

CURRICULUM VITAE

NAME: Dimitris Stavrou

CURRENT POSITION: Professor of Science Education, University of Crete, Faculty of Education, Department of Primary Education

Director of the Science Teaching Laboratory

TEL.: +30 2831077585 / +302831077115

E-MAIL: dstavrou@edc.uoc.gr

EDUCATION

- PhD. in Science Education, University of Kiel, Germany (2004).
Title of the thesis: *"The interplay of chance and determinism in nonlinear systems. Educational analysis and learning processes"*
- Master in Science Education, University of Athens, Department of Primary Education, Greece (1998)
- B. Sc. in Chemistry, Department of Chemistry, University of Athens, Greece (1992)
- A.A. Pedagogical Academy of Larisa, Greece (1986)

RESEARCH INTERESTS

- Educational Reconstruction of modern science topics
(Nanotechnology, Nonlinear Systems, Quantum Mechanics)
- Pre- and in-service teacher training in Science Education (in school & out of school learning environments)
- Science Education & Educational Technology

TEACHING EXPERIENCE

- Undergraduate and Postgraduate courses focused on science teaching
- Courses focused on science teaching in Teachers' Professional Development Programs

PUBLICATIONS

Book: 1

Articles in Journals: 20

Collective Volumes (Editor): 6

Articles in International Conferences: 35

Articles in National Conferences (Greece and German): 73

List of Selected Publications

A. BOOKS

1. Stavrou Dimitrios (2004). *Das Zusammenspiel von Zufall und Gesetzmäßigkeiten in der nichtlinearen Dynamik. Didaktische Analyse und Lernprozesse*. [The interplay of chance and determinism in nonlinear systems. Educational analysis and learning processes]. H. Niedderer & H. Fischler (Eds.), *Studien zum Physiklernen*, Berlin: Logos (PhD thesis).

B. CONTRIBUTIONS TO JOURNALS

a. International

2. Sgouros, G. & Stavrou, D. (2019). Teachers' professional development in Nanoscience and nanotechnology in the context of a Community of Learners. *International Journal of Science Education*, 15, 2070-2093.
3. Mandrikas, A., Michailidi, E., & Stavrou, D. (2019). Teaching nanotechnology in primary education. *Research in Science & Technological Education*, <https://doi.org/10.1080/02635143.2019.1631783>.
4. Iliaki, G., Velentzas, A., Michailidi, E., & Stavrou, D. (2019). Exploring the music: a teaching-learning sequence about sound in authentic settings. *Research in Science & Technological Education*, 37(2), 218-238.
5. Stavrou, D., Michailidi, E., & Sgouros, G. (2018). Development and dissemination of a teaching learning sequence on nanoscience and nanotechnology in a context of communities of learners. *Chemistry Education Research and Practice*, 19, 1065-1080
6. Mandrikas, A., Stavrou, D., Halkia, K. & Skordoulis, C. (2018). Preservice Elementary Teachers' Study Concerning Wind on Weather Maps. *Journal of Science Teacher Education*. 29, 1, 65-82
7. Mandrikas, A., Stavrou, D. & Skordoulis, C (2017). Teaching air pollution in an authentic context. *Journal of Science Education & Technology*, 26, 2, 238-251

8. Mandrikas, A., Stavrou, D. & Skordoulis, C (2017). A teaching-learning sequence about weather map reading. *Physics Education*, **52** (2017) 045007 (10pp)
9. Stavrou, D. & Duit, R. (2014). Teaching and Learning the Interplay Between Chance and Determinism in Nonlinear Systems. *International Journal of Science Education*, 36, 3, 506-530.
10. Skordoulis, C., Tolias, V. Stavrou, D., Karamanos, K. & Gkiolmas, A. (2014). Teaching Chaos with a Pendulum to Greek Secondary School Students. *Advances in Systems Science and Application*, 13, (3), 158-169
11. Stavrou, D., Assimopoulos, S. & Skordoulis, C. (2013). A unit on deterministic chaos for student teachers. *Physics Education*, 48, (3), 355-359
12. Gkiolmas, A., Karamanos, K, Chalkidis,, A., Skordoulis, C., Papaconstantinou, M. & Stavrou, D. (2013). Using Simulations of NetLogo as a Tool for Introducing Greek High-School Students to Eco-systemic Thinking. *Advances in Systems Science and Application*, 13, (3), 275-297
13. Karamanos, K, Gkiolmas, A., Chalkidis, A., Skordoulis, C., Papaconstantinou, M. & Stavrou, D. (2012). Ecosystem Food-webs as Dynamic Systems: Educating Undergraduate Teachers in Conceptualizing Aspects of Food-webs' Systemic Nature and Comportment. *Advances in Systems Science and Application*, 12, (4), 49-68
14. Kalkanis, G., Hadzidaki, P. & Stavrou, D. (2003). An instructional model for a radical conceptual change towards quantum mechanics concepts. *Science Education* 87, (2), 257-280.
15. Hadzidaki, P., Kalkanis, G. & Stavrou, D. (2000). Quantum mechanics: A systemic component of the modern physics paradigm. *Physics Education* 35, (6), 386-392.

b. Greek

16. Μιχαηλίδη Α. & Σταύρου Δ. (2017) Έρευνα Αιχμής και Κοινωνικοεπιστημονικά Ζητήματα στη Διδασκαλία των Φυσικών Επιστημών [Cutting-edge science and socioscientific issues in science education]. *Επιστήμες Αγωγής* (Θεματικό Τεύχος 2016), [Education Sciences Journal] (Special Issue) pp. 73 - 95

17. Σταύρου Δ. (2013). Μη Γραμμικά Δυναμικά Συστήματα στη Διδασκαλία των Φυσικών Επιστημών [Nonlinear Systems in Science Teaching. Themes in Science & Technology Education, 6(1-2), 49-66.

c. German

18. Bücken, N. & Stavrou, D. (2006) Strukturen: Zufall trifft Naturgesetz (Structures: Chance meets the physical Law) *Naturwissenschaften im Unterricht, Physik* 17, 94, 32-37.
19. Stavrou, D., Komorek, M. & Duit, R. (2005). Didaktische Rekonstruktion des Zusammenspiels von Zufall und Gesetzmäßigkeit in der nichtlinearen Dynamik. [Educational Reconstruction of the Interplay of Chance and Determinism in nonlinear systems]. *Zeitschrift für Didaktik der Naturwissenschaften (ZfDN)*, 11, 147-164.

C. COLLECTIVE VOLUMES

20. Dimitris Stavrou, Michail Kalogiannakis, Emily Michailidi, Athanasia Kokolaki, Argyris Nipyraakis (2019). Book of Synopses, ESERA Summer School 2019, University of Crete, Greece.
21. Σταύρου Δ., Μιχαηλίδη Α. & Κοκολάκη Α. (Eds.) (2018) Proceedings of the 10th Pahnellenic Conference on Science Education and ICT (ENEPHET), University of Crete
22. Σταύρου Δ. (2017, Ed.). Σύγχρονες τάσεις στη Διδακτική των Φυσικών Επιστημών. [Current Trends in Science Education]. *Επιστήμες Αγωγής*. (Education Sciences Journal]. University of Crete.
23. M. Kalogiannakis, D. Stavrou & P. Michaelidis (Eds.) (2010). Proceedings of the 7th International Conference on Hands-on Science, 25-31 July 2010, Rethymno-Crete. (<http://www.clab.edc.uoc.gr/hsci2010/>)

D. CONTRIBUTIONS IN SPECIAL ISSUES OF INTERNATIONAL CONFERENCES

24. Sgouros, G. & Stavrou, D. (2019). Teachers' training in developing nanoscience and nanotechnology teaching modules in the context of a community of learners. In: McLoughlin, E., Finlayson, O.E., Erduran, S., Childs, P. (Eds.). *Bridging Research and Practice in Science Education (Selected Paper of the ESERA 2017 Conference)*. pp. 339 - 356

25. Stavrou, D., Michailidi, D., Sgouros, G., & Dimitriadi, K. (2015). Teaching high-school students nanoscience and nanotechnology. *LUMAT*, 3(4), 501-511. (The special issue of ECRICE – European Conference on Research in Chemistry Education 2014)
26. Komorek, M., Stavrou, D., & Duit, R. (2003). *Non-linear physics in upper physics classes: Educational Reconstruction as a frame for development and research in a study of teaching and learning basic ideas of nonlinearity*. In: D. Psillos, P. Kariotoglou, V. Tselves, E. Hatzikraniotis, G. Fassoulopoulos, & M. Kallery (Eds.), *Science Education Research in the Knowledge Based Society*, 269-276. Dordrecht: Kluwer.

E. CONTRIBUTIONS IN PROCEEDINGS OF INTERNATIONAL CONFERENCES (more recent)

27. Michailidi, E. & Stavrou, D. (2018). *Teacher training on implementing modules on cutting-edge research topics with socio-scientific aspects*. In: Finlayson, O.E., McLoughlin, E., Erduran, S., & Childs, P. (Eds.) (2018). *Electronic Proceedings of the ESERA 2017 Conference. Research, Practice and Collaboration in Science Education, Part/Strand: 18: Summer School* (co-ed. Iva Stuchlíková & Robert Evans), (pp. 2285 - 2293). Dublin, Ireland: Dublin City University. ISBN 978-1-873769-84-3
28. Stefanidou, C., Skordoulis, C & Stavrou, D. (2018). *Teaching Laws, Theories and Models in the Context of Nature of Science through the History of Maxwell's Electromagnetic Theory*. In: Finlayson, O.E., McLoughlin, E., Erduran, S., & Childs, P. (Eds.) (2018). *Electronic Proceedings of the ESERA 2017 Conference. Research, Practice and Collaboration in Science Education, Part/Strand: 6: Nature of Science* (co-ed. Irene Neumann & Veli-Matti Vesterinen), (pp. 840 - 849). Dublin, Ireland: Dublin City University. ISBN 978-1-873769-84-3
29. Stavrou, D. (2016). *Educational Reconstruction of Nonlinear Systems: Transforming the science content into content for instruction*. In J. Lavonen, K. Juuti, J. Lampiselkä, A. Uitto & K. Hahl (Eds.), *Electronic Proceedings of the ESERA 2015 Conference. Science education research: Engaging learners for a sustainable future*, (pp.785 -791). Helsinki, Finland: University of Helsinki.
30. Stavrou, D. & Savvoriginakis, V. (2016). *Experimental Microcomputer-based Activities Developed and Implemented by Pre-Service Primary*

Teachers. In J. Lavonen, K. Juuti, J. Lampiselkä, A. Uitto & K. Hahl (Eds.), *Electronic Proceedings of the ESERA 2015 Conference. Science education research: Engaging learners for a sustainable future*, (pp.1994 -2001). Helsinki, Finland: University of Helsinki.

31. Alexopoulos, I., Michailidi, E., Sgouros, G. Kalaitzidaki, M. & Stavrou, D. (2016). *RRI and Nanotechnology: Developing a Teaching Module and Exhibits for Primary and Secondary Students*. In J. Lavonen, K. Juuti, J. Lampiselkä, A. Uitto & K. Hahl (Eds.), *Electronic Proceedings of the ESERA 2015 Conference. Science education research: Engaging learners for a sustainable future*, (pp. 1160 -1166). Helsinki, Finland: University of Helsinki.

INVITED TALKS

- 9th Panhellenic Conference on Science Education and ICT (ENEPHET), Thessaloniki, 8 – 10 May 2015
- European Science Education Research Association (ESERA) Summer School 2014, Kapadokya, TURKEY (24-29 August 2014)
- One-day conference on Science Education for Science Teachers. (Heraklion & Rethymno Crete, 1/11/2011, 3/3/2012, 6/2/2016, 23/6/2016)
- 3rd Erasmus Week (21 – 26th of May 2017). *Department of Electronic Engineering of TEI of Crete*. STEM Education session (Chania, 25/5/2017)

RESEARCH PROJECTS

Principal Investigator

- IDENTITIES (2019 – 2022): *Integrate Disciplines to Elaborate Novel Teaching approaches to InTerdisciplinarity and Innovate pre-service teacher Education for STEM challenges*. Eu Erasmus+ KA2
- IKYDA (2018 – 2020): Promoting the exchange and the scientific cooperation between Greece (IKY) and Germany (DAAD). Title of the research project: *"Bridging the gap between formal and informal learning environments"* (Department of Primary Education, University of Crete and Institute of Physics, University of Oldenburg)
- IRRESISTIBLE (2013 – 2016): *Including Responsible Research and innovation in cutting Edge Science and Inquiry-based Science education to improve Teacher's Ability of Bridging Learning Environments*. Fp7 Framework EU-Project <http://www.irresistible-project.eu> & <http://irresistible-greece.edc.uoc.gr>

- “*Primary Student Teachers’ Training in Inquiry Based Science Teaching*”, *Start_Up_Grant*, Research Account, University of Crete (2013 - 2015)

Member of the Research Team

- GINT (2016 -2020): Lernen in informellen Räumen [STEM – Learning in out of school contexts]. PhD program: Institute of Physics, University of Oldenburg, Germany
- “*Pri_Sci_Net*” (2011 – 2014): *Networking Primary Science Educators as a means to provide training and professional development in Inquiry Based Teaching*. Fp7 Framework EU-Project
- Educational Reconstruction of Nonlinear Systems, Institute for Science and Mathematics Education (IPN), University of Kiel, Germany (2000-2004)

CONFERENCE ORGANIZING COMMITTEES

- Head of the Organizing Committee of the ESERA Summer School 2019, University of Crete, 4 – 9 June 2019
- Head of the Organizing Committee of the 10th Panhellenic Conference on Science Education and ICT (ENEPHET), Rethymno, University of Crete, 7-9 April 2017.
- Member of the 7th International Conference on Hands-on Science (Vice-President), 25-31 July 2010, Rethymno, The University of Crete, Greece.

REVIEW OF ARTICLES

JOURNALS

- International Journal of Science Education (IJSE)
- Science & Education
- Chemistry Education Research and Practice (CERP)
- Journal of Chemical Education
- Chemistry Teacher International
- *Research and Practice in Math, Science and Technology Education* (LUMAT)
- *Θέματα Επιστημών και Τεχνολογίας στην Εκπαίδευση* (Themes in Science and Technology Education)
- *Επιστήμες της Αγωγής* (Educational Sciences)

INTERNATIONAL CONFERENCES

- *European Science Education Research Association (ESERA)*, (2011 – 2019)
- *“World Conference on Physics Education” (WCPE)*, (2012 & 2016)
- *NARST Annual international conference (2015)*.
- *GIREP – MPLT (2014)*

OTHER SCIENTIFIC ACTIVITIES

- Director of the Science Teaching Laboratory, Department of Primary Education (since March 2015).
- President (2015 -2017) and Vice-President (2019 – 2021) of the Hellenic Association for Science Education and ICT in Education (ENEPHET)
- Member of the Studies Committee of the Department of Primary Education, University of Crete (2010-2013 & 2020 - today)
- Member (substitute) of the Research Committee of the Special Account of the University of Crete (2011- 2013)
- Member of the Postgraduate Committee of the Department of Primary Education, University of Crete (2012-2014)
- ERASMUS Coordinator of the Department of Primary Education for students visiting partner Universities in Germany
- Supervision of five Ph.D. thesis (two completed)
- Member of the 3-member Committee of 5 doctoral thesis
- Member of the 7-member Committee of 17 doctoral thesis
- Supervision of 11 master thesis
- Supervision of 40 diploma thesis