DESPINA SAMAKOVLI

Personal Information

Date & place of Birth	18th July 1976, Athens
Nationality	Greek
Family Status	Single
Professional Address	National and Kapodistrian University of Athens Biology Department Division of Botany Molecular Plant Dev. Laboratory 15784 Athens, Greece
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Education

2003- 2007	PhD in Plant Molecular Biology, Agricultural University of Athens, GR
2001- 2003	MSc in Plant Biotechnology, Agricultural University of Athens, GR
1995- 2000	BSc in Agricultural Biotechnology, Agricultural University of Athens, GR

Grants / Scholarships/ Awards

- Director's Award of Excellence 2020 for scientific publications (Department of Cell Biology, Palacky University of Olomouc, Czech Republic
- Director's Award of Excellence 2017 for scientific publications (Department of Cell Biology, Palacky University of Olomouc, Czech Republic
- GACR fellowship as a principal researcher (2016-2019)
- EMBO short term fellowship (2016)
- IKY (The State Schorarship Foundation) (2001-2004).

Seminars

*"**Introduction in System Biology**"* created by Icahn School of Medicine at Mount Sinai, online seminar 2016.
"***Methodology and application issues in the management of research, technology and innovation***" created by National Technical University of Athens, Athens 2005

Academic and Research Activities

2023-present	Assistant Professor at the National and Kapodistrian University of Athens, Biology Department, Division of Botany, Plant Physiology Laboratory (**ΦΕΚ: Αρ. Φύλλου 2690, 13/10/2023**)
2021- 2023	Agricultural University of Athens, Greece Post-doctoral researcher Supervisor: Prof. Polydefkis Hatzopoulos **Project topic:** "Post-transcriptional gene circuitry outcomes and post-translational modifications to advance development and plant growth" Funding source: HFRI-2020-02746 **Project topic:** "Characterization and evaluation of the genetic material of Olive europea aiming to the adaptation to climate change and the production of high nutritional and organoleptic value of olive oil products" Funding source: INTERREG/ESPA 2014- 2020
2015 - 2021	Department of Cell Biology Centre of the Region Haná for Biotechnological and Agricultural Research, Palacký University Olomouc Post-doctoral researcher position Supervisor: Prof. Josef Šamaj Project topic: • The role of HSP90 protein in the crosstalk between brassinosteroid and MAPK signaling pathways**.** • Genetic and cell biology approaches to study regulation of YODA (MAP3K4) signaling by HSP90 proteins in Arabidopsis. Funding Source: Czech Science Foundation, Czech Republic, GACR (project 17-24500S)

2015- 2015 Agricultural Biotechnology Department of the Agricultural University of Athens, Greece
Post-doctoral researcher position
Project topic: Signaling and developmental pathways that determine the beginning and the end of the life cycle of plants.
Supervisor: Prof. Polydefkis Hatzopoulos
Funding source: ARISTEIA BeLiCy/1200 grant funded by GSRT-Greece 2012-2015

2012 –2015 Department of Biology University of Crete, Heraklion, Greece and Agricultural Biotechnology Department of the Agricultural University of Athens, Greece
Post-doctoral researcher position
Project topic: Analysis of molecular mechanisms implicated in plant resistance to abiotic stress
Supervisor: Prof. Kyriakos Kotzabasis and Prof. Polydefkis Hatzopoulos
Funding source: THALES ABISTOLE grant co-funded by the Ministry of Education of Greece

2009 –2012 Agricultural Biotechnology, Agricultural University of Athens, Greece
Post-doctoral researcher position
Project topics:

- HSP90 role in downstream nuclear events in brassinosteroid signalling
- Analysis of HSP90 RNAi silencing constructs under different promoters
- The role of HSP90 proteins in shoot meristem and xylem development

Supervisors: Prof. Polydefkis Hatzopoulos, Dr. Dimitra Milioni
Funding source: FP7 and KBBE

2007- 2008 Agricultural Biotechnology Department, Agricultural University of Athens, Greece
Post-doctoral researcher position
Project topic: Subcellular localization of the two cytoplasmic Arabidopsis HSP90 members, AtHSP90.1 and AtHSP90.3, in response to various hormonal treatments
Supervisor: Prof. Polydefkis Hatzopoulos
Funding source: PHYTHAGORAS I byGSRT-Greece.

2003- 2007 Agricultural Biotechnology Department, Agricultural University of Athens, Greece
PhD study
Project topic: Molecular, functional and subcellular analysis of the role of HSP90 genes in *Arabidopsis thaliana*
Supervisor: Prof. Polydefkis Hatzopoulos
Funding source: PENED (01/148) by GSRT-Greece

2001- 2003 Agricultural Biotechnology Department, Agricultural University of Athens, Greece
MSc study
Project topic: The organelle HSP90 gene role in *Arabidopsis thaliana*
Supervisor: Prof. Polydefkis Hatzopoulos
Funding source: IKY (Greek State scholarships).

1998- 2000 Agricultural Biotechnology Department, Agricultural University of Athens, Greece
Undergraduate laboratory assistant
Supervisor: Prof. Polydefkis Hatzopoulos

Research Interests

HSP90 protein role in plant development (apical meristems, inflorescence, hypocotyl, stomata, embryo, seed development)
Cell biology/microscopy
HSP90 protein role in hormone perception and signaling
Plant response to abiotic stress
Protein-Protein interactions
Post-translational protein modifications
Protein transport and trafficking.
Hormone perception and transduction mechanisms
Protein trafficking to organelles and functional analysis
Chromatin remodeling
Epigenetic phenomena and their role in plant development

Research Projects

2022: HFRI-2020-02746, Ministry of Development, Greece) (participant researcher)
2021: INTERREG/ESPA 2014- 2020, Ministry of Development, Greece) (participant researcher)
2019-2020: Czech Science Foundation GAČR (project No. 19-00598S) (participant researcher)
2017-2019: Czech Science Foundation GAČR (project No. 17-24500S) (principal researcher)
1/2015-7/2015: ARISTEIA BeLiCy/1200 by GSRT as a participant researcher
9/2012-1/2015: THALES ABISTOLE Ministry of Education of Greece (participant researcher)
10/2009-9/2012: FP7 and KBBE (participant researcher)
8/2007-3/2008: PHYTHAGORAS by GSRT (participant researcher)
3/2003-7/2007: PENED 01/148 (participant researcher)

Meeting Abstracts/ Conferences/ Talks

"73th EEBMB" Athens, Greece, 1-3 December 2023**.**
HSP90 molecular chaperone as a key regulator of brassinosteroid mediated signaling processes. (Short talk).
"73th EEBMB" Athens, Greece, 1-3 December 2023**.**

HSP90 is a key regulator of the GA signaling pathway Panagiotopoulos K., Samakovli D., Plitsi P.K., Rambou A.,Hatzopoulos P., Milioni D.
"73th EEBMB" Athens, Greece, 1-3 December 2023**.**
Study of the role of Hsp90 proteins in the organization and development of the vascular system in *A. thaliana* Basdeki V., Chatzirvasanis S., Podia V., Adamakis I.D., Giannoutsou E., Samakovli D., Milioni D., Haralampidis K.
"73th EEBMB" Athens, Greece, 1-3 December 2023**.**
Molecular and biochemical properties of 7-deoxyloganetic acid glucosyltransferase (7-DLGT) homologues from olive tree Thomopoulou M., Pantidi G., Stathaki I.A., Mpaxevanakis I., Baldou K., Samakovli D., Koudounas K., Hatzopoulos P.
"73th EEBMB" Athens, Greece, 1-3 December 2023**.**
Uncovering the role of HSP90 in gene transcriptional regulation. Plitsi P.K., Gkritzas R., Apostolou V., Roka L., Samakovli D., Hatzopoulos P., Milioni D.
"4th International Brassinosteroid Conference" Ghent, Belgium 16-18, August, 2023.
HSP90 molecular chaperone as a key regulator of brassinosteroid mediated signaling processes.
Invited Speaker
"4th International Brassinosteroid Conference" Ghent, Belgium 16-18, August, 2023.
HSP90 control PM localization of BRI1 in a tissues-dependent manner.
Roka L., Samakovli D., Plitsi P.K., Gritzas R., Haralampidis K., Hatzopoulos P., Milioni D.
"*EMBO Workshop, Molecular responses of plants facing climate change"* 13-17 June, 2022.
HSP90 alters SAM morphology during reproductive phase transition in *Arabidopsis thaliana*.
Plitsi P.,Karaiskou E, Xideros Malefakis N, Roka L., Samakovli D., Haralampidis K., Hatzopoulos P., Milioni D. (2022)
"Pluripotency in Plant Development SLS'20" 22-25 September, 2020.
Effect of HSP90 in stem cell homeostasis in Arabidospsis thaliana.
Plitsi P., Samakovli D., Roka L., Milioni D., Hatzopoulos P. (2020)
"Plant Biotechnology: Green for Good V" Olomouc, Czech Republic, 10-13 June, 2019.
Heat stress impact on stomata patterning and development in the model plant Arabidopsis thaliana. Ticha T, Samakovli D and Samaj J.
Plant Biotechnology: Green for Good V" Olomouc, Czech Republic, 10-13 June, 2019.
Heat Shock Proteins HSP90 modulate stomata formation through interactions with YODA. Samakovli D, Komis G, Ovecka M, Luptovciak I, Samajova O, Roka L, Hatzopoulos P and Samaj J.
Plant Biotechnology: Green for Good V" Olomouc, Czech Republic, 10-13 June, 2019.
The essential role of microtubule severing protein KATANIN 1 in fertility and seed formation in Arabidopsis. Luptovciak I, Samakovli D, Komis G and Samaj J.
"European Congress on Biotechnology" Geneva, Switzerland 1-4 July, 2018. Development of stomata is mediated by interactions between heat shock proteins 90 and YODA signalling pathway. D Samakovli, I Luptovciak, M Ovecka, T Tichá, V Zapletalová, Y Krasylenko, G Komis, O Šamajová, L Roka, D Milioni, P Hatzopoulos, J Šamaj
"*Hellenic Society of Biochemistry and Molecular Biology, 68th National Conference"* Athens, Greece (10-12 November 2017). HSP90 is required for GA-promoted hypocotyl elongation.
Plitsi P.K., Samakovli D., Roka L., Milioni D., Hatzopoulos P,
"Plant Biotechnology: Green for Good IV" Olomouc, Czech Republic (June 2017). Development of stomata is mediated by interactions between heat shock proteins 90 and YODA signalling pathway. D Samakovli, I Luptovciak, M Ovecka, T Tichá, V Zapletalová, Y Krasylenko, G Komis, O Šamajová, L Roka, D Milioni, P Hatzopoulos, J Šamaj New Biotechnology 44, S16
"European Congress on Biotechnology" Krakow Poland, 3-6 July, 2016. Luptovčiak I, Samakovli D, Zapletalová V, Komis G, Šamajová O, Ovečka M, Kuchařová A, Šamaj J Centre of the Region Haná for Biotechnological and Agricultural Research, Palacký University, Olomouc, Šlechtitelů 27, 783 71 Olomouc, Czech Republic "YODA and MPK6 have critical roles in the postembryonic root development"

"***Plant Biology Congress"*** jointly organized by FESPB and EPSO": Freiburg, Germany, 29 July-3 August, 2012. "HSP90 is an integral component in BR signaling." Hatzopoulos P, Samakovli D, Margaritopoulou T, Prasinos C and Milioni D.
"EMBO Conference 'Plant development and environmental interactions", 27-30 May, 2012, Matera, Italy.
"HSP90 is an integral component in BR signaling." Hatzopoulos P, Samakovli D, Margaritopoulou T, Prasinos C and Milioni D.
"***Plant Hormones and Signaling"*** Keystone Colorado 10-15 February, 2008.
"HSP90 activity in brassinosteroid signaling" Samakovli D., Thanou A., Prasinos C., and Hatzopoulos P.
"***HSP90 chaperone machine***" Seeon Germany, 30 September- 4 October, 2006.
"HSP90 activity in brassinosteroid signaling" Samakovli D., Thanou A., Prasinos C., and Hatzopoulos P.
"HSP90 chaperone machine" Gwatt, Switzerland, 25-29 September, 2004.
"HSP90 action in brassinosteroid signalling" Samakovli D. and Hatzopoulos P.
"*Auxin 2004*" Kolymbari Crete, Greece, 22-27 May, 2004.
"HSP90 involvement in auxin-brassinosteroid crosstalk" Samakovli D. and Hatzopoulos P.

Publications

(Total Impact Factor ~172, Total Citations >547, h index=12)

Xue, Q., Samakovli, D., Swevers, L. *et al.* (2023). "Drosophila X virus-like particles as efficient dsRNA carriers for improved RNAi against the invasive species, *Drosophila suzukii"*. *J Pest Sci* https://doi.org/10.1007/s10340-023-01645-1 (cited by 1 related article)

Plitsi PK, Samakovli D, Roka L, Rampou A, Panagiotopoulos K, Koudounas K, Isaioglou I, Haralampidis K, Rigas S, Hatzopoulos P, Milioni D (2022) "GA-Mediated Disruption of RGA/BZR1 Complex Requires HSP90 to Promote Hypocotyl Elongation". Int J Mol Sci. 24:88. (cited by 1 related article)
Samakovli D, Roka L, Plitsi P K, Drakakaki G; Haralampidis K; Stravopodis D J, Milioni D, Hatzopoulos P. "BRI1 and BAK1 canonical distribution in plasma membrane is HSP90-dependent". *Cells* **2022**, *11*(21), 3341; https://doi.org/10.3390/cells11213341. (cited by 2 related articles)

Samakovli D[#], Roka L[#], Dimopoulou A, Plitsi PK, Žukauskaitė A, Georgopoulou P, Novák O, Milioni D, Hatzopoulos P. (2021). HSP90 affects root growth in Arabidopsis by regulating the polar distribution of PIN1. *New Phytol*. 4. doi: 10.1111/nph.17528. (cited by 12 related articles)

Samakovli D*, Tichá T, Vavrdová T, Závorková N, Pecinka A, Ovečka M, Šamaj J. (2021) HEAT SHOCK PROTEIN 90 proteins and YODA regulate main body axis formation during early embryogenesis. *Plant Physiol*. kiab171. doi: 10.1093/plphys/kiab171. (Plant Physiology Article of the week, cited by 10 related articles)

Samakovli D*, Komis G and Šamaj J. (2020) Uncovering the genetic networks driving stomatal lineage development. *Mol Plant*. 13:1355-1357 (cited by 3 related articles)

Samakovli D*, Tichá T, Šamaj J (2020). HSP90 chaperones regulate stomatal differentiation under normal and heat stress conditions. Plant Signaling & Behavior, 1789817 (cited by 14 related articles)

Ovečka M, Luptovčiak I, Komis G, Šamajová O, Samakovli D and Šamaj J. (2020). Spatiotemporal Pattern of Ectopic Cell Divisions Contribute to Mis-Shaped Phenotype of Primary and Lateral Roots of katanin1 Mutant. *Front Plant Sci 11, 734. (*cited by 14 related articles)

Tereza Tichá[#], Despina Samakovli[#], Anna Kuchařová, Tereza Vavrdová, Jozef Šamaj[*] (2020) Multifaceted roles of HEAT SHOCK PROTEIN 90 molecular chaperones in plant development. *J Exp Bot* 71:3966-3985. (cited by 40 related articles)

Samakovli D*, Tichá T, Vavrdová T, Ovečka M, Luptovčiak I, Zapletalová V, Kuchařová A, Křenek P, Krasylenko Y, Margaritopoulou T, Roka L, Milioni D, Komis G, Hatzopoulos P, Šamaj J. (2020) YODA-HSP90 Module Regulates Phosphorylation-Dependent Inactivation of SPEECHLESS to Control Stomatal Development under Acute Heat Stress in Arabidopsis. *Mol Plant*. 13:612-633 (cited by 65 related articles). ***F1000 recommended***

Samakovli D[#], Roka L[#], Plitsi PK, Kaltsa I, Daras G, Milioni D, Hatzopoulos P (2020) Active BR signalling adjusts the subcellular localisation of BES1/HSP90 complex formation *Plant Biol* (Stuttg). 22:129-133 (cited by 15 related articles)

Samakovli D, Ticha T, Ovecka M, Luptovciak I, Zapletalova V, Krasylenko Y, Komis G, Samajova O, Margaritopoulou T, Roka L, Milioni D, Hatzopoulos P, Samaj J. (2018) Environment and HSP90 modulate MAPK stomatal developmental pathway. bioRxiv, 426684. (cited by 2 related articles)

Samakovli, D., Luptovciak, I., Ovecka, M., Tichá, T., Zapletalová, V., Krasylenko, Y., Komis, G., Šamajová, O., Roka, L., Milioni, D. and Hatzopoulos, P., (2018). Heat shock protein 90 interplay with YODA signalling pathway modulates SPCH activity to regulate stomata development. *New Biotechnology*, *44*, p.S102.

Samakovli, D., Ovecka, M., Tichá, T., Luptovciak, I., Zapletalová, V., Krasylenko, Y., Komis, G., Šamajová, O., Roka, L., Milioni, D. and Hatzopoulos, P., (2018). Development of stomata is mediated by interactions between heat shock proteins 90 and YODA signalling pathway. *New Biotechnology*, *44*, p.S16.

Komis G, Luptovčiak I, Ovečka M, Samakovli D, Šamajová O, Šamaj J. (2017) Katanin Effects on Dynamics of Cortical Microtubules and Mitotic Arrays in Arabidopsis thaliana Revealed by Advanced Live-Cell Imaging. *Front Plant Sci* 8:866. doi: 10.3389/fpls.2017.00866. (cited by 60 related articles)

Luptovčiak I[#], Samakovli D[#], Komis G, and Šamaj J (2017). KATANIN 1 Is Essential for Embryogenesis and Seed Formation in Arabidopsis. *Front Plant Sci.* 728 doi: 10.3389/fpls.2017.00728 (cited by 18 related articles)

Margaritopoulou T, Kryovrysanaki N, Megkoula P, Prassinos C, Samakovli D, Milioni D and Hatzopoulos P. (2016). "HSP90 canonical content organizes a molecular matrix mechanism to progress flowering". *Plant Journal* 87: 174-187. (cited by 36 related articles)

Samakovli D, Prasinos C, Margaritopoulou T, Milioni D and Hatzopoulos P (2014) Brassinosteroid nuclear signaling recruits HSP90 activity. *New Phytol* 203:743-757. (cited by 59 related articles)

Prassinos C, Haralampidis K, Milioni D, Samakovli D, Krambis K, Hatzopoulos P (2008) Complexity of Hsp90 in organelle targeting. *Plant Mol Biol* 67:323-34. (cited by 28 related articles)

Samakovli D, Thanou A, Valmas C, Hatzopoulos P. (2007) Hsp90 canalizes developmental perturbation. *J Exp Bot* (58): 3513-3524. (cited by 62 related articles). *Cover page article*

Prasinos C, Krampis K, Samakovli D, Hatzopoulos P. (2005) Tight regulation of expression of two *Arabidopsis* cytosolic Hsp90 genes during embryo development. *J Exp Bot* 56: 633-44. (cited by 105 related articles)