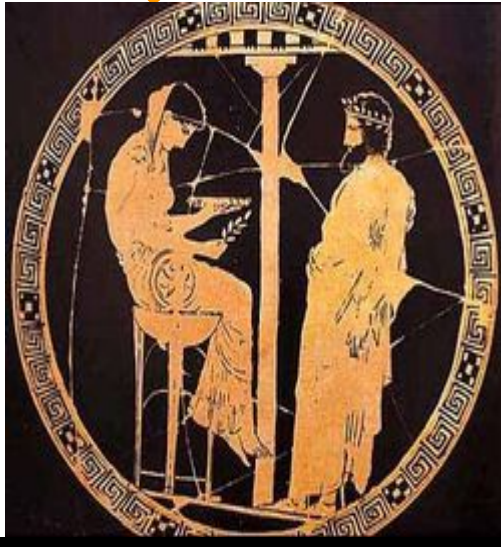


Pythia Institute of Biotechnology



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September 2017

**Production and marketing of ecological biological
fertilizer [soil conditioner] of microbial origin as
augmentative and (ice)protective factor of plants,
thicket and trees (**EcoPlant**)**

Authorization of installation and operation:

Registry No. 15/[F] 14.2, 25061/5991/07

(Prefecture of Thessalonica)

Certificate of model of usefulness [OBI]:

20080200011/2008-00431

Authorization of export: Reg. No. 60/12070

**Biological fertilizer [soil conditioner]
Qualitative Defensive improvement of plant production
Defensive anti-freezing action**

Fermentative anti-frosting aqueous solution EcoPlant

Soil conditioners are added into the earth and improve the growth, production, resistibility and health of plants. EcoPlant is an aqueous ecological soil conditioning product of microbial origin, which is produced via microbial fermentation by various sugars (e.g. sugar (sucrose), glucose, fructose, galactose], glycerin etc.

It Protect the plants, flower and trees from the frost

It accelerates the growth of plants and trees

It increases considerably their productivity

It strengthens their defensive mechanisms

It minimizes the use of pesticides and conventional fertilizers

It prevents the chap of fruit

Attributes of EcoPlant

- Activation of metabolism of flower, plants, trees, vegetables and thicket (e.g. maize, cereals, ornamental, cottons, tobacco, clovers, olive trees, vines, fruit trees, kiwis, pomegranates, vegetables, greenhouses, strawberries, forests etc)
- Increase of chlorophyll, photosynthesis (production of energy) and productivity (the plants acquire intense dark green color)
- Protection of trees (e.g. olive trees, citrus fruits etc), plants, flower and ornamental from the frost at the wintry and vernal period (precocity of production)
- Hindrance of presence of louse, bacteria and fungi in various trees and other plants (observations of users and the Pythia Institute of Biotechnology)
- Increase and activation of assimilation and absorbency of components of traditional and organic (manure) fertilizers (e.g. phosphoric, calcium, potassium, trace elements etc) and increase of productivity
- Acceleration (2-3 times) of the growth of flower, plants (e.g. clover, bluegrass, roses), vegetables, trees (olive trees, fruit trees), ornamental and thicket (lemon pin) (growth factors, assimilation of nutritious elements, resistibility), Elongation of the time of productivity
- Intense flowering and grip of fruit (vegetables, fruiterer, olive trees, flower, ornamental plants etc)
- Hindrance of presence of fungi, bacteria, incisions and worms (Lice, worms, mycoses, fungal diseases of olive trees, olive fly, [pyrinotritis], etc (observations of users).
- Fighting of glue ([kommiosi]) and lice disease [melloyra], cleansing of trees (cherry trees, peaches, apricots, pla, almond tree etc) and elongation of their duration of life. The glue (polymers) dries out (it dries) and is removed easily from the tree (observations of many users).
- It prevents the chap of fruit (e.g. cherries, grapes etc)

Explanation of action of EcoPlant (Prof. Dr Savas G. Anastassiadis)

Respectively with the phenomenon of production of polymeric substances (polymers) in microorganisms at dry environments (lack of water) and under unfavorable environmental conditions (suboptimal temperatures, nutritious limitation etc) the trees compose polymeric substances as reaction (defensive mechanism) in the prevailed unfavorable conditions (drought, limitation of nutrients and trace elements and obviously lack of energy). Because of lack of energy the trees are not able to engage and transport water to the higher points; therefore they compose polymeric substances in order to substitute the carboxylic groups (OH) of water.

The soil conditioner *EcoPlant* acts at energy and trophic level helping in the assimilation of important nutritious elements (e.g. calcium, potassium, iron, zinc etc), in the production of energy via intense photosynthesis and in the assimilation and transport of water up to the highest points of trees.

Trees with polymers came back completely and produced big quantities in the next season (peaches, cherry trees, plums etc).

Uses:

- The soil conditioner EcoPlant is an aqueous fermentative solution (liquid) of microbial origin (it is produced with the help of microorganisms from renewable biological nutritious components, permissible for use as foods) and is used as qualitative watering in the region of trunk and root system on the surface or by spraying.
- It is easy in the use and is used for root watering and leaf sprayings
- The dosage and the price are indicative and are usually entered in the packing of product (1 liter of product is diluted in 25 liters water or 1 liter in 50 liters for small plants, ornamental and flower)
- Indicative dosage depending on the concentration of product, the size or the species of tree and other plants.

For the better effectiveness of product, we impregnate depending on the concentration of biological product and the size and the type of tree indicatively with half or 1 liter of fermentation solution (*EcoPlant*), diluted (1 to 3 until 25-50-100 liters water or depending on the concentration of product) or without rarefaction, the radical system in the region of trunk of each tree and we add moreover 5-6 liters water for the better assimilation of product. In the plants, trees and vegetables we use rarefactions from 1:25-50-100 (trees and adult plants) up to 1:50-100 liters water (ornamental, flower, young plants). The product can also be transported in the plants via droplets of each form (irrigation systems).

Rarefactions for sprayings (leaves) and root watering

1 liter of product (EcoPlant) to 5 liters of water (big trees) or 1 to 25-50-100 liters water (e.g. 20 liters product in 500-1000 liters water it amounts with a rarefaction of 1 to 25) (trees, big plants etc) or 1 to 50-100 (flower, small plants)

– For fertilization, more rapid growth, increase of productivity, hindrance (mycoses, louse, worms, various insects) and increase of resistibility.

1 to 20 until 25 liters water

- For fertilization (root watering), Prevention, Hindrance and increase of resistibility (louse, worms, bacteria, fungi e.g. (fungal diseases of olive trees), Increase of resistibility (20 liters in 500-1000 liters water)

0.5-1 liters of soil conditioning fertilizer and 3-10 liters of water per adult tree of olive or 1 liter product for 5 young trees (fertilizer, anti-frost protection)

Results of soil conditioning preparation EcoPlant

Olive trees: Protection from the frost at the wintry and vernal period, Acceleration of growth (2-3 times bigger in 4-5 months), increased growth (biomass, fruit), increase of productivity (fruit, size of fruit), increase of content in olive oil (e.g. 25%), increase of resistibility (fungal diseases, cotton appearance), olive fly and other illnesses), intense [flowering] and grip and growth of fruit.

The better results in olive trees are achieved with the use of soil conditioner *EcoPlant* at a dilution of 1 to 25-50-100 (leaf spraying and root watering). For big olive trees it is advisable the use of half to one liter of product per tree and year. For small trees is enough one liter of undiluted product for 5-10 trees. Bigger quantity and more frequent use have better results.

With the use of soil conditioner *EcoPlant* is decreased to a great degree the use of pesticides and conventional fertilizers, because it functions except the other and as a transporter of the nutritious components.

The trees acquire an intense dark black-green color (intense activity of photosynthesis, increased production of energy and product). The root system is developed also and infiltrates more deeply finding more water and nutrient, therefore the tree acquires bigger resistibility in the drought.

Fruiterer trees (Cherries, cherry, apricots): it has been observed bigger growth of trees and saplings, increase of productivity and most excellent quality and flavor, intense flowering and fruit production, grip and keeping of fruit and bigger fruit. It was observed absence of fungi and other microorganisms of as of various insects (e.g. lice). It has also been found clean fruit in cherry trees, bitter cherry, apricots, peaches etc. (the fruit doesn't open, absence of worms). The product *EcoPlant* elongates also considerably the duration of life of trees (they do not become ill, they don't go dry).



Picture: Left: Cherry (Dawn, Thessalonica), Right: Cherries (Antalya, Turkey)

Peaches: it was observed resistibility in lice and lice sugaring, intense flowering, grip and holding of fruit and bigger fruit (e.g. 460 grams fruit peach in 2008 and 462 grams of most excellent quality and flavor in 2009) (Farm of Nikolas Chalkidis (Avgi, Thessalonica). Without rarefaction of fruit, the fruit has at least the physiologic size. The product *EcoPlant* elongates also considerably the duration of life of trees.



Picture: Peaches (Avgi, Thessalonica, 650 meters altitude)

Pears: was observed resistibility in lice and sugaring, worms (do not present itself worms), grip and holding of fruit, was observed normal size of fruit without no rarefaction in the tree (Charalampos Terzidis, Serres] and orchard (Ioannis Chalkidis, Avgi-Thessalonica).

Cleansing of trees that was ready to go dry] (Gerakas, Xanthi).



Pear-tree that was ready to go dry (Gerakas, Xanthi)

Apples: was observed resistibility in lice and sugaring, worms (do not present itself worms), grip and holding of fruit (was observed normal size of fruit without no rarefaction in the tree). 620 and 550 grams of apples with most excellent quality have been weighted (Farm of Nikolas Chalkidis) and with most excellent flavor and quality (orchard of Ioannis Chalkidis, Avgi, Thessaloniki).



Picture: Apples (Avgi, Thessaloniki, 650 meters altitude)

Chestnuts: were observed acceleration of growth, increased growth (biomass, fruit), intense flowering, grip and holding of fruit, bigger fruit (e.g. 37 and 32 grams) and increase of productivity (fruit, size of fruit) as also increase of resistibility in illnesses.



Picture: Chestnuts (Avgi, Thessalonica, 650 meters altitude)

Pomegranates: Acceleration of growth (from half meter to 2,5 meters in interval of 3-4 months, Xanthi), intense flowering, grip and holding of fruit, intense color as ornamental, overproduction (3-4 times increase), most excellent quality, very big fruit and seeds, most excellent flavor, juicy.



Picture: Pomegranate (Front of Rural tavern named I exist, Avgi, Thessaloniki)
Left picture: summertime 2009, right picture: spring 2010

Kiwis: were observed rapid growth, intense flowering, grip of fruit, higher production, bigger fruit, better quality of fruit, increased resistibility of fruit (Katachas, Katerini). Was observed triple production in kiwis (Alexandroupolis) between 2009 (without EcoPlant) and 2010 (with EcoPlant) and much bigger fruit (in 2010 it was in the same size two months before the harvest concerning 2009).



Picture: Kiwis (Alexandroupolis, June 2010)

Vines: Were observed more rapid growth (nurseries and vineyards) and bigger production (Nemea, Veria and Kavala), much bigger with *EcoPlant*, most excellent quality and evasion of chap of fruit and inflation of fruit in interval of minimal days.



Picture: Grapes (Soulantina) (Pieria, 800 meters altitude)

Lettuces: It was observed in lettuces after spraying in the leaves (in dosages of 1:25) resistibility in temperatures of frost up to -6°C , in duration of 3 continuous days contrary to the witnesses that were not sprayed (which froze), rapid increase of growth and production with root watering (rarefaction 1:50 liters water) contrary to the plants without soil conditioner *EcoPlant*. The plants had tenderness in their texture and most excellent quality and flavor compared to the plants without *EcoPlant*.

Aromatic plants and flower: In aromatic plants (e.g. royal) was observed resistibility in low temperatures and elongation of their duration of life as also and intense and long duration flowering.

Strawberries: were observed high increase of production and resistibility of plant and fruit, resistibility at low temperatures, intense flowering and bigger fruit as also longer duration of production.

Fresh beans, okras, peas etc): More rapid growth, intense, more rapid and long production duration flowering, grip of fruit, overproduction and bigger duration of seasonal production. It was observed at least 30% more rapid and bigger growth and bigger productivity. Was observed absence of fungi, lice and other insects. The plants were perfectly healthy from illnesses at the all duration of their developmental period.

Tomatoes and cucumber: it was observed at least 50% more rapid and bigger growth and bigger productivity (cucumber), start of production within 24 days in greenhouses (40-50 days without *EcoPlant*) and overproduction, 55 cm of fruit. **Tomatoes:** acceleration and increase of growth (3-4 meters height in 650 meters altitude, 1 to 1,2 kilos weight of one tomato, most excellent quality) and strong increase of production and elongation of production. It was observed also the absence of fungi and other microorganisms as also of various insects. The plants were perfectly healthy at the all duration of their developmental period, which was elongated in time seasonal duration. It was found absence of white fly.



Picture: Tomatoes of greenhouse (Prophitis, Thessalonica)

Aubergines: most excellent flavor, overproduction (10 plants of aubergines produced above 200 kilos), longer duration of seasonal production) (Farm of Konstantin Klaliotis)

White and black cabbages: was observed more rapid and bigger growth and much higher productivity (much bigger size).

Broccolis: Were observed much more rapid growth (4 times higher) in one week after the addition of soil conditioner and stronger resistibility. Broccolis did not freeze at temperatures of -12 degrees of Celsius of duration of six days (Pieria, 800 meters altitude).



Picture: Broccolis and cabbages (on part with *EcoPlant*, down part without *EcoPlant*)

Potatoes: was observed rapid growth and much bigger productivity (much bigger size) in gardens and fields (2009). With *EcoPlant* the size of potatoes (secondary seeds of Agria-Jely-Baba from (Perithori of Drama) (from Stylianos Kentogloy) reached the 72 centimeters (72 cm) on 20th April (intense precocity), while with the traditional fertilizer (11 Nitrogen - 15 Phosphorus – 15 Potassium) the potatoes did not sprout at all. With the combination of *EcoPlant* and conventional fertilizer the plants reached only ten centimeters. The potatoes were planted on 25 December 2009 in the rural tavern Yparcho (meaning I Exist) in Avgi of Thessaloniki (650 meters altitude) for inquiring aims, where temperatures under zero degree of Celsius prevailed for long time. The potatoes with *EcoPlant* sprouted for second time (tertiary seeds of hybrids) (60 cm, September 2010), what is a very important result of action of *EcoPlant*.

Very important result constitutes the fact that during this time no means of pesticides (insecticides, fungicides etc) and other preparation were used. However, no one of the usual illnesses of potato was observed as e.g. fungal diseases (peronosporos, Aaltenaria).

EkoPlant, one of the discoveries of Dr. Savas G. Anastassiadis (Avgi, Thessaloniki), is a product of microbial origin, which is produced by fermentation using physiologic wild type microorganisms without the attendance of genetic engineering and the attendance of mutated executives of microorganisms. This result shows the large and still in very big degree unknown possibilities of **industrial microbiology** and **biotechnology**, which is considered as the science of the future. We live in the epoch of biotechnology it would say someone while the period between 1950 and 1970 has been considered as the period of nuclear power and energy with all their consequences (Professor Dr. Hans-Jürgen Rehm, University of Münster, Germany who is considered as one of the fathers of microbiology and biotechnology and is the schoolteacher of Assistant Professor Dr. Savas G. Anastassiadis.

If someone thinks that we only know the 1% of existing microorganisms on the planet, that is to say we are still found in infantile stages in the swaddling clothes of microbiology, it is obvious that are unlimited the possibilities of this science for the solution of very important problems that puzzle the humanity, as e.g. hunger, pollution of environment, incurable and dangerous illnesses, epidemics, lack of energy etc.

The science of microbiology and biotechnology gives obviously solutions in these problems with the overproduction of fine and bulk products, optimizing the traditional agriculture (e.g. use of *EcoPlant*), the production of alternative forms of energy from renewable sources of biomass which are produced with the traditional agriculture, cleansing

of environment and soil and the protection from various illnesses (e.g. antibiotics, vaccines, biological plant health protection etc).



Picture: Potatoes (Tavern Yparcho, Avgi, Thessaloniki, 650 meters altitude)

Left (potatoes with the conventional basic fertilizer (11 - 15 -15), 0 cm height

Center (potatoes with the soil conditioner EcoPlant), 72 cm height

Right (potatoes with EcoPlant plus conventional fertilizer 11 - 15 -15), 10 cm height

Clovers: were observed at least 30-100% or even more rapid and bigger growth and higher productivity (intense dark green color, denser and bigger in size, deeper root system, more nutrients and finding of water), elongation of duration of life and productivity of clover, second and third seasonal production within 14-18 days), reduction of growth of other wild grass and flowers. Worms and lice are absent during the duration of production and cutting of clovers. At least 5 liters of product (*EcoPlant*) are necessitated for excellent results per acre (1000 square meters) and year. Comparing the results with and without EcoPlant, the clover with EcoPlant was during the second hand 80 cm (Avgi, 650 meters altitude) without any use of pesticides and fertilizers (only EcoPlant) while simultaneously without EcoPlant in Xanthi (use of fertilizers and other products) it was hardly 15-20 cm (2010). Globally it multiplies by five probably the production of clover per year with EcoPlant and is required less water and labor for his culture.



Picture: Clover (second hand) with EcoPlant on the left picture, Clover (second hand) without EcoPlant on the right picture (2010, Avgi Thessaloniki, 650 meters altitude)

Melons and watermelons: Acceleration of growth, increase of production, precocity of production, elongation of duration of production



Εικόνα: Πεπόνια (τρίδυμα και δίδυμα, Ευαγγελισμός και Ασκός Θεσσαλονίκης)
Picture: Melons (triplets and twins) (Evangelismos and Askos, Thessaloniki)

Energy plants

With the term energy plants we mean the maize, the sugar beets, the grapes, the rapeseed (raps oil), sunflower etc., which produce various seed-oils (Soya oil, maize oil, sun oil etc) or sugars as starch, sucrose (sugar) and glucose. Rapeseed produces in Germany more than 1650 kilos per acre (1000 M²) in three circles of cultures annually. The derivatives of energy plants as also the by-products from the process of biodiesel production can with the suitable treatment with the help of microorganisms (biotechnology) be used to produce fuel matter for the production of energy as, biodiesel and bioethanol (alcohol) as substitute of petrol, methane, hydrogen etc.

The production of bio-fuel from renewable carbon sources via the culture of energy plants constitutes one of the highest priorities of European Union. In the next years the members of EU are compelled to produce at least 10% of annual required energy from renewable sources. Inevitably a big part of cultivable grounds will be used for the production

of energy plants having as a resulting the rapid increase of food prices etc. The use of soil conditioner EcoPlant can give solution in this big problem with the multiple increases of productivity and agricultural production. A much more rapid growth and bigger production has been achieved by the addition of *EcoPlant* in sunflower seed, beans of soya, maize, rapeseed and other energy plants (*EcoPlant* acts also at energetic level in plants).



Picture: Sunflower seed (Pieria, 800 meters altitude)

Peppers: EcoPlant accelerates the growth, minimizes the initiation time of flowering and production, it causes intense flowering, grip and hold of peppers and increases the size and quality of product. In peppers to the end of productive season (15th December 2009), it was observed after spraying and root watering with EcoPlant reactivation of plants, intense flowering and grip rapid growth and enlargement of peppers (Greenhouses, Xanthi).



Picture: Peppers at the end of productive period 1 week afterwards the use of EcoPlant (Greenhouses, Xanthi)

A lot of other applications: vegetables, maize, cereals, clovers, fruiterer trees, flower, greenhouses, citrus fruits, reforestation (burned forests), oregano, tobacco, sunflower seed, asparaguses, pomegranates, chestnut, almond tree, nuts, kiwis etc. The product *EcoPlant* is easy in the use, biological and ecological, biodegradable, bio-assimilable, not dangerous and not toxic (sterilized, maintainable for long time intervals with closed lid). The basic compounds of *EcoPlant* are ingredients of various foods. It is a result of long-lasting and laborious scientific study and work experience in well known worldwide intellectual institutions as also and of extensive research work and studies of Dr. Savas G. Anastassiadis.

It is sold in plastic tanks of 5, 10 and 20 liters. It has been sent almost to all regions of Greece with figurative companies (low cost of transport).

Application of EcoPlant/year

Εφαρμογή EcoPlant/year or season

Plant type	Quantity EcoPlant	Dilution EcoPlant/liter water
Large trees	1 liter EcoPlant/tree and year (one or two applications)	1:25-50-100 liter water
Small trees	100-200 g/tree and year	1:25-50-100 liter water
Kiwis	>100 g/tree and year	1:25-50-100 liter water
Vegetables	>10-15 g/tree and season	1:25 η 1:50 1:100
Clover	5 liter/acre και year	1:25-50-100 liter water
Tobacco (small)	1-2 liter /acre and season	1:50-100 liter water
Tobacco	5 liter/acre και year (start of planting)	Βαρέλι
Oregano	5 liter/acre και year	1:25-50-100 liter water
Cereals	>1 liter/acre και year (spraying)	1:50-100 liter water
Beans	>5 liter / acre and season	1:25-50-100 liter water
Potatoes	>10 liter /acre and season	1:25-50-100 liter water
Grapes	100-200 g/acre and season	1:25-50-100 liter water
Garden, Flower	>1-2 liter / acre and season	1:50 η 1:100
Strawberries	Spraying and watering	1:100 liter water

“With the use of soil conditioner EcoPlant the use of fertilizers and pesticides and the total cost of production are decreased considerably, while simultaneously the resistibility of cultures, the production, the quality of products and consequently and income are increased enormously”.

Organic fertilizer

A further ecological product (organic fertilizer) of Pythia Institute of Biotechnology is processed with enzymes manure, impregnated or not enriched with the solution *EcoPlant*. The solution *EcoPlant* frees and it commits biochemically the various nutritious components of organic fertilizer, which as resulting are easily assimilable from the plants.

- The product is easy in the use because of his texture, with hand or mechanically
- It does not contain inactive materials (timbers, Stones etc)
- It is free from weeds and microorganisms
- It is rich in organic substance

Packing: 10 kilos (sack)

It is advisable for all types of cultures (plants, trees, ornamental etc)

Potato	150-200 kg/acre
Watermelon	150-200 kg/acre
Asparagus	150-200 kg/acre
Kiwis	150-500 kg/acre
Peaches-olive	100-0,500 kg/tree
Gardens - Flower	150 gr/m²

Foundation of Pythia Institute of Biotechnology

In the frames of program YOU DO (GGET, Greek Ministry of Development) in 2003 it was founded by Dr. Savas G. Anastassiadis a personal enterprise in Greece (Vat#. 108851559) named “Research in biotechnology”. Pythia Institute of Biotechnology was founded in 2006 and it is installed in the buildings of abandoned former Municipal school of Avgi (Thessaloniki), which was given to Dr. Savas G. Anastassiadis unanimously from the Mayor gentleman Evangelos Margaritis and the municipal council of Municipality [Sochos]. In the openings of institute, on 23 July 2006, assisted crowd of people, the Episcopo (Metropolit) of Langada makaristos gentleman gentleman Spiridon, the director of Microbiology of the Russian Academy of Sciences Dr. Igor G. Morgunov, as also politicians and other official factors. The institute of Biotechnology enjoys already international recognition (Twinning-collaboration with the Department of Biochemistry and Microbiology of Russian Academy of Sciences, Publications of world range etc). The institute has activities of research and growth in the sector of industrial microbiology and biotechnology and pilot scale production of a pioneering anti-frost soil conditioner named **EcoPlant**, which is a product of microbial origin. For the support of financing of research activities of the Institute functions the historical tavern (Rural Coffee Barbecue I exist) located in Avgi (Thessaloniki), which exists since 50 years (Tel. +30-23950-51324, mobile +30-6973-801395).

Biological soil conditioner of microbial origin *EcoPlant*

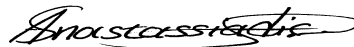
(Augmentative and (ice)-protective factor of plants, thicket and trees)

Picture: Results of (ice)-protective soil *EcoPlant* within 4-5 months (Farm of Nakis Theodoridis, Chorigi, Kilkis)

- 2-3 times bigger growth of olive tree and lemon pine in an interval of 4-5 months
- Beginning of production in 24 days (cucumber), 3-4 meters height of tomatoes (1200 grams/one tomato) and increased production (open field, >650 meters altitude)
- Protection from the frost
-

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Dr. Savas G. Anastassiadis (Ass. Prof.)



Industrial Microbiology and Biotechnology

University of Münster and Nuclear Research Center of Jülich (Germany) – Studies (Diploma, Ph.D.)

MIT, Tufts University, Cargill, ThermoElectron (HPIA) – Postdoctoral Research Associate, work

Russian Academy of Sciences, University of the RAS (Visitor Professor) (Russia)

Environmental Engineering of Democritus University of Thrace (Assistant Professor, C2 Professor)

Pythia Institute of Biotechnology (Founder, Owner, Researcher)

>20 international awards (21st award, Einstein award etc., Cambridge, UK)

Education and Scientific Experience

10/2000 to present	Research and Teaching (Lecturer, C1 Professor) at the Environmental Engineering Department of Democritus University of Thrace (Xanthi, Greece). <ul style="list-style-type: none">• I acted as a consultant for the Greek Government during the EU presidency.• I started a personal company named Research in Biotechnology Vat#. 108851559 (Greece).• Grounder and Owner of Pythia Institute of Biotechnology (Large buildings of former Preliminary School, Avgi, Thessaloniki, Greece) – Research and Development activities and pilot scale production.• Research and Development cooperation and publishing with the Institute of Biochemistry and Physiology of Microorganisms of the Russian Academy of Sciences (Pushchino, Moscow Region, Russia).• Co-Instructor of Diploma and Ph.D. students as Visitor Professor at the Institute of Biochemistry and Physiology of Microorganisms of the Russian Academy of Sciences (Pushchino, Moscow Region, Russia).
01/2000 - 07/2000	Serving in the Greek Army (Poros and Navy Hospital of Salamina).
10/1998 - 10/1999	Postdoctoral Research associate at Tufts University, Biotechnol. Center (USA)
09/1996 – 12/1998	Senior researcher at Cargill and ThermoFibergen (ThermoElectron) (USA)
03/1994 - 08/1996	Postdoctoral Research Associate, Massachusetts Institute of Technology (MIT), Department of Chemical Engineering (USA).
01/1990 - 04/1994	Academic advisor: Bayer Professor Dr. Gregory Stephanopoulos Dr. Nat. Sc. (Ph.D. Thesis): Biotechnology Research Institute, Research Center Jülich (RCJ), Germany (former Nuclear Research Center Jülich, KFA, Germany) and University of Münster (Germany). Topic of the Ph.D. work: "Continuous Production of Citric acid and Gluconic acid with yeast and yeast-like Microorganisms" Academic Supervisors: Prof. Dr. Hans-Jürgen Rehm (University of Münster, Germany) Prof. Dr. Christian Wandrey (University of Bonn and KFA Jülich) Ph.D. thesis was financed by Haarmann & Reimer , a daughter company of the company Bayer, Leverkusen, Germany
1988 - 1989	Master Thesis (Diplomarbeit): "Microbial Events at the Soaking of Soybeans" Institute of Molecular Microbiology and Biotechnology (former Institute of Microbiology), University of Münster, Germany. Academic Supervisor: Prof. Dr. Hans-Jürgen Rehm
1982 - 1988	M.S. in Biology (Diploma), University of Münster, Germany Major: Microbiology Minor: Biochemistry and Molecular and General Biology
1981 - 1982	Münster Junior College, Münster, Germany
1973 - 1979	Sochos High School, Thessaloniki, Greece
1967 - 1973	Preliminary School, Avgi and Thessaloniki, Greece

Επισκέπτης καθηγητής πανεπιστημίου στην **Ρωσική Ακαδημία των Επιστημών και στο πανεπιστήμιο της Ρωσικής Ακαδημίας των Επιστημών**

Συνεργασία και εργασία σε παγκοσμιες βιομηχανίες: Bayer (Γερμανία), Gargill και ThermoElectron (ΗΠΑ)

(International awards and honors: π.χ. international Einstein award (IBC Cambridge, England), blue book of βιβλίο Cambridge (IBC Cambridge, England), Outstanding scientist of the 21st century, International dictionary 2008), Who is Who (USA) etc.