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Institute of Biosciences & Applications
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Personal Data

Born : Leuven, Belgium, December 26, 1961.
Citizenship : Belgian.
Family Status : Single.

Education

1985: M. Sc., Department of Zoology, Faculty of Sciences, Catholic University of Leuven, Leuven, Belgium.
1990: Ph.D., Department of Zoology, Faculty of Sciences, Catholic University of Leuven, Leuven, Belgium.

Military Service

Completed during 1987.

Professional Appointments

1990: Postdoctoral Fellow, Department of Zoology, Faculty of Sciences, Catholic University of Leuven, Leuven, Belgium.
1991-1994: Postdoctoral Fellow, Department of Biochemistry and Molecular Biology, University of Calgary, Calgary, Alberta, Canada.
1995-1999 : Research Associate, Department of Biochemistry and Molecular Biology, University of Calgary, Calgary, Alberta, Canada.
2000-2001 : Collaborative Researcher, Level “D”, Institute of Biology, National Center for Scientific Research “DEMOKRITOS”, Athens, Greece.
2002-2005 : Assistant Research Scientist, Level “C”, Institute of Biology, National Center for Scientific Research “DEMOKRITOS”, Athens, Greece.
2006-2011: Research Scientist, Level “B”, Institute of Biology, National Center for Scientific Research “DEMOKRITOS”, Athens, Greece.
2011- : Research Director, Level “A”, Institute of Biology, National Center for Scientific Research “DEMOKRITOS”, Athens, Greece.

Awards

1985-1987 : Institute for Scientific Research in Industry and Agriculture Studentship (Belgium).

1987-1991 : National Funds for Scientific Research Studentship (Belgium).
1991-1994 : Alberta Heritage Foundation Postdoctoral Fellowship (Canada).
1999-2001 : Scholarship Collaborative Researcher, Level “D”, National Center for Scientific Research “DEMOKRITOS” (Greece).
2008: 2nd Prize for the patent with title “Transformed lepidopteran cell lines that express high levels of functional mammalian opioid receptors as screening systems for the detection of opioid agonists and antagonists”. Festival of Science and Technology for the celebration of 20 years of OBI, Ministry of Development (Greece) (in collaboration with Kostas Iatrou and Zafiroula Georgoussi)
2010: Scholarship, Foreign Researcher, Special Research Fund, University of Ghent (Belgium) (September – December)
2012-2013: Scholarship, Foreign Researcher, Special Research Fund, University of Ghent (Belgium) (December – February)

Professional Memberships

European Society of Comparative Endocrinologists
American Association for the Advancement of Science
The New York Academy of Sciences

Research Interests

1. Regulatory mechanisms controlling insect physiological functions.

- (i) Oogenesis in lepidopteran insects: a model differentiation program induced by ecdysteroid hormones.
- (ii) Analysis of small RNA (miRNA, siRNA) pathways in lepidopteran insects.
- (iii) Analysis of the antiviral immune response against RNA virus infection in lepidopteran insects: small RNAs and “cytokines”.

2. Molecular biology and genetic manipulation of insect viruses.

- (i) Viruses that express proteins toxic for the insect hosts.
- (ii) Genetically modified baculoviruses as vectors for insect genetic transformation.
- (iii) Genetically modified RNA viruses for delivery of RNAi triggers.

3. Functional genomics.

- (i) Systems for production of proteins of economic importance in lepidopteran insect cell lines.
- (ii) High throughput screening systems for detection of bioactive substances (activators and inhibitors of pharmacological targets) in chemical libraries and collections of natural products (plants and microorganisms).

4. Insect pest management.

- (i) Cell-based assays for molting-accelerating compounds (ecdysone agonists): development, high-throughput screening and validation in larvicidal assays.
- (ii) Functional expression and characterization of detoxification enzymes of insecticides.
- (iii) Biotechnological methods for production of protein-based insecticides: delivery vehicles for toxins and RNAi triggers.
- (iv) Development of RNAi as tool for assessment of mechanism of insecticide resistance in insect larvae.

Research Grants

- 1) High-throughput screening for mimetics and antagonists of insect hormones and other insect physiological regulators in plant extracts
Duration: 1/00-6/01
Organization: General Secretariat for Research and Technology (Greece) – Research Consortia (EIIET II)
Coordinator: K. Iatrou
Funding: 154.000 Euro
Role: Participation in writing of research proposal and realization of project
- 2) Use of natural and genetically modified microorganisms for insect pest population control
Duration: 1/00-6/01
Organization: General Secretariat for Research and Technology (Greece) – Research Consortia (EIIET II)
Coordinator: V. Mazomenos
Funding: 55.600 Euro
Role: Participation in writing of research proposal and realization of project
- 3) Development of methods of genetic engineering for biological control of the Mediterranean fruitfly and other insect pests
Duration: 1/00-6/01
Organization: General Secretariat for Research and Technology (Greece) – Basic Research (IIENEΔ)
Coordinator: K. Iatrou
Funding: 52.900 Euro
Role: Participation in writing of research proposal and realization of project
- 4) Bioinsecticides from Insect Parasitoids (BIP).
Duration: 9/01-8/04
Organization: EU/FP5-QL Basic Research (RTD)
Coordinator: Carla Malva
Funding: 315.000 Euro
Role: Participation in writing of research proposal and realization of project
- 5) Baculovirus Artificial Chromosomes (BVACs) and technologies for gene therapy and continuous high-level expression of therapeutic proteins in insect production systems
Duration: 1/04-1/07
Organization: General Secretariat for Research and Technology (Greece) – Research Consortia (EIIAN)
Coordinator: K. Iatrou
Funding: 391.000 Ευρώ
Role: Participation in writing of research proposal and realization of project
- 6) Methods for overexpression and production of recombinant proteins from cloned genes and development of technologies and their application for high-throughput screening of new pharmacological effectors in plant extracts
Duration: 1/04-1/05
Organization: General Secretariat for Research and Technology (Greece) - ΠΙΡΑΞΕ – Fase A
Coordinator: K. Iatrou
Funding: 44.000 Euro
Role: Participation in writing of research proposal and realization of project
- 7) Endocrine and paracrine control mechanisms of the gonadal ecdysteroid response in insects

Duration: 1/04-12/07

Organization: FWO – Vlaanderen G.0469.04 (Belgium)

Coordinator: J. Vanden Broeck

Funding: 423.200 Euro (total)

Role: Coordinator of the Greek participation

- 8) The olfactory odorant binding proteins of the malaria mosquito *Anopheles gambiae* as targets for vector control.

Duration: 6/04-6/06

Organization: Bilateral S & T Cooperation (Greece-USA)

Coordinator: K. Iatrou

Funding: 60.000 Euro

Role: Participation in writing of research proposal and realization of project

- 9) Regulatory mechanisms that govern oogenesis in Lepidopteran insects: identification and functional characterization of factors that play a key role during successive stages of oogenesis in the silkworm *Bombyx mori*

Duration: 1/06-12/08

Organization: General Secretariat for Research and Technology (Greece) – Basic Research (ΙΕΝΕΔ)

Coordinator: Luc Swevers

Funding: 50.735 Euro

- 10) Hormonal disruptors for environmentally-safe control of the Mediterranean climbing cutworm *Spodoptera littoralis*

Duration: 4/06-3/08

Organization: Bilateral S & T Cooperation (Greece-Spain)

Coordinator: Luc Swevers

Funding: 11.740 Euro

- 11) Insect cell-based high-throughput screening systems for the identification of compounds with ecdysteroid mimetic and order-specific insecticide activities in synthetic libraries

Duration: 4/06-3/08

Organization: Bilateral S & T Cooperation (Greece-Japan)

Coordinator: Luc Swevers

Funding: 60.000 Euro

- 12) Key mechanisms of systemic RNA interference (RNAi) in insects

Duration: 1/09-12/12

Organization: FWO – Vlaanderen F 6/12 (Belgium)

Coordinator: G. Smagghe

Funding: 1.170.200 Euro (total)

Role: Coordinator of the Greek participation

- 13) ENAROMaTIC - European Network for Advanced Research on Olfaction for Malaria Transmitting Insect Control

Duration: 12/08-11/11

Organization: European Union (EC FP7-HEALTH-2007-B- Research Consortia)

Coordinator: K. Iatrou

Funding: 1.208.333 €

Role: Participation in writing of research proposal and realization of project

- 14) Genomic and functional approach to understand insecticide resistance in insects and mites and

- development of applications for their control
Duration: 04/12 – 03/16
Organization: Ministry of education, Lifelong Learning and Religious Affairs (Greece),
Operational Program Education & Lifelong Learning “Thalis”
Coordinator: J. Vontas
Funding (total): 511.739€
Role: Member of Central research Group
- 15) Virus-induced mechanisms regulating RNAi in insects
Duration: 1/13-12/16
Organization: FWO – Vlaanderen G028013N (Belgium)
Coordinator: G. Smagghe
Funding: 300.000 Euro (total)
Role: Coordinator of the Greek participation
- 16) New Approaches for Insect Transformation
Duration: 1/13-12/14
Organization: Bilateral S & T Cooperation (Greece-Slovakia)
Coordinator: Luc Swevers
Funding: 15.000 Euro
- 17) Optimizing RNA interference for insect pest control
Duration: 1/16-12/19
Organization: FWO – Vlaanderen G049116N_FB (Belgium)
Coordinator: G. Smagghe
Funding: 572.000 Euro (total)
Role: Coordinator of the Greek participation
- 18) COST Action CA15223. Modifying plants to produce interfering RNA (iPlanta).
Duration: 10/16-10/20
Organization: COST Association (supported by EU Framework Program Horizon 2020)
Coordinator: Bruno Mezzetti
Funding: 444,345 Euro (total)
Role: National delegate and expert (Work group 1)
- 19) Characterization of extracellular RNA-signals and their role in antiviral immunity in insects
Duration: 1/19-12/22
Organization: FWO – Vlaanderen G093119N (Belgium)
Coordinator: J. Vanden Broeck
Funding: 700.800 Euro (total)
Role: Coordinator of the Greek participation
- 20) Viral-like Particles for Increased Delivery of RNAi in Insects (VLP-RNAi)
Duration: 02/20-05/22
Organization: Hellenic Foundation for Research and Innovation
Coordinator: Luc Swevers
Funding: 152,000 Euro

Long Stay Abroad (Visiting Scientist)

Faculty of Bioscience Engineering, Department Crop Protection, Ghent University, Ghent, Belgium. Period: September – December 2009. Participation in the research program: «Key mechanisms of systemic RNA interference (RNAi) in insects» (FWO – Vlaanderen F 6/12).

Scholarship, Foreign Researcher, Special Research Fund, University of Ghent.
Faculty of Bioscience Engineering, Department Crop Protection, Ghent University, Ghent, Belgium. Period: December 2012 – February 2013. Participation in the research program: « Virus-induced mechanisms regulating RNAi in insects » (FWO – Vlaanderen G028013N).
Scholarship, Foreign Researcher, Special Research Fund, University of Ghent.

Teaching

1988-1989: Microscopy and Comparative Anatomy : Teaching of practical exercises in microscopy and dissection to first and second year undergraduate students (20 h per semester).

1997: Gene cloning and Recombinant DNA technology : Course Instructor. Organization of experimental work, work supervision and lecturing. Course (25 h lectures, 150 h laboratory work) attended by 16 graduate students.

2004: Chromatin structure and regulation of gene expression (Institute of Biology, NCSR “Demokritos”). Lectures and supervision of student presentations. Part: post-transcriptional regulation of gene expression (8 hours).

2004: Participation in postgraduate course “Contemporary developments in the teaching of biological courses and new technologies” (coordinator Dr. Th. Katsorchis – Department of Biology, University of Athens). Topic: Gene therapy (2 hours).

2005: Summer School NCSR “Demokritos”: Coordinator of Session at Institute of Physical Chemistry (July 18). Title of Lecture: “Long Term Cellular Differentiation Programs During Development: The Paradigm of Insect Oogenesis” (1 hour).

2006: Educational Seminars (Greek Society of Nuclear Medicine and Biology) “Introduction to Molecular Biology” (May 12). Title of Lecture: “Genetically transformed cell lines from lepidopteran insects: from genomics to functional genomics and biotechnology”.

2006: Summer School NCSR “Demokritos” (July 20): Title of Lecture: “The developing ovariole of the silkworm *Bombyx mori* as a model for the study of long-term differentiation programs (1 hour).

2007: Summer School NCSR “Demokritos” (July 10): Title of Lecture: “Regulatory Mechanisms that Control Oogenesis in Lepidopteran Insects: Characterization and Analysis of Factors that Play a Key Role in the Regulation of Successive Stages of Oogenesis in the Silkworm *Bombyx mori*” (1 hour).

2007-2008: Chromatin structure and regulation of gene expression (Institute of Biology, NCSR “Demokritos”). Lectures and supervision of student presentations. Part: post-transcriptional regulation of gene expression (10 hours).

2008: Summer School NCSR “Demokritos” (July 7): Title of Lecture: “Prevention of malaria transmission through interference with the mosquito olfactory system” (1 hour).

2009: Summer School NCSR “Demokritos” (July 15): Title of Lecture: “Engineering of baculovirus vectors for protein production and cellular transformation” (50 min).

2010: Summer School NCSR “Demokritos” (July 12): Title of Lecture: “Alternative methods of insect pest control: insect growth regulators and environmental RNAi” (50 min).

2011: Summer School NCSR “Demokritos” (July 11): Title of Lecture: “The RNAi mechanism in insects and its potential for pest control” (50 min).

2012: Summer School NCSR “Demokritos” (July 19): Title of Lecture: “The RNAi response in lepidopteran insects : can it be exploited for pest control?” (50 min).

2013: Summer School NCSR “Demokritos” (July 15): Title of Lecture: “The factors that determine the efficiency of RNAi in moths and butterflies” (50 min).

2015: Summer School NCSR “Demokritos” (July 10): Title of Lecture: “RNAi as an antiviral immune response in insects” (50 min).

2016: Summer School NCSR “Demokritos” (July 6): Title of Lecture: “Optimizing RNAi for Insect Pest Control” (50 min).

2017: Summer School NCSR “Demokritos” (July 10): Title of Lecture: “«The democratization of genome editing: from zinc fingers to CRISPR/Cas» at the Summer School of NCSR “Demokritos” (50 min).

2017: Participation in the lesson: «Molecular Biology: Systemic and *in silico* approaches», Bi-institutional postgraduate diploma of specialization, Department of Biology and Medical School, National and Kapodistrian University of Athens, coordinator: Dr. D. Stravopodis. Title: “RNA-mediated gene silencing: pathways and applications in medicine and agriculture” (3 hours).

2019: Participation in the Bi-Institutional Program of Graduate Studies of «Applied Biochemistry: Clinical Chemistry, Biotechnology, Validation of Pharmaceutical Drugs» (collaboration with the Chemistry Department of the University of Patras)

- Molecular Pharmacology – Immunology: lecture with title: «RNAi as an antiviral defense system in insects» (1 hour)
- Molecular and Cellular Biology – Molecular Biotechnology: lecture with title «The Baculovirus Expression System» (1 hour)

2019: Participation in the “Scientific Summer Camp for High-School Students”, Institute of Biosciences & Applications, NCSR “Demokritos”.

2019: Participation in «Summer Scientific Laboratories for High-School Students” at NCSR «Demokritos»

2019: Summer School NCSR “Demokritos” (July 1): Title of Lecture: “CRISPR/Cas and the rise of genome editing techniques” at the Summer School of NCSR “Demokritos” (30 min).

2020: Participation in the Bi-Institutional Program of Graduate Studies of «Applied Biochemistry: Clinical Chemistry, Biotechnology, Validation of Pharmaceutical Drugs» (collaboration with the Chemistry Department of the University of Patras)

- Molecular Pharmacology – Immunology: lecture with title: «RNAi as an antiviral defense system in insects» (1 hour)
- Molecular and Cellular Biology – Molecular Biotechnology: lecture with title «The Baculovirus Expression System» (1 hour)

2020: Summer School NCSR “Demokritos” (July 13): Title of Lecture: “CRISPR/Cas and the rise of genome editing techniques” at the Summer School of NCSR “Demokritos” (30 min).

2021: Participation in the Bi-Institutional Program of Graduate Studies of «Applied Biochemistry: Clinical Chemistry, Biotechnology, Validation of Pharmaceutical Drugs» (collaboration with the Chemistry Department of the University of Patras)

- Molecular Pharmacology – Immunology: two lectures with title «Nucleic acids-based drugs» (parts I and II) (2 hours each)

2021: Summer School of NCSR «Demokritos»: lecture with title «CRISPR-Cas-based Genome Editing and Gene Therapy» (30 minutes)

2021: Participation in «Training course for Secondary School Biology Teachers» at NCSR «Demokritos», organized by EMBL and OPENSCREEN-GR: lecture with title «Genome Editing Techniques and Applications» (1 hour)

Member of Committee for Evaluation Ph.D. Thesis (External Examiner)

1) December 2004: Faculty of Bioscience Engineering, Department Crop Protection, Ghent University, Ghent, Belgium. Thesis of Luc Decombel: “Evaluation of a Lepidopteran cell

- based bioassay as a screening tool for insecticidal activity” (Applied Biological Sciences).
- 2) May 2005: Faculty of Sciences, Department of Zoology, Catholic University of Leuven, Leuven, Belgium. Thesis of Ilse Claeys: “The role of parsin neurohormones in the physiology of reproduction and phase transition of the desert locust, *Schistocerca gregaria*” (Biological Sciences).
 - 3) May 2006: Faculty of Sciences, Department of Zoology, Catholic University of Leuven, Leuven, Belgium. Thesis of Tom Van Loy: “Study of candidate ligands for two leucine-rich repeats containing G protein-coupled receptors in the fruit fly, *Drosophila melanogaster*” (Biological Sciences)
 - 4) April 2009: Faculty of Bioscience Engineering, Department Crop Protection, Ghent University, Ghent, Belgium. Thesis of Hadi Mosallanejad: “Resistance mechanisms for methoxyfenozide: *in vitro* and *in vivo* approaches” (Applied Biological Sciences).
 - 5) June 2009: Faculty of Bioscience Engineering, Department Crop Protection, Ghent University, Ghent, Belgium. Thesis of Thomas Soin: “The ecdysone receptor in insects and crustaceans: from fundamentals to endocrine disruption” (Applied Biological Sciences).
 - 6) June 2012: Faculty of Bioscience Engineering, Department Crop Protection, Ghent University, Ghent, Belgium. Thesis of Ellen De Geyter: “Toxicity and mode of action of steroid and terpenoid secondary plant metabolites against economically important pest insects in agriculture” (Applied Biological Sciences).
 - 7) June 2012: Faculty of Bioscience Engineering, Department Crop Protection, Ghent University, Ghent, Belgium. Thesis of Yves Verhaegen: “Mode of action, concentrations and effects of tributyltin in common shrimp *Crangon crangon*” (Applied Biological Sciences).
 - 8) May 2013: Faculty of Bioscience Engineering, Department Crop Protection, Ghent University, Ghent, Belgium. Thesis of Olivier Christiaens: “Key role and Diversity of EcR/USP and other nuclear receptors in selected Arthropoda species” (Applied Biological Sciences).
 - 9) September 2013: Faculty of Bioscience Engineering, Department Crop Protection, Ghent University, Ghent, Belgium. Thesis of Jisheng Liu: “Interactions between dsRNA and factors affecting the efficiency of RNAi in silkworm (*Bombyx mori*)” (Applied Biological Sciences).
 - 10) October 2013: Department of Agricultural Biotechnology, Agricultural University of Athens, Athens, Greece. Thesis of Dimitris Kontogiannatos: “Molecular and functional analysis of larval development in insects” (Agricultural Sciences).
 - 11) November 2013: Zoological Institute, KU Leuven, Leuven, Belgium. Thesis of Niels Wynant: “Regulation of RNA interference in the desert locust, *Schistocerca gregaria*” (Biological Sciences).
 - 12) June 2014: Department of Agricultural Biotechnology, Agricultural University of Athens, Athens, Greece. Thesis of Theodoros Gkouvitass: “Study of the heat-shock and biological clock in the insect *Sesamia nonagrioides* (Lepidoptera: Noctuidae)” (Agricultural Sciences).
 - 13) December 2014: Department of Biology, National and Kapodistrian University of Athens. Thesis of Sotiris Tsatsaronous: “Molecular analysis of differential gene expression in lepidopteran insects – Study of the architecture of the promoter of the gene pair A/B.L9 in the silkworm *Bombyx mori* through electroporation”.
 - 14) July 2016: Department of Biology, National and Kapodistrian University of Athens. Thesis of Konstantinos Ioannidis: “Lepidopteran nuclear polyhedrosis viruses: molecular characterization and applications in biotechnology”.
 - 15) September 2017: Faculty of Bioscience Engineering, Department Crop Protection, Ghent University, Ghent, Belgium. Thesis of Haidong Wang: “Virus infection and host antiviral

defense, a story between Israeli acute paralysis virus (IAPV) and bumblebees (*Bombus terrestris*)”.

- 16) June 2018: Zoological Institute, KU Leuven, Leuven, Belgium. Thesis of Dulce Santos: “RNAi-based antiviral immunity in lepidopteran and orthopteran insects” (Biological Sciences).
- 17) July 2010: Zoological Institute, KU Leuven, Leuven, Belgium. Thesis of Elise Vogel: “Optimizing RNA interference for insect pest control” (Biological Sciences).
- 18) December 2021: Zoological Institute, KU Leuven, Leuven, Belgium. Thesis of Lina Mingels: “Role of small RNAs in antiviral immunity and systemic RNA interference of insects”.
- 19) February 2021: Department of Biology, University of Crete & FORTH Institute of Molecular Biology and Biotechnology. Thesis of George-Rafael Samantsidis: “Innovative methods for insect pests control and insecticide resistance management”.

PhD Supervision

Theodoros Georgomanolis, Faculty of Biology, National and Kapodistrian University of Athens (L. Swevers/K. Iatrou) (3rd July 2012). Title: “Characterization of protein interactions and functional role of protein BmSH3 of *Bombyx mori*”.

Anna Kolliopoulou, Faculty of Biology, National and Kapodistrian University of Athens (L. Swevers) (14th July 2016). Title: “Molecular dissection of small RNA pathways in the silkworm (*Bombyx mori*): an in vitro and in vivo approach”.

Luoluo Wang: Faculty of Bioscience Engineering, Ghent University, Belgium (I. Meeus/L. Swevers/G. Smagghe) (28th October 2019). Title: “A Metabolomics Study of Virus-Insect Interactions and its Potential for Bee Disease Monitoring”.

BSc Supervision

Eleana Christodoulou, Department of Chemistry, National and Kapodistrian University of Athens (2017). Title: “Molecular approaches to entomopathogenic viruses”.

Stavrianna Pariou, Department of Chemistry, University of Patras (2019). Title: “Molecular approaches to RNA viruses of insects”.

Aleksander Józef Mazurek: « Molecular study of *dicer-2* gene silencing in Lepidopteran cell lines », Department of Biomedical Sciences, University of West Attica (2020).

Izabela Prifti: « Study on the subcellular localization of viral proteins and dsRNA produced after infection with recombinant baculoviruses», Department of Biomedical Sciences, University of West Attica (2021).

Member of (Internal) Supervisory Committees for 7 Ph.D. students supervised by other Faculty members: Zoï Erpapazoglou, Anastasia Apostolidou, Leonidas Leontiadis, Maria Konti, Sophia Aliberti, Christiana Magrioti, Maria Papakonstantinou, Anna Kolliopoulou.

Member of Advisory Committee for Ph. D. thesis: Sotiris Tsatsaronis (Department of Biochemistry and Molecular Biology, Faculty of Biology, National and Kapodistrian University of Athens), Dimitris Kontogiannatos (Department of Agricultural Biotechnology, Agricultural University of Athens), Anna Kolliopoulou (Department of Biochemistry and Molecular Biology, Faculty of Biology, National and Kapodistrian University of Athens), Eva Katsavou (Agricultural Pharmacology, Agricultural University of Athens), Spyros Vlogiannitis (Agricultural Pharmacology, Agricultural University of Athens), Rafaela Panteleri (Institute of Molecular Biology and Biotechnology, Foundation for Research and Technology Hellas, Heraklion, Crete).

Referee Postdoctoral Scholarships

- 2005: Ilse Claeys: Funds for Scientific Research – Flanders (FWO Vlaanderen) (Belgium)
2006: Evangelia Morou: Insecticide Detection Senior Research Assistant (Grand Challenges – Bill Gates Foundation) (England)
2008: Jeroen Poels: Funds for Scientific Research – Flanders (FWO Vlaanderen) (Belgium)
2009: Tom Van Loy: Funds for Scientific Research – Flanders (FWO Vlaanderen) (Belgium)
2009: Argyris Papantonis: Keeley Visiting Fellowships (Oxford University) (England)

External Referee Research Proposals

- 2013: Czech Science Foundation (Biology).
2014: FWO (Belgium) (Functional Biology).
2015-2021: ANR (France) (Fundamental Research).

Member of Scientific Board for Evaluation of Research Proposals

- FWO-Expert Panel Bio2: Functional Biology. Research Foundation Flanders (Belgium).
2016-2021.

Speaking Invitations

- 2001: Session “Insect hormones and applications for pest control”, Congress on In Vitro Biology, St.Louis, Missouri, USA (June 2001).
-2003: Session: “Agro Biotechnology: Plant”, 17th Forum for Applied Biotechnology, Ghent, Belgium (September 2003).
-2004: Session: “Developmental endocrinology: from organism to molecule”, XXII International Congress of Entomology, Brisbane, Australia (August 2004).
-2005: General Session: 1st International Symposium of Entomological Science COE “Development and Metamorphosis”, March 2-3, Kyodai-Kaikan, Kyoto, Japan.
-2005: “From Genomics to Functional Genomics and Biotechnology – Transformed Lepidopteran Cell Lines”, Laboratory of Agrozoology, Faculty of Bioscience Engineering, Ghent University (Belgium) (April 2005).
-2006: Greek Conference “Biosciences in the 21st century”, 13-15 April, War Museum, Athens. Title of Lecture: “Insect cell-based high-throughput screening systems for the identification of compounds with ecdysteroid mimetic insecticide activities”.
-2010: “Induction of the transition from vitellogenesis to choriogenesis by decline in ecdysone signalling in the ovary of the silkworm, *Bombyx mori*: a possible regulatory role for the orphan nuclear receptor BmE75C”. 25th Conference of European Comparative Endocrinologists, Symposium Reproductive Endocrinology, Pécs, Hungary (31 August – 4 September)
-2010: “RNAi in Lepidoptera: Successes and failures and implications for experimental design”. Entomology 2010: 58th Annual Meeting Entomological Society of America (ESA). Symposium: RNA-interference Insect Management: Real-world Applications. SanDiego, California, USA (12-15 December)
-2011: “The RNAi response in lepidopteran insects: can it be exploited for pest control?”. Horticulture – Science, Quality, Diversity, Harmony, Iași, Roumania (26-28 May).
-2011: “The RNAi response in insects and its potential for pest control”. 2011 In Vitro Biology Meeting, Raleigh, North Carolina, USA (4-8 June).
-2011: “Small RNA pathways in the silkworm-derived Bm5 cell line”. RNAi Symposium, Sixth

- International Symposium on Molecular Insect Science, Amsterdam, The Netherlands (2-5 October).
- 2012: 1^o FP7-SEE-DRUG Workshop. From chemical to systems biology: Peptide Synthesis and Protein Production. University of Patras, Departments of Chemistry, Pharmacology, Medicine. 9-10 May. Title: “Insect cell-based expression technologies as tools for structural and functional analysis of eukaryotic proteins”.
 - 2012: 13th International Conference on Invertebrate and Fish Cell Culture. 2012 In Vitro Biology Meeting, Bellevue, Washington, USA (3-7 June). Title: ”Dissection of the function of the RNAi response in the silkworm and the silkworm-derived Bm5 cell line”.
 - 2014: Xth European Congress of Entomology, York, UK, 2014, August 3-8. Biorational control and resistance management of insect pests. Title: “Cell-based screening systems for developing novel insecticides: insights from the EcR-reporter paradigm”.
 - 2014: Xth European Congress of Entomology, York, UK, 2014, August 3-8. Insecticide resistance – From mechanisms to impact. Title: “Insect cell-based expression of insecticide metabolizing enzymes and screening of plant extracts for interference with enzymatic function”.
 - 2015: Entomological Society of America (ESA) 2015 meeting, Minneapolis, Minnesota, USA, 15-18 November. PBT Section Symposium: Insect Cell Lines: Models to Study Novel Biological Interactions for Devising Control Strategies. Title: “The antiviral RNAi response in lepidopteran cell lines”.
 - 2016: School of Life Sciences, Guangzhou University (People’s Republic of China), June 11-19. Four lectures with titles “Biological Pesticides”, “The antiviral RNAi response in Lepidoptera”, “RNAi and its potential for insect pest control” and “The path from scientific idea to scientific publication”.
 - 2017: International Symposium for New Technology in Arthropods Pest Management, 16-18 November, Chongqing, People’s Republic of China. Title: “Delivery of RNAi triggers in insects by viruses and virus-like particles”.
 - 2019: 1st International Molecular Plant Protection Congress, 10-13 April, Adana, Turkey. Title: “Virus-induced gene silencing in insects”.
 - 2021: 71st National Conference Hellenic Society of Biochemistry and Molecular Biology, 26-28 November 2021, Athens. Title: “Viruses and viral-like particles for delivery of RNAi in insects”.

Meeting Organization

- Member, Local Organizing Committee, XV International Ecdysone Workshop, Kolymbari, Crete, Greece (July 2002).
- Coordinator, Section “Agro Biotechnology : Plant”, 17th Forum for Applied Biotechnology, Ghent, Belgium (September 2003).
- Member, Scientific Organizing Committee, XVI International Ecdysone Workshop, Ghent, Belgium (July 2006).
- Member, Scientific Organizing Committee, 7th International Workshop on the Molecular Biology and Genetics of Lepidoptera, Kolymbari, Crete, Greece (August 2006).
- Coordinator, Section “Biological Control & Integrated Pest Management”, International Congress of Insect Biotechnology and Industry, Daegu, Republic of Korea, August 19-24, 2007.
- Member, Organizing Committee, Retreat Institute of Biology, NCSR “Demokritos” (November

2008).

- Member, Scientific Organizing Committee, 8th International Workshop on the Molecular Biology and Genetics of Lepidoptera, Kolymbari, Crete, Greece (August 2009).
- Local Organizer, 4th iPLANTA Conference, "Contribution of RNAi to sustainable agriculture, food safety and security, Athens, Greece (February 2020).

Member Editorial Board of Scientific Journal

Archives of Insect Biochemistry and Physiology, Journal of Insect Science, Frontiers in Insect Science.

Referee International Journals

African Journal of Biotechnology, Applied Biochemistry and Biotechnology, Applied Microbiology and Biotechnology, Archives of Insect Biochemistry and Physiology, Arthropod-Plant Interactions, Biochimica et Biophysica Acta (General Subjects, Gene Regulatory Mechanisms), BioMed Research International, BMC Evolutionary Biology, BMC Genomics, BMC Microbiology, Bulletin of Entomological Research, Central European Journal of Biology, Chemosphere, Comparative Biochemistry & Physiology Part B, Comparative and Functional Genomics, Crop Protection, Current Opinion in Insect Science, Current Opinion in Biotechnology, Developmental Biology, Developmental and Comparative Immunology, Environmental Pollution, Ecotoxicology, European Journal of Entomology, FEBS Journal, Frontiers in Agronomy, Frontiers in Microbiology, Frontiers in Physiology, Frontiers in Plant Sciences, Functional & Integrative Genomics, G3:Genes/Genomics/Genetics, Gene, General and Comparative Endocrinology, In Vitro Cellular and Developmental Biology – Animal, Heliyon, Insect Biochemistry and Molecular Biology, Insect Molecular Biology, Insects, Insect Science, International Journal of Biological Sciences, International Journal of Molecular Sciences, iScience, Journal of Biomedicine and Biotechnology, Journal of Biotechnology, Journal of Endocrinology, Journal of Experimental Biology, Journal of General Virology, Journal of Insect Physiology, Journal of Insect Science, Journal of Neuroendocrinology, Journal of Pest Science, Journal of Steroid Biochemistry and Molecular Biology, Microbial Ecology, Molecular Biology Reports, Molecular Genetics and Genomics, Molecular Immunology, Molecules, Nature Ecology & Evolution, Peptides, Pesticide Biochemistry and Physiology, Pest Management Science, Phytoparasitica, Plant Protection Science, PLoS Genetics, PLoS ONE, PLoS Pathogens, Reviews in Aquaculture, RNA Biology, Science of the Total Environment, Scientific Reports, Toxins, Transgenic Research, Turkish Journal of Entomology, Virulence, Virus Research, WIREs RNA.

Referee Book Chapter

"Insect Cell Lines as Tools in Insecticide Mode of Action Research". Book Chapter: "Insecticides Design Using Advanced Technologies", I. Ishaaya, R. Nauen and A. R. Horowitz (Eds.) (Springer).

Publications

(total number of citations: > 3500; h-factor = 33)

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Conference Abstracts

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- Conference “What future for RNAi-based products: RNAi modified plants or spray products”, 27 February – 1 March, Oeiras, Portugal.
179. Taning, C.N.T., Christiaens, O., **Swevers, L.**, and Smagghe, G. (2019). Exploiting an engineered insect virus as a delivery vehicle to improve RNAi effects in fruitflies. 3rd iPlanta Conference “What future for RNAi-based products: RNAi modified plants or spray products”, 27 February – 1 March, Oeiras, Portugal.
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 182. Taning, C.N.T., Christiaens, O., Li, X.X., **Swevers, L.**, Casteels, H., Maes, M., and Smagghe, G. (2019). A novel and efficient virus-based RNAi delivery system for fruitflies. IUPAC International Congress, Gent, Belgium, 19-24 May.
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