. Lika**, N. Marn, M. Ebeling, D. Heckmann, and A. Gergs. The bobwhite quail exposed to fluopyram: analysis of standard sub-lethal bird OECD data with the DEB model. 8<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 14-16 June 2023, Baton Rouge, Louisiana, USA (oral presentation/abstract)
35. T. Firkus, **K. Lika**, C. Murphy, and N. Dean. The consequences of sea lamprey parasitism on lake trout energy budgets. 8<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 14-16 June 2023, Baton Rouge, Louisiana, USA (oral presentation/abstract)
36. **K. Lika**, S. Augustine, N. Marn, M. Kearney, and S.A.L.M. Kooijman. Structuring animal biodiversity according to five patterns. 8<sup>th</sup> International Symposium on Dynamic Energy Budget Theory, 14-16 June 2023, Baton Rouge, Louisiana, USA (poster/abstract)

## Research Projects

Project Title	Funding source	Amount (Euros)	Period	Role
DEB insect project	Bayer AG	150,000	2021-2025	PI
AQUAEXCEL3.0: AQUAculture infrastructures for EXCELlence in European fish research 3.0	H2020 Research and Innovation action (via HCMR)	9,981,114 (total) 1,000,000 (WP)	2020-2025	Researcher - leading the research group for expanding fish growth models as tools for designing experiments in aquaculture research facilities
Inovative actions for the monitoring - recovering – enhancement of the	ΕΠΙΛΟΘ	43,290 (UoC)	2021-2023	Researcher- advising and leading the research group

natural recruitment of the endangered species (funmussel) <i>Pinna nobilis</i>				for modeling the environmental and pathogenic effects on the energetics of <i>Pinna nobilis</i>
Developing a pregnancy module for mammals and birds in the Dynamic Energy Budget modelling framework	Ibacon GmbH	85,000	2019-2023	co-PI
ClimeFish: Co-creating a decision support framework to ensure sustainable fish production in Europe under climate change	H2020 Research and Innovation action (via HCMR)	5,000,000 (total)	5/2016-4/2019	Researcher - leading the research group for investigating the impact of climate changes on Mediterranean finfish aquaculture
AQUAEXCEL2020: AQUAculture infrastructures for EXCELlence in European fish research towards 2020	H2020 Research and Innovation action (via HCMR)	9,708,867 (total)	5/2015-4/2019	Researcher - leading the research group for developing fish growth models as tools for designing experiments in aquaculture research facilities
3 year PhD Salary for studying the major abiotic and biotic factors affecting the size spectra of pelagic organisms	GSRT General Secretariat for Research and Technology	25,200	2017-2020	Supervising PI
Benthic pelagic coupling: hypoxia and regime shifts (HYPOXIA)	EU/GSRT Aristeia II		3/2014-7/2015	Researcher-leading the research group for developing the models for coupling fish growth models as tools for designing experiments in aquaculture research facilities
A new integrative framework for the study of fish welfare based on the concepts of allostasis, appraisal and coping styles (COPEWELL)	EU-FP7		01/2012-12/2015	Researcher – develop models for assessing the effects of stress on fish bioenergetics

Increase  
competitiveness of  
greek aquaculture  
through innovative  
programs in European  
sea bass  
(*Dicentrarchus labrax*)  
genetic selection

Operational  
Programme  
“Fisheries  
2007-2013”

3/2014-  
10/2015

Researcher -  
Statistical  
processing of  
growth data and  
development of  
methods to  
determine weight  
gain in fish