

## **SPIRIDON E. KINTZIOS, Ph.D.**

### **SUMMARIZED BIOGRAFICAL NOTE**

Spyridon Kintzios was born in Athens, Greece in 1962. After his graduation from the Faculty of Plant Science, Agricultural University of Athens in 1986, he studied Chemistry in the School of Chemistry, University of Athens. In 1988 he moved to Germany on a Deutsche Akademische Austausch Dienst (DAAD) scholarship, as a research associate of the Max-Planck Institute for Biochemistry in Munich. In 1993 he received his Ph.D. in Genetics from the Technical University of Munich. In the same year he was appointed Lecturer of Cell and Tissue Culture at the Laboratory of Plant Physiology, Faculty of Agricultural Biotechnology, Agricultural University of Athens. In 2010 he was elected Full Professor in the same Faculty. He has served in several administrative bodies of the University, including the Senate (twice) and the Faculty Committee for Student Transcription Transfer (Head). He also served as Director of the Laboratory for Plant Taxonomy (2006-2007). He has served as the founding Dean of the School of Food Science, Biotechnology and Development (2013-2017). He is founder and Director of both the Laboratory of Cell Technology (2015) and the AUA Center for Applications of Cell Biological Technologies (2017).

He has a working experience of over 28 years in Biotechnology, particularly in the fields of Biosensors and Cell Biology. He is the author or co-author of 103 peer-reviewed articles in cited international scientific journals, as well as the author or co-author of more than 90 international book chapters and conference presentations. He is also the editor of three international books, a fellow of several Scientific Societies and the recipient of the “Georgia Christodouloupoulou” Award for the Best Virological Method, the Award of the Greek Society for Free Radical Stress Research and the Distinguished Service Award in Defense Science. He is the inventor of the *Bioelectric Recognition Assay (BERA)* and the technology of *Molecular Identification through Membrane Engineering (MIME)*. Both technologies were inaugurated as the world leading cell biosensor technologies by the Knowledge Foundation (June 2006, Washington DC). He holds five national and two international patents. He is reviewer of submitted manuscripts in more than 30 international scientific journals and a board member of two journals. He was also a reviewer for European projects of the 6<sup>th</sup> framework and Horizon 2020, the National Science Foundation (NSF), the Austrian Science Fund and the New Zealand Ministry of Business, Innovation & Employment (MBIE) projects. He has coordinated and co-coordinated 30 EU and internationally funded research projects.

Following the reception of the International Venture Capital Forum Award for the Best Biotech Start-Up company (2004), Professor Kintzios founded EMBIO Diagnostics, a Cypriot biotech enterprise, which he directed until 2011. Dr. Kintzios has also participated to the foundation of the Hellenic Biotechnology Cluster (HBio) and the Hellenic Society for Nanotechnological Applications in Medicine and Health Science (HSnanoHS/ELENEPY). He is a permanent member of several public and industry committees in Greece and abroad, including the Hellenic Agricultural Academy (elected full member).

## ANALYTICAL BIOGRAPHICAL NOTE

### SPIRIDON E. KINTZIOS, Ph.D.

#### 1. General information:

*Date of birth:* 20.05.1962

*Address:* Laboratory of Cell Technology, Department of Biotechnology, School of Food, Biotechnology and Development, Agricultural University of Athens, Iera Odos 75, 11855 Athens, Greece.

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#### 2. Education:

<u>Degree</u>	<u>Institution</u>	<u>Country</u>	<u>Year</u>
Ph. D., Plant Genetics	Technical University of Munich	Germany	1993
Aufbaustudium	Max-Planck Institute for Biochemistry	Germany	1989
Intermediary Diploma, Chemistry	University of Athens, Dept. Chemistry	Greece	1988
M. Sc., Agricultural Science	Agricultural University of Athens	Greece	1986

#### 3. Current occupation:

1. Dean of the School of Food Science, Biotechnology and Development, Agricultural University of Athens (AUA), Greece.
2. Director, Center for Applications of Cell Biological Technologies, AUA, Greece
3. Director, Laboratory of Cell Technology, Department of Biotechnology, AUA, Greece.

#### 4. Former/other occupations:

1. Founder and first CEO, EMBIO Diagnostics Ltd (Nicosia, Cyprus) (2007-2011)
2. Free-lance translator for the EC (Brussels) (1990-1993)

## **5. Memberships/fellowships:**

1. Hellenic Agricultural Academy (elected full member)
2. Hellenic Biotechnology Cluster (HBio) (Member of the Executive Board)
3. Hellenic Society for Nanotechnological Applications in Medicine and Health Science (HSnanoHS/ELENEPY) (founding member)
4. Deutsche Phytomedizinische Gesellschaft (DPG)
5. Scholarship Award Committee, Deutsche Akademische Austauschdienst (DAAD)
6. International Society For Horticultural Science (ISHS)
7. The Knowledge Foundation
8. Hellenic Phytopathological Society
9. Hellenic Society of Horticultural Science
10. Hellenic Virological Society
11. Hellenic Association for ICT applications in Agriculture, Food and Environment

## **6. Research programmes**

1. Programm for the development of Industrial Research (PABE 1994): Biotechnological approaches to kenaf (*Hybiscus cannabinus* L.) breeding.
2. Programm for supporting new reseachers (PENED 1994): In vitro study of the cellular dedifferentiation induction (tumor formation) in the Oleaceae family by *Pseudomonas savastanoi*. **(coordinator)**
3. FAIR-EU (Shared Cost Research Project 1996): Terpenes as natural chiral starting materials for the syntheses of flavours, fragrances, pharmaceuticals and biocontrol agents.
4. Programm for supporting post-graduate studies in applied research (YPER 1997): Biotechnological production of plants belonging to the families Lamiaceae and Boraginaceae as a method for obtaining novel substances with improved antioxidant properties. **(coordinator)**
5. University funding project (1997): Biotransformation of antioxidant substances from Lamiaceae plants. **(coordinator)**
6. Industrial cooperation project (1999): Automated and scale-up (bioreactor-) production of vegetable plants in vitro. **(coordinator)**
7. Programm for supporting new reseachers (PENED 1999): Structural biotransformation of renewable hydrocarbons as a tool for producing bioactive materials with growth regulatory activity.
8. AUA Vocational training project 1999: Secondary metabolites from natural sources. **(coordinator)**
9. AUA Vocational training project 2000: Plant propagation. **(coordinator)**
10. Greece-China Joint Research and Technology Collaboration: Study on puerarin production and plant regeneration from *Pueraria phaseoloides* hairy roots. **(coordinator)**
11. Industrial development of bioreactor systems for mass-micropropagation of vegetable species (PEPER 2001) **(coordinator)**
12. Regional development of the cultivation of medicinal plants – the case of the Therapnes Municipality. **(coordinator)**

13. Industrial development of cell factories for the production of antioxidant compounds (CRAFT). **(coordinator)**
14. University funding project (2001): Biotechnological utilization of protein molecules with anticancer properties derived via somaclonal variation from cell cultures of European mistletoe (*Viscum album* L.). **(coordinator)**
15. PRAXE Project 2004: Creation of the university spin-off organization EMBIO. **(coordinator)**
16. NATO SCIENCE PROGRAMME COLLABORATIVE LINKAGE GRANT: Development of cell-based biosensor for detecting infectious agents and toxins. **(coordinator)**
17. LEONARDO DA VINCI: Vocational Training on Plant Propagation with Emphasis on the use of Biotechnological Methods. **(coordinator)**
18. Greece-Slovenia Joint Research and Technology Collaboration: Rare, endangered and vulnerable medicinal and aromatic plants of (MAPs) of Slovenia and Greece: Screening for antioxidant compounds, evaluation of biological properties and conservation strategies. **(coordinator)**
19. Greece-Bulgaria Joint Research and Technology Collaboration: Application of biotechnological methods for the scale-up micropropagation of virus-free sweet pepper *Capsicum annuum* L.) plants via organogenesis and somatic embryogenesis. **(coordinator)**
20. Marie-Curie Research Training Network: “CellCheck” On chip cell handling and analysis.
21. Spidera for Life: Speeding collaborations in the Life Science and Health domain of the European Research Area and beyond.
22. FP6 - PATHOMILK: Providing milk supply chain with a rapid, portable and cost effective biosensor for multi-pathogen detection in milk
23. FP7–BIOLISME: Speedy system for sampling and detecting *Listeria monocytogenes* in agri-food and related European industries
24. FP7–FOODSCAN: Development of an automated, novel biosensor platform for pesticide and chemical residue detection **(Scientific Coordinator)**
25. HIV Research Award (CNIHR)/NIH-funded Centers for AIDS Research (CFAR): “Novel approaches to study T cell metabolic dysfunction and immune response during HIV infection”
26. Heraclitus II PhD Fellowship by the Education and Lifelong Learning Operational Programme (NSRF 2007-2013), Investigation and development of mechanisms for the genetic or membrane modification of cells for use in biosensors. **(Coordinator) (Hellenic Ministry of Education, Lifelong Learning and Religious Affairs and the European Social Fund) (2007-2013)**
27. Heraclitus II PhD Fellowship by the Education and Lifelong Learning Operational Programme (NSRF 2007-2013), Studies effect of substances with fungicidal or insecticidal action on mammalian cell cultures with specialized characteristics through methods of membrane or genetic engineering for the use on cellular biosensors. **(Coordinator) (Hellenic Ministry of Education, Lifelong Learning and Religious Affairs and the European Social Fund) (2007-2013)**
28. Pythagoras: Intelligent Biosensor System for the Detection of Plant Pathogenic Viruses **(Partner) (Hellenic Ministry of Education, Lifelong Learning and Religious Affairs and European Social Fund & National Resources – O.P. “Education” II. ) (2007-2010)**

29. Private-Public Partnership: Study for biosensor development for the analysis of four fungicides (Azoxystrobin, Boscalid, Mandipropamid and Propamocarb) (**i-BERA, Hamburg**) (2016) (**Scientific Coordinator**)
30. Private-Public Partnership: Study for biosensor development for the analysis of four fungicides (Carbendazim and Endosulfan) (**Phillip Morris International, Lausanne**) (2017) (**Scientific Coordinator**)
31. NANOFEED (**H2020 Marie-Curie RTN**) (Partner) (2018-2022)
32. EPEAEK: Innovative approaches to the investigation of the anticancer activity of biotechnologically-derived lectins from mistletoe (*Viscum album*) on gynecological malignancies. (**Scientific Coordinator**) (2018-2019)

## **7. Administrative experience (major activities only)**

1. Dean, School of Food Science, Biotechnology and Development (2013-November 2017)
2. Director, Center for Applications of Cell Biological Technologies (2017-now)
3. Director, Laboratory of Cell Technology, Department of Biotechnology (2015-now)
4. President, Faculty of Biotechnology (2012-2013)
5. Director, Laboratory of Plant Taxonomy, Agricultural University of Athens (2006-2007).
6. Member of the Senate, Agricultural University of Athens (2002-2003, 2008-2009, 2012-2017).
7. Head, Committee for Student Transcription Transfer, Agricultural University of Athens (2003-2009).
8. Director, Student Entrepreneurship Project (Biotech) (2005-20015).
9. Member, PATHOMILK board (European Dairy Industry Initiative) (2007-2009).
10. Member, Committee of Postgraduate Studies, Agricultural University of Athens (2005-2009).
11. Member, Civil Defence Board, Agricultural University of Athens (1999-2009).
12. Member, Board for Validation of Vocational Training (Greece) (permanent).
13. Member, Board for Reforestation Plan, East Attiki (permanent)

## **8. Teaching experience:**

- Has supervised over 180 pre-graduate and graduate students on their thesis, nationally and internationally (Germany, USA, Spain, India, Slovenia, Germany, China, Kenya).
- In collaboration with public and private centres for vocational training, he has organised and co-ordinated several seminars on biotechnology for various target groups, including disadvantaged and unemployed persons, university graduates, ethnic minorities, etc.

## 9. Textbooks:

1. Kintzios S., 1995. Plant Biotechnology for the production of secondary metabolites (cell & tissue culture). MAICh postgraduate course, 33 pp.
2. Kintzios S., 2004. *Electronic textbook: Introduction to Plant Micropropagation*. Interactive CD with embedded videos.
3. Kintzios S., 2005. An introduction to cell biology. AUA., 99pp. (in Greek)
4. Kintzios S., 2008. An introduction to plant cell culture. AUA., 82 pp. (in Greek)
5. Kintzios S., 2008. Laboratory exercises in plant cell culture. AUA., 47 pp. (in Greek)
6. Kintzios S., 2007. Laboratory exercises in cell biology. AUA., 32 pp. (in Greek)
7. Kintzios S., 2007. Laboratory exercises in pharmacognosy. AUA., 24 pp. (in Greek)

## 10. Reference books:

1. Kintzios S., 1994. **Commercial Tissue Culture**. Stamoulis Publishers, 139 pp (in Greek). ISBN: 9603510092.
2. Kintzios S., 2000 (editor). **Medicinal and Aromatic Plants-Industrial Approaches: The genus *Salvia***. Harwood Publishers. 388 pp. ISBN 90-5823-005-8.
3. Kintzios S., 2002 (editor). **Medicinal and Aromatic Plants-Industrial Approaches: The genera *Origanum* and *Lippia***. Taylor & Francis. 277 pp. ISBN 0-415-36943-6.
4. Kintzios S., Barberaki M., 2002 (editors). **Plants that fight cancer**. CRC Press, 312 pp. ISBN 0415298539.
5. Kintzios S. 2015. **Introduction to Plant Micropropagation**. Kallipos., 107 pp (e-book in Greek). ISBN: 978-960-603-033-8.
6. Kintzios S. 2016. **Nanobiotechnology and Biosensors**. Embryo Publications, 500 pp. ISBN 978-960-8002-88-3. (in Greek)
7. Kintzios S. 2017. (editor). **Portable biosensors and Point-of-Care-Systems**. 355 pp. IET ISBN 978-1849199629.
8. Mavrikou S., Kintzios S (editors). **Aflatoxins: Biochemistry, Toxicology, Public Health, Policies and Modern Methods of Analysis**. Nova Science (in press)

## 11. Invited Journal Editor (Special Issues):

1. Journal of Sensors (Hindawi) "Synthetic biotechnological approaches to biosensor development"
2. Sensors Journal (MDPI) "Point-of-Care Sensors"
3. Biosensors (MDPI) "Cell-based biosensors"

## 12. Patents:

1. "A new educational method using game-like displays" A.Zossimadis/S.Kintzios (Deutsches Patentamt, M9103508.2-10/5/1991)
2. "Method for the determination of biological and chemical compounds by

measuring changes in the electrical properties of immobilized cells or cell components (bioelectric recognition assays) S. Kintzios (Industrial Property Organization of Greece - 990100398/1003489) European Patent Office (EPO) 00979 828.1 – 2114/1366353.

3. Molecular identification through membrane engineering. S. Kintzios EPO 1974211
4. Method for biochemical detection. S. Kintzios PCT/IB00/01685
5. Method for controlling cell division. S. Kintzios 20020100291/1004419
6. Metabolic sensor S. Kintzios 20040100333/1005113

### **13. Awards:**

1. DAAD (Deutsche Akademische Austauschdienst) Scholarship (01.10.1988-31.07.1989).
2. Corgialenios Scholarship (01.10.1990 - 31.12.1992).
3. “Georgia Christodouloupoulou” Award for the Best Virological Method (2001)
4. Award of the Greek Society for Free Radical Stress Research (2004)
5. Distinguished Service Award in Defense Science (2004)
6. Third Best Spin-off Business Plan Award International VC Forum (2004)
7. 3QLabs: First University Entrepreneurship Award (2006)
8. CyEC Enterprise Award (2009)
9. Ministry of Education Award for the coordination of the EU Project *Vocational Training on Plant Propagation with Emphasis on the use of Biotechnological Methods* (2010)
10. Femia: First University Entrepreneurship Award (2012)
11. Academic and Research Excellence Award (<http://excellence.minedu.gov.gr/listing/154-bera>)
12. Gourmet Mushrooms: First University Entrepreneurship Award (2013)
13. Farmascreen: First University Entrepreneurship Award (2015)

### **14. Working languages:**

<i>Language</i>	<i>Level</i>	<i>Certificate</i>
Greek	Mother tongue	-
English	Excellent (C2)	Cambridge Proficiency
German	Excellent (C2)	Mittelstufe III
Russian	Basic (A1)	Pushkin Institute Certificate
Greek sign language	Basic (A1)	Basic

### **15. Research and Development interests:**

Advanced biotechnology methods in cellular biosensors, cell culture and plant micropropagation. Dissemination of technology. Transfer of Knowledge.

Development of vertically/horizontally integrated systems and procedures.

## **16. Other information:**

a. Regular referee for over 30 international scientific journals including *Analytica Chimica Acta*, *Biotechnology and Bioengineering*, *Journal of Agricultural and Food Chemistry*, *World Journal of Microbiology and Biotechnology*, *Current Bioactive Compounds*, *Virological Methods*, *Scientia Horticultura*, *Analytical Biochemistry*, *Plant Cell Tissue and Organ Culture*, *Journal of Pharmacy and Pharmacognosy*, *Journal of Applied Microbiology*, *The Open Horticulture Journal*, *Euphytica*, *Biological Trace Element Research*, *Engineering in Life Science*, *Acta Biologica Cracoviensia*, *Central European Journal of Biology*, *Sensors*, *Asia Pacific Journal of Molecular Biology and Biotechnology*, *Microelectronic Engineering*.

b. Inventor of the Bioelectric Recognition Assay (BERA) and Molecular Identification through Membrane Engineering (MIME) technologies.

c. Reviewer for European projects (FP6, FP7, Horizon 2020), National Science Foundation (NSF) and the Austrian Science Fund projects.

## **17. Publications**

### **A. Refereed papers**

1. M.R. Islam, Kintzios S. & G. Fischbeck (1992) Anther culture responsiveness of *Hordeum spontaneum* derived spring barley lines and a genetic analysis of plant regeneration. Plant Cell Tissue & Organ Culture 29: 235-239.
2. Kintzios S., A. Jahoor & G. Fischbeck (1992) New sources for mildew resistance in *Hordeum spontaneum* derived winter barley lines. Vort. Pflanzenzuechtung 24: 311-313.
3. Kintzios S. & G. Fischbeck (1994) Anther culture response of *Hordeum spontaneum* - derived winter barley lines. Plant Cell Tissue & Organ Culture 37: 165-170.
4. Kintzios S., R.M. Islam & G. Fischbeck (1994) Distorted segregation for mildew resistance in doubled haploid lines of spring barley. Plant Breeding 112:248-251.
5. Kintzios S., A. Jahoor & G. Fischbeck (1995) Powdery mildew resistance genes Mla29 and Mla30 in *H. spontaneum* derived winter barley. Plant Breeding 114: 265-266.
6. Kintzios S. & G. Fischbeck (1996) Identification of new sources for resistance to powdery mildew in *Hordeum spontaneum* derived winter barley lines. Genetic Resources and Crop Evolution 43: 25-31.
7. Kintzios S., J. Drossopoulos, M. Manousaridou & C.D. Holevas (1996) Competence for callus induction on mature pepper leaves depends upon specific developmental stages of the donor leaves. Scientia Horticultura 65: 341-347.
8. Kintzios S., M. Triantafyllou & J. Drossopoulos (1996) Effect of genotype and different growth regulator treatments on callus induction, proliferation and plant



- regeneration from mature wheat embryos. Cereal Research Communications 24(2): 147-153.
9. Kintzios S. & G. Fischbeck (1996) Genetic studies on the powdery mildew resistance of winter barley lines derived from *Hordeum spontaneum* accessions collected in Israel. Genetic Resources and Crop Evolution 43: 471-479.
  10. Kintzios S., M. Barberaki, G. Aivalakis, J. Drossopoulos & CD Holevas (1996) In vitro morphogenetical responses of mature wheat embryos to different NaCl concentrations and growth regulator treatments. Plant Breeding 116: 113-118
  11. Kintzios S., A. Koliopoulos, E. Karyoti, I. Drossopoulos, C. Holevas, A. Gregoriou & C. Panagopoulos (1996) *In vitro* reaction of sunflower (*Helianthus annuus* L.) to the toxin(s) produced by *Alternaria alternata*, the casual agent of brown leaf spot. J. Phytopathology 144: 465-470.
  12. Kintzios S. & N. Taravira (1997) Effect of genotype and light intensity on somatic embryogenesis and plant regeneration in melon (*Cucumis melo* L.) Plant Breeding 116: 359-362.
  13. Kintzios S., E. Katsouri, D. Peppes, S. Koulocheri, J. Drossopoulos & C. Holevas (1998) Somatic embryogenesis and *in vitro* secondary metabolite production from common mallow (*Malva sylvestris* L.) collected in Greece. Acta Horticultura 457: 173-180.
  14. Kintzios S., A. Nicolaou & M. Skoula (1998) Somatic embryogenesis and *in vitro* rosmarinic acid accumulation in *Salvia officinalis* and *S. fruticosa* leaf callus cultures. Plant Cell Reports. 18: 462-466
  15. Kintzios S., Ch. Manos & O. Makri (1998) Somatic embryogenesis from mature leaves of rose (*Rosa* sp.). Plant Cell Reports 18:467-472
  16. Kintzios S., G. Hiureas, E. Shortsianitis, E. Sereti, P. Blouhos, C. Manos, O. Makri, N. Taravira, J. Drossopoulos & C. D. Holevas (1998) The effect of light on the induction, development and maturation of somatic embryos from various horticultural and ornamental species. Acta Horticultura 461: 427-432.
  17. Drossopoulos, J.B., D.L. Bouranis, Kintzios S., G. Aivalakis, J. Karides, S. N. Chorianopoulou & C. Kitsaki (1998) Effect of nitrogen fertilization on distribution profiles of selected macro-nutrients in oriental field-grown tobacco plants. J. Plant Nutrition 22(3): 527-541
  18. Drossopoulos, J.B., D.L. Bouranis, Kintzios S., G. Aivalakis, J. Karides and S.N. Chorianopoulou (1998) Distribution profiles of selected macro-nutrients in oriental field grown tobacco plants as affected by nitrogen fertilization. J. Plant Nutrition 21(7): 1391-1406
  19. Kintzios S., C. Passadeos, M. Mardikis & G. Economou (1998) '*In vitro* expression of variation of glyphosate tolerance in johnsongrass (*Sorghum halepense* L. pers.) Weed Research. 39/1: 49-55.
  20. Kintzios S. & A. Michailakis (1999) Induction of somatic embryogenesis and *in vitro* flowering from inflorescences of camomile (*Chamomilla recutita* L.). Plant Cell Reports 18: 684-690.
  21. Kintzios S., J. Drossopoulos, E. Shortsianitis & D. Peppes (2000) Induction of somatic embryogenesis from young mature leaves of chilli pepper (*Capsicum annuum* sp.): Effect of leaf position, illumination and explant pretreatment with high cytokinin concentrations Scientia Horticultura 85: 137-144.
  22. Kintzios S., J. Drossopoulos & Ch. Lymperopoulos (2001) Effect of vitamins and inorganic micronutrients on callus growth and somatic embryogenesis from young mature leaves of rose (*Rosa hybrida*). Journal of Plant Nutrition 23: 1407-1419

23. Kintzios S., E. Pistola, P. Panagiotopoulos, M. Bonsel, N. Alexandropoulos, F. Bem, I. Biselis, R. Levin (2001) Bioelectric recognition assay (BERA). Biosensors and Bioelectronics 16:325-336
24. Kintzios S., E. Pistola, J. Konstas, F. Bem, T. Matakidiadis, N. Alexandropoulos, I. Biselis, R. Levin (2001) Application of the Bioelectric recognition assay (BERA) for the detection of human and plant viruses: definition of operational parameters. Biosensors and Bioelectronics 16: 467-480.
25. Kintzios S., J. Drossopoulos & Ch. Lympelopoulou (2001) Effect of vitamins and inorganic micronutrients on callus growth and somatic embryogenesis from young mature leaves of pepper (*Capsicum annuum* L.). Plant, Cell, Tissue & Organ Culture 67: 55-62.
26. Barberaki M., Kintzios S (2002) Accumulation of selected macronutrients in mistletoe tissue cultures: effect of medium composition and explant source. Scientia Horticultura 95:133-150
27. Kintzios S. (2002) *Malva* sp (Mallow): In vitro culture and the production of secondary metabolites. In: Nagata T, Ebizuka Y. (eds.) Biotechnology in Agriculture and Forestry. 51, Medicinal and Aromatic Plants XII, Springer-Verlag pp. 137-155.
28. Kintzios S., Barberaki M., Tourgelis P., Aivalakis G., Volioti An. (2002) Preliminary evaluation of somaclonal variation for the in vitro production of new toxic proteins from *Viscum album* L. J. Herbs, Spices and Medicinal Plants 9:217-22.
29. Kintzios S., Adamopoulou M., Pistola E., Makri O., Delki K. and Drossopoulos J. (2002) Studies on the physiological function of in vitro produced antioxidants from sage (*Salvia officinalis* L.): effects on cell growth and metabolism. J. Herbs, Spices and Medicinal Plants 9:229-234.
30. Kintzios S., Papagiannakis Em., Aivalakis G., Konstas J., Bouranis D. and Christodouloupoulou L. (2002) The effects of casein and its constituents on the development of tissue culture and somatic embryogenesis from *Malva silvestris* L.: a preliminary study. J. Herbs, Spices and Medicinal Plants 9: 211-216.
31. Kintzios S., Papanastasiou I., Tourgelis P., Papastellatos Ch., Georgopoulos V. and Drossopoulos J. (2002) The effects of light on callus growth and somatic embryogenesis from *Lavandula vera* and *Teucrium chamaedrys*: a preliminary study. J. Herbs, Spices and Medicinal Plants 9: 223-228
32. Kintzios S, Seretti E, Blouhos P, Drossopoulos JB, Kitsaki CK, Liopa-Tsakalidis A (2002) Growth regulator pre-treatment improves somatic embryogenesis from leaves of squash and melon. Plant Cell Reports 21:1-8
33. P. Katapodis., A. Kavarnou., S.Kintzios., E. Pistola., D. Kekos., B.J. Macris., P. Chrisstakopoulos. Production of acidic xylooligosaccharides by a family 10 endoxylanase from *Thermoascus aurantiacus* and use as plant regulators. Biotechnology Letters 24: 1413-1416
34. Konstas J, Kintzios S (2003) Developing a scale-up system for the micropropagation of cucumber (*Cucumis sativus* L.): the effect of growth retardants, liquid culture and vessel size Plant Cell Reports 21: 538-548.
35. Kintzios S., Barberaki M., Drossopoulos JB, Turgelis P, Konstas J, Makri O (2003) Effect of medium composition and explant type on the distribution profiles of selected micronutrients in mistletoe tissue cultures. J. Plant Nutrition 26:369-397
36. Kintzios S, Makri O, Panagiotopoulos Em, Scapeti M (2003) *In vitro* rosmarinic

- acid accumulation in sweet basil (*Ocimum basilicum* L.). Biotechnology Letters 25:405-408
37. He-Ping Shi, Kintzios S (2003) Genetic transformation of *Pueraria phaseoloides* with *Agrobacterium rhizogenes*. Plant Cell Reports 21: 1103-1107
  38. Kintzios S., Makrygianni Ef., Pistola E., Panagiotopoulos P., Economou G. (2003) Effect of amino acids and amino acid analogues on the in vitro expression of glyphosate tolerance in johnsongrass (*Sorghum halepense* L. pers.) J. Food, Agriculture and Environment 3: 180-184.
  39. Kintzios S, Konstas J (2004) Scale-up micropropagation of vegetable species: from laboratory to commercial reality. Acta Hort. 616: 95-104.
  40. Kintzios S., Kollias Ch., Straitouris Ev., Makri O. (2004) Scale-up micropropagation of sweet basil (*Ocimum basilicum* L.) in an airlift bioreactor and accumulation of rosmarinic acid. Biotechnology Letters. 26:521-523.
  41. Kintzios S., Makri O., Pistola E., Matakidiadis T., Shi HP, Economou Ath. Scale-up production of puerarin from hairy roots of *Pueraria phaseoloides* in an airlift bioreactor (2004) Biotechnology Letters 26: 1057-1059
  42. Kintzios S, Stavropoulou Er., Skamneli S. (2004) Accumulation of selected macronutrients and carbohydrates in melon tissue cultures: association with pathways of in vitro dedifferentiation and differentiation (organogenesis, somatic embryogenesis). Plant Science 167: 655-664.
  43. Katapodis P., Kintzios S., Konstas J., Kekos D., Macris B.J. & Christakopoulos P. (2004) Enzymic production of aldopentauronic acid and use as bioregulator in plant airlift bioreactors. J. Biosci. Bioeng. 95:630-632
  44. Kintzios, S., Bem, F., Mangana, O., Nomikou, K., Markoulatos, P., Alexandropoulos, N., Fasseas, C., Arakelyan, V., Petrou, A-L., Soukouli, K., Moschopoulou, G., Yialouris, C., Simonian, A.(2004). Study on the mechanism of Bioelectric Recognition Assay: evidence for immobilized cell membrane interactions with viral fragments. Biosensors & Bioelectronics 20: 907-916.
  45. Kitsaki C.K., Zygouraki S., Ziobora M., Kintzios S. (2004) In vitro germination, protocorms formation and plantlets development of mature versus immature seeds from several *Ophrys* species (Orchidaceae). Plant Cell Reports 23: 284-290.
  46. Matakidiadis T. Kintzios S. (2005) The effect of ATP on cucumber (*Cucumis sativus* L.) regeneration from nodal explants: association with  $\alpha$ -tocopherol, H<sub>2</sub>O<sub>2</sub> and the size of the liquid culture vessel (flask vs. airlift bioreactor). Plant Growth Regulation 45: 127-137.
  47. Davey, MR; Lowe, KC; Power, JB; Kintzios, S (2005) Innovations in plant micropropagation: a European initiative for knowledge dissemination. Comparative Biochemistry And Physiology A-Molecular & Integrative Physiology 141: S363.
  48. Kintzios S., I. Marinopoulou, G. Moschopoulou, O. Mangana, K. Nomikou, K. Endo, I. Papanastasiou, A. Simonian (2006) Construction of a novel, multi-analyte biosensor system for assaying cell division. Biosensors and Bioelectronics. 21: 1365-1373.
  49. Kintzios S. (2006) Terrestrial plant species and compounds with anticancer properties. Critical Reviews in Plant Science. 25: 79-115.
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<b>B. Book chapters</b>
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