
Curriculum Vitae

Professor Nikolaos E. Labrou
Director & Head of the Laboratory of Enzyme Technology

Department of Biotechnology
Agricultural University of Athens

September 2019

NAME: NIKOLAOS E. LABROU	<p>POSITION TITLE: Professor in Enzyme Technology (research, teaching) Director & Head of the Laboratory of Enzyme Technology Department of Biotechnology Agricultural University of Athens</p> <p>Address/Contact details: Laboratory of Enzyme Technology, Department of Biotechnology, Agricultural University of Athens, Iera Odos 75, Gr-118 55, Athens, Greece, Tel & Fax: +30 210 5294308, Email: lambrou@aua.gr</p> <p>ORCID ID: orcid.org/0000-0003-1925-9867 Researcher ID: B-1089-2011 Scopus Author ID: 7004887379 http://publicationslist.org/Labrou</p>
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EDUCATION/TRAINING:

Institution and location	Degree/ Activity	Year	Field of study
– University of Patras, Department of Chemistry, Greece	BSc	1987-1991	Chemistry
– Agricultural University of Athens, Department of Biotechnology, Athens Greece	Ph.D.	1991-1996	Enzyme Biotechnology
– University of Leeds, Department of Biochemistry and Molecular Biology, UK	Postdoctoral Research Follow	1996-1998	Molecular Biology, Protein Biochemistry & Medical Biochemistry

A. POSITIONS AND HONORS

i) Academic Positions at Agricultural University of Athens

- 1992-1995, Research assistant, Agricultural University of Athens, Department of Biotechnology, Laboratory of Enzyme Technology
- 1996-1998 Postdoctoral Research Fellow, University of Leeds, Department of Biochemistry and Molecular Biology, UK (funded by EU, Fourth Framework Programme for RTD)
- 1998 - 2000, Research Scientist, 401 Military Hospital, Research Unit, Athens, Greece
- 2000 - 2002, Senior Research Scientist, Agricultural University of Athens, Greece
- 2003 - 2008, Assistant Professor, Agricultural University of Athens, Department of Biotechnology, Athens, Greece
- 2008 - 2015, Associate Professor, Agricultural University of Athens, Department of Biotechnology, Athens, Greece
- 2011 - today, Director of the Faculty (Biochemistry, Enzyme Technology and Molecular Biology) at the Department of Biotechnology, Agricultural University of Athens, Athens, Greece
- 2013 - 2015, Director of Postgraduate Studies, Biotechnology Post-Graduate Program, Agricultural University of Athens, Department of Biotechnology, Athens, Greece
- 2013 - today, Head of the *Accreditation and Assessment Committee* (Agricultural University of Athens, Department of Biotechnology)
- 2013 – today, Member of the *Entrepreneurship and Innovation Committee* (Agricultural University of Athens, Department of Biotechnology)
- 2013 – today, Member of the *Academic Affairs Committee* (Agricultural University of Athens, Department of Biotechnology)
- 2014 – today, Member of the *Coordination Committee of the Systems Biology Post-Graduate Program* (Agricultural University of Athens)
- 2015 - today, Full Professor with tenure, Agricultural University of Athens, Department of Biotechnology
- 2016 - today, Director of the Laboratory of Enzyme Technology, Agricultural University of Athens, Department of Biotechnology
- 2017 - today, *Deputy President* of the Department of Biotechnology, Agricultural University of Athens
- 2018 - today, *Deputy Director* of Postgraduate Studies, Systems Biology Post-Graduate Program, Agricultural University of Athens, Department of Biotechnology, Athens, Greece

ii) Awards and distinctions

- 1996, BIOTECHNOLOGY Scholarship (EU, Fourth Framework Programme for RTD)
- 2003, NATO Research award
- 2008, First prize for Eco-friendly Business Ideas Competition ‘*Green Dreams*’ 2008, Athens, Greece (Entrepreneurship Club, Eurobank/ALBA Graduate Business School)
- 2011, Ministry of Education, Research award: THALES – Academic & Scientific Excellence
- 2013, Ministry of Education, Research award: ARISTIA - Grant for Excellence
- 2015, State Scholarships Foundation: IKY-SIEMENS - Grant for Excellence

iii) Professional Memberships

- Fellow of the *Royal Society of Biology* (FRSB)

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- Fellow of the *Royal Society of Chemistry* (FRSC)
 - Member of the *American Chemical Society* (ACS)
 - Member of the *Biochemical Society* (UK)
 - Member of the *International Chemical Biology Society*
 - Member of the *European Federation of Biotechnology* (Member of the Board ‘*Biodiversity*’)
 - Member of the *European Federation of Chemical Engineering*
 - Member of the *European Association of Pharma Biotechnology* (Member of the Special Interest Group on Regulation Affairs)
 - Personal member of *European Plant Science Organisation* (EPSO)
 - Member of the *European Biotechnology Network*
 - Member of the *European Society of Biochemical Engineering Sciences*
Sections:
 - Downstream Processing
 - Modelling, Monitoring, Measurement & Control
 - Bioreactor Performance
 - Microalgae Bioengineering
 - Member of the *Hellenic Proteomics Society*
 - Member of the *Association of the Greek Chemists*
 - Member of the *Hellenic Biochemical and Molecular Biology Society*
 - Member of the Ministry of Development Scientific Committee
 - Member of the *International Society for Molecular Recognition*
 - Member of the: *Hellenic Society of Nanotechnology in Health Sciences*
 - Member of the: *Hellenic Bioinformatics (H.Bioinfo)*

iv) Review activities

- Reviewer for more than 90 scientific journals (Including: Nature Methods, PNAS, ACS journals, Nature Protocols, etc)
- External examiner of PhD thesis (Indian Institute of Technology, Department of Chemistry; National Institute of pharmaceutical Education and Research, India; Turku Centre for Biotechnology, Finland; University of Cádiz, Spain; National Institute of Pharmaceutical Education and Research, Punjab, India etc)
- Reviewer for national and international Grant Agents:
 - Greek ministry of Education, (2015-2018)
 - General Secretariat of Research & Technology, Greece, (2015-2018)
 - State Scholarships Foundation (IKY), Greece, (2005-2018)
 - Portuguese Foundation for Science and Technology, 2002
 - FP7 (Marie Curie Post-doctoral Mobility Fellowships 2010)
 - National Science Foundation, Georgia (2009, 2011, 2012, 2013)
 - Romanian National Council for Development and Innovation (2011-2016)
 - National Science Centre, Poland (2014, 2016)
 - Innovation Research Incentives Scheme Vidi 2015 ALW, The Netherlands, (2015)
 - Industrial Research Fund of the Ghent University Association in Belgium, UGent TechTransfer, (2016)
 - Czech Grant Agency, Grant Agency of the Czech Republic, (2016)
 - ERC Starting Grant - 2016, European Research Council Executive Agency (2016)
 - Erasmus+ - European Commission – IKY (2016)

- External member of the Promotions Committee at the Department of Biochemistry, College of Science, King Saud University, King Saudi Arabia, (2016-2018)
- Registered grand application assessor by the Greek General Secretariat of Research and Technology (2014-2020)
- Israel Ministry of Agriculture and Rural development, Biotechnology Panel (2018-2019)
- EDCTP (The European & Developing Countries Clinical Trials Partnership) grants (2018-2019)
- European Science Foundation
- Science Fund of the Republic of Serbia, Serbia (2019-2020)

v) Conference Committee

- Organizing Committee Member of the: '*Latin American Conference on Enzyme Technology*', Varadero 2003.
- Organizing Committee Member of the: '*International Conference on Enzyme Technology RELATENZ 2005*', Matanzas, Cuba.
- Organizing Committee Member of the: '*IDDST-2007 Summit Conference: Advances and Challenges Toward Major Diseases*'. November 4-7 2007, Beijing.
- Organizing Committee Member of the: '*2nd Annual World Congress of Industrial Biotechnology 2009*' Theme: Innovative Biotechnology for Sustainable Bio-economy. April 5-7, 2009, Seoul, South Korea.
- Organizing Committee Member of the: '*2nd International Conference on Environmental Science and Energy Engineering (ICESEE 2017)*'. January 15-16, 2017, Beijing, China.
- Organizing Committee Member of the: '*World Congress on Nutrition and Obesity Prevention Source*'. 16 - 18 November 2017, Barcelona, Spain.
- Organizing Committee Member of the: '*3rd Global Nanotechnology Congress and Expo (Nanotechnology-2017)*'. August 21-23, 2017 at Dallas, USA.
- Organizing Committee Member of the: '*Nano USA 2017, International Conference and Exhibition on Nanoparticles & Nanotechnology: Exploring Novel Concepts in Nanotechnology Research to a Prosperous Knowledge for Better Living*'. October 4-6, 2017, Chicago, USA
- Organizing Committee Member of the: '*World Conference on Food Processing and Food Technology 2017: Exploring research on Food Processing and Food Technology across the globe*'. April 24-26, Dubai, UAE.
- Organizing Committee Member of the: '*2nd International Conference on Biomedical and Biological Engineering, (BBE 2017)*'. May 26-28, 2017, Guilin, China.
- Organizing Committee Member of the: '*International Conference on Environment, Energy and Sustainability*'. August 6-7, 2017, Phuket, Thailand.
- Organizing Committee Member of the: '*6th International Summit on GMP, GCP & Quality Control*'. September 25-26, 2017 at Chicago, USA.
- Organizing Committee Member of the: NanoTeK series conferences: '*19th International Conference on Nanotek and Expo*'. November 13-14, 2017 Atlanta, Georgia, USA. Theme: Pioneering Expansion in the world of Nanotechnology.
- Organizing Committee Member of the: '*4th International Congress on Drug Discovery, Designing and Development*'. November 02-03, 2017, Chicago, USA.
- Organizing Committee Member of the: '*4th Global Nanotechnology Congress and Expo (GNCE-2018)*', April 16-18, 2018, Dubai, UAE.
- Organizing Committee Member of the: '*International Conference and Exhibition on Nanotechnology*', Nano USA 2018, February 5-7, 2018, Chicago, USA.
- Organizing Committee Member of the: '*International Conference & Exhibition on Genome Science (ICEGS-2018), Genome-2018*', Feb 5-7, 2018, Las Vegas, USA.
- Organizing Committee Member of the: '*International Biotechnology and Research Conference*', April 25-27, 2018, Rome, Italy.

- Organizing Committee Member of the: ‘*Annual Spring Conference and Expo on Chemical Engineering: From Materials Engineering to Nanotechnology*’, Miami, Florida, USA, April 11-12, 2018.
- Organizing Committee Member of the: *21st International conference on Advanced Nanoscience and Nanotechnology*’, June 21-23, 2018 at London, UK.
- Organizing Committee Member of the: *30th Annual Congress on Nanotechnology and Nanomaterials*, September 10-11, 2018, Stockholm, Sweden.
- Organizing Committee Member of the: *18th Annual Pharmaceutical and Chemical Analysis Congress*, November 05-06, 2018 Madrid, Spain, Theme: Pioneering Expansion in the World of Pharmaceutical and Chemical Analysis.
- Organizing Committee Member of the: ACSTM 2019, *3rd Asian Conference on Science, Technology & Medicine*, February 12-14, 2019, Dubai, UAE.
- Organizing Committee Member of the: *4th International Conference on Food and Biosystems Engineering*, 30 May- 2 June, 2019, Heraklion, Crete, Greece.
- Organizing Committee Member of the: *5th International Conference on Enzymology & Protein Chemistry*, February 28-March 01, 2019, Berlin, Germany.
- Organizing Committee Member of the: *International Conference on Material Science and Nanotechnology (ICMN 2020)*, April 13 - 15, 2020, Dubai, UAE.

B. RESEARCH INTERESTS

My research is mainly focused in the fields of Enzyme Biotechnology, Enzyme Biochemistry and Molecular Biology in which I have extensive experience in a plethora of methodologies. In particular:

- **Enzyme Characterization, Engineering and Design:** Structure function relations in enzymes. Biophysical and thermodynamic characterization of enzymes. Rational enzyme design employing site-directed mutagenesis and computer-aided molecular modelling. Combinatorial design employing directed or random evolution approaches. The following crystal structures of the enzymes Glutathione Transferase, Neuraminidase and Formate Dehydrogenase have been resolved and characterized: PDB ID: 5LD0; 5LCZ; 5AGY; 4CHS; 4TOP; 4HJ2; 2YCD; 2VO4; 2B8H; 2GUG.
- **Drug Design and Evaluation:** Development of affinity ligands, drugs & pro-drugs, employing bioinformatics, rational and structure-guided combinatorial approaches. Study of enzyme inhibitors with pharmaceutical and medicinal interest.
- **Enzymes as Targets for Cosmetology & Skin research:** Development bioactivity assays for *in vitro* compounds efficiency testing.
- **Immobilized Enzymes, Biosensors and biotransformations:** Development of biocatalytic solid materials suitable for bioassays. Construction of optical biosensors for application to the determination of metabolites, drugs and agrochemicals. Development of enzyme microchips for high throughput screening of novel biocatalysts and analysis of new therapeutic compounds.
- **Cloning and Heterologous Enzyme Production:** Development of recombinant protein expression systems (microbial fermentation, mammalian and insect cell culture). Development of downstream processing protocols for therapeutic proteins and monoclonal antibodies employing affinity chromatography. Synthesis and application of affinity adsorbents for enzyme purification.

- **Algae Biotechnology:** *In vitro* analysis and evaluation of high-added biomolecules from microalgae. Development of downstream processing protocols for the isolation of high-added biomolecules from microalgae.

C. TEACHING (UNDERGRADUATE AND POSTGRADUATE)

i) Undergraduate and Graduate programs

My teaching experience covers a variety of courses, ranging from basic-level (undergraduate level) to advanced courses (graduated level). I have set up several new undergraduate level courses at the Department of Biotechnology, including:

- *Molecular Enzymology* (theory and practice),
- *Analytical Biotechnology* (theory and practice),
- *Clinical and Pharmaceutical Biotechnology* (theory and practice),
- *Enzyme Technology* (theory and practice),
- *Biochemistry*, (theory and practice),

At graduated level, I contribute several courses at the following Programs:

- Master Program in *Bioactive compounds and Protein Technology* (Agricultural University of Athens),
- Courses: 1) *Enzyme Engineering*, 2) *Design Enzyme Inhibitors*, 3) *Enzyme Bionanotechnology*.
- Master Program in *Systems Biology* (Agricultural University of Athens),
- Course: *Enzyme Networks in Systems Biology*.
- Master in *Molecular Physiology* (Medical School of Athens),
- Course: *Engineering Therapeutic Enzymes*.
- Master in *Food Bioprocesses and Biorefineries* (Agricultural University of Athens),
- Course: *Enzyme Biotechnology and Enzyme Engineering*

Students Text books (Editions of Agricultural University of Athens)

- 1) N.E. Labrou (2005) *Molecular Enzymology*, AUA Publications, Greece.
- 2) N.E. Labrou (2005) *Laboratory Practice in Molecular Enzymology*, AUA Publications, Greece.
- 3) N.E. Labrou (2006) *Biomolecular Analysis*, AUA Publications, Greece.
- 4) N.E. Labrou (2006) *Laboratory Practice in Analytical Biotechnology*, AUA Publications, Greece.
- 5) Y.D. Clonis and N.E. Labrou (2009) *Laboratory Practice in Enzyme Technology*, AUA Publications, Greece.
- 6) Y.D. Clonis and N.E. Labrou (2009) *Laboratory Practice in Agricultural Enzymology*, AUA Publications, Greece.
- 7) N.E. Labrou (2017) *Analytical Biotechnology*, AUA Publications, Greece.
- 8) N.E. Labrou (2017) *Laboratory Practice in Analytical Biotechnology*, AUA Publications, Greece.
- 9) N.E. Labrou (2018) *Clinical & Pharmaceutical Biotechnology*, AUA Publications, Greece.
- 10) N.E. Labrou (2018) *Laboratory Practice in Clinical & Pharmaceutical Biotechnology*, AUA Publications, Greece.

ii) Workshops/Meetings Organizer

- 1) Organizer & Chairman of the 1st THALIS workshop on ‘*Methods of measuring enzyme catalytic activity*’ 31/1/2013 – 1/2/2013, Athens, Agricultural University of Athens.
- 2) Organizer & Chairman of the Annual THALIS workshop on ‘*Enzyme inhibitors: peptidyl and heterocyclic compounds design and synthesis*’ 31/1/2013 – 1/2/2013, Department of Pharmacy, University of Patras, Patras.
- 3) Organizer & Chairman of the 2nd THALIS workshop on ‘*Affinity chromatography and purification of recombinant enzymes*’ 8/10/2014 – 9/10/2014, Athens, Agricultural University of Athens.

- 4) Organizer & Chairman of the 1st ARISTEIA workshop on ‘*Protein Engineering methods and approaches*’ 8/10/2014 – 9/10/2014, Athens, Agricultural University of Athens.
- 5) Co-organizer & co-chairman of the 4th Workshop of the AlgaeCom project (EC FP7) on the "*Exploitation of microalgae diversity for the development of novel high added value cosmeceuticals*" Athens, 4th-8th of May, 2015, Agricultural University of Athens.
- 6) Organizer & Chairman of the 3rd THALIS workshop on ‘*Bioinformatics analysis and discovery molecular markers*’ 25/9/2015 – 26/9/2015, EKETA, Thessaloniki.
- 7) Co-organizer & co-chairman of the 2st ARISTEIA workshop on ‘*High resolution melt (HRM) analysis for the detection of mutations, polymorphisms and epigenetic differences*’ 25/9/2015 – 26/9/2015, EKETA, Thessaloniki.
- 8) Organizer & Chairman of the ‘*MOLECULAR BIOTECHNOLOGY*’ International Summer School and Workshop’, 18 July - 29 July 2016, Athens, Agricultural University of Athens.
- 9) Organizer & Chairman of the ‘*MOLECULAR BIOTECHNOLOGY*’ International Summer School and Workshop’, 3 July - 21 July 2017, Athens, Agricultural University of Athens.

BOOKS AND SPECIAL ISSUES EDITIONS

Editor for the following Books:

- 1) Title of the book: ‘*Protein Downstream Processing, Design, Development and Application of High and Low-Resolution Methods*’, (1st Edition), Book series: *Methods in Molecular Biology*, (2014) Vol. 1129, 618 pages (Springer USA) <http://www.springer.com/gp/book/9781627039765>
- 2) Title of the book: ‘*Glutathione: Biochemistry, Mechanisms of Action and Biotechnological Implications*’ (2013), Nova Science Publishers, Hardcover ISBN: 978-1-62417-460-5, e-book: ISBN: 978-1-62417-503-9), 370 pages, https://www.novapublishers.com/catalog/product_info.php?products_id=38495.
- 3) Title of the book: ‘*Handbook on Protein Purification: Industry Challenges and Technological Developments*’ (2018), Nova Science Publishers, Hardcover ISBN: 978-1-53614-365-2, 160 pages. <https://novapublishers.com/shop/handbook-on-protein-purification-industry-challenges-and-technological-developments/>
- 4) Title of the book: ‘*Therapeutic Enzymes: Structure, Function and Clinical Implications*’ (2019), Book series: ‘*The Advances in Experimental Medicine and Biology*’, Springer USA, ISBN 978-981-13-7709-9, 381 pages, <https://www.springer.com/gp/book/9789811377082>.
- 5) Title of the book: ‘*Targeting enzymes for pharmaceuticals development*’, Book series: *Methods in Molecular Biology*, Springer USA, (in press).
- 6) Title of the book: ‘*Protein Downstream Processing, Design, Development and Application of High and Low-Resolution Methods*’, (2nd Edition), Book series: *Methods in Molecular Biology*, Springer USA, (in press).

Guest Editor for the following Special Issues in research journals:

- 1) Title of the special issue: ‘*Directed Enzyme Evolution*’, Journal: *Biomolecular Engineering* (Elsevier), [Vol 22, pp 1-104, 2005] <http://www.sciencedirect.com/science/journal/13890344/22/1>
- 2) Title of the special issue: ‘*Plant Glutathione Transferases: Diverse, Multi-Tasking Enzymes with Yet-to-Be Discovered Functions*’ (2019, ID 7474), Journal: *Frontiers in Plant Science*, <https://www.frontiersin.org/research-topics/7474>

E. EDITORIAL MEMBERSHIPS

- Member of the *Committee on Publication Ethics* (COPE)
- Member of *Asian Council of Science Editors*

Editor-in-Chief

[2015-today] Editor-in-Chief, Journal: *Recent Patents in Biotechnology* (Bentham Science Publishers Ltd, USA).

Associate Editor

[2017-today] Associate Editor: *The Protein Journal* (Springer Nature, USA)
 [2018] Guest Associate Editor for Plant Physiology. Journal: *Frontiers in Plant Science* (Frontiers)

Executive Editor

[2005-2008] Executive Editor, Journal: *Biomolecular Engineering* (Elsevier).
 [2012-today] Executive Editor: Journal: *Enzyme Engineering* (OMICS Publishing Group, USA).

Editorial Board member (Subscription-Based Journals)

[2002-2005] Editorial Board member: *Biomolecular Engineering* (Elsevier).
 [2007-2014] Editorial Board member: *Recent Patents in Biotechnology* (Bentham Science Publishers Ltd, USA).
 [2013-today] Editorial Board member: *Enzyme & Microbial Technology* (Elsevier).
 [2013-today] Editorial Board member: *Electronic Journal of Biotechnology* (Elsevier).
 [2015-today] Editorial Board member: *Current Chemical Biology* (Bentham Science Publishers Ltd, USA)
 [2015-today] Editorial Board member: *Protein & Peptide Letters* (Bentham Science Publishers Ltd, USA)

Editorial Board member (Open access Journals)

[2013-2017] Editorial Board member: *Sustainable Chemical Processes*, (Chemistry Central/BioMed Central/Springer)
 [2014-today] Editorial Board member: *Journal of Enzymology and Enzyme Engineering* (Jacobs Publishers, USA)
 [2015-today] Editorial Board member: *eBook Editorial Board* (Bentham Science Publishers)
 [2018-today] Editorial Board member: *Journal of Cosmetics* (MDPI AG, Basel, Switzerland)
 [2018-today] Editorial Board member: EMBnet

F. RESEARCH SUPPORT

i) FUNDED PROJECTS (National funding agents)

- 1) Title: ‘*Design and Synthesis of novel enzyme nanostructures for the development of biosensor for the determination of pesticides in environmental samples*’, State Scholarships Foundation, (2017-2019, Role: Coordinator).
- 2) I.K.Y/SIEMENS Grant of Excellence: ‘*Design of Glutathione transferases for the development of Biosensors for the determination of agrochemicals*’, State Scholarships Foundation-SIEMENS (2015-2017, Role: Principal Investigator).
- 3) Title: EXCELLENCE II: ‘*Design of Catalytic Bioscavengers Against Toxic Herbicides By Resurrecting Functional Ancestral Enzymes and Directed Evolution*’ (2013-2015), Ministry of Education, Lifelong Learning and Religious Affairs, Role: Coordinator and Principal Investigator.
- 4) Title: ‘*Glutathione transferases: multifunctional molecular tools in red and green biotechnology*’. Ministry of Education, Lifelong Learning and Religious Affairs, Research Grant THALES, (2011-2015), Role: Coordinator and Principal Investigator.

- 5) Title: EXCELLENCE II: ‘*Studying the Hypoxia-Related Regulation and the Biochemical Role of Genes Involved in Symbiotic Nitrogen Fixation in Legume Root Nodules*’ (2013-2015), Ministry of Education, Lifelong Learning and Religious Affairs, Role: Principal Investigator.
- 6) Title: ‘*Research for the improvement of plant propagation and breeding*’. Hellenic Ministry of National Education, Grant: Cooperation (2011-2015), Role: Co-investigator.
- 7) Title: ‘*Biotechnology for the exploitation of microalgae*’. Ministry of Education, Lifelong Learning and Religious Affairs, Research Grant COOPERATION, (2010-2015), Role: Principal Investigator.
- 8) Title: ‘*Redesign of Glutathione S-Transferase with Protein Engineering and Application to the Construction of an Optical Biosensor for the Determination of Agrochemicals*’. Ministry of Education, Lifelong Learning and Religious Affairs, Heraclitus II Grant, (2010-2013), Role: Principal Investigator.
- 9) Title: ‘*Protein engineering and Biotechnological applications of therapeutic enzymes*’. Hellenic Ministry of Development Research Grant, GSRT, (2004-2011), Role: Principal Investigator.
- 10) Title: ‘*Pharmacogenomics and Protein Engineering of Glutathione S-Transferase for Studying Tumor Resistance to Cisplatin and Targeted Chemotherapy of Solid Tumors*’. Hellenic Ministry of Development Research Grant, General Secretariat of Research and Technology, (2003-2006), Role: Co-Investigator.
- 11) Title: ‘*Protein Engineering of L-Asparaginase for the Improvement of its Pharmacological Properties*’. Hellenic Ministry of Development Research Grant, GSRT, (2002-2005), Role: Coordinator and Principal Investigator.

ii) FUNDED PROJECTS (International funding agents)

- 1) Title: ‘*Development of -omics resources and methodologies for the design and production of novel enzymotics for multidrug resistance human pathogens*’. Prince Sattam bin Abdulaziz University, Specialized Research Grant program, (2019-2020, Role: Scientific advisor).
- 2) Title: ‘*Development of microalgae-based natural UV Sunscreens and Proteins as cosmeceuticals and nutraceuticals*’. Marie Skłodowska-Curie Actions (MSCA), Research and Innovation Staff Exchange (RISE), H2020-MSCA-RISE-2017, (2017-2021, Role: Principal Investigator).
- 3) Title: Functional Genomics in Pharmaceutical Drug Discovery: Enzymes for amino acid depletion therapy and multidrug resistance in cancer, Prince Sattam bin Abdulaziz University, New faculty Grant program, (2017-2018, Role: Scientific advisor).
- 4) Title: ‘*Development of new engineered glutathione transferase variants as effective catalytic bioscavengers for prophylaxis and post-exposure treatment of intoxications caused by chloroacetanilide molecules*’. Salman bin Abdulaziz University, Specialized Research Grant program, Saudi Arabia (2015-2016, Role: Scientific advisor).
- 5) Title: ‘*Engineering of the therapeutic enzyme L-asparaginase for the development of novel variants with purposely designed catalytic properties*’. Salman bin Abdulaziz University, Specialized Research Grant program, Saudi Arabia (2015-2016, Role: Scientific advisor).
- 6) Title: ‘*Development of Microalgae-based novel high added-value products for the Cosmetic and Aquaculture industry*’. Research and Innovation Staff Exchange (RISE) H2020-MSCA-RISE-2014, Horizon 2020, (2015-2019, Role: Principal Investigator).
- 7) Cost Action CM1303 ‘*Systems Biocatalysis*’. FP7, (2013-2017), Role: member.
- 8) Title: “Identification, molecular and biochemical characterization of indigenous rhizobial strains for use as biofertilizers and bioremediators”. EXPLORATORY RESEARCH PROJECTS - PN-II-ID-PCE-2011-3, (2011-2014) Romanian National Research Council, Role: Co-Investigator.
- 9) Title: ‘*Exploitation of microalgae diversity for the development of novel high added-value cosmeceuticals*’. FP7, Marie-Curie Industry-Academia Partnerships and Pathways (IAPP), (2011-2015), Role: Co-Investigator.
- 10) Title: ‘*Development of phage therapy in aquaculture*’. FP7, Marie-Curie grant (IRSES), (2011-2015), Role: Principal Investigator.

- 11)** Cost Action FA0804: 'Molecular farming: Plants as production platform for high value proteins'. FP7, Cost Action, (2008-2013), Member.
- 12)** Title: '*Recombinant pharmaceuticals from plants for human health*'. FP6, Integrated Project Research Grant, (2004-2014, Role: Principal Investigator.
- 13)** Title: '*Pyrethroid Quantification Kit*'. Bill and Melinda Gates Foundation Research Grant, (2006-2010). Role: Co-Investigator.
- 14)** Title: '*Molecular farming: Plants as production platform for high value proteins*', FP7 Cost Action FA0804 (2008-2011), Role: Co-Investigator.
- 15)** Title: '*New Safe Medicines Faster*', EUREKA Cluster, (E!3348, NewMedFaster, 2004-2005, Role: Principal Investigator.
- 16)** Title: '*Engineering and structural studies of NAD⁺-dependent formate dehydrogenase*'. NATO Research Grant, (2003-2005), Role: Principal Investigator.

iii) FUNDED PROJECTS (Private funding)

- 1)** Title: '*Development, formulation, quality control analysis and bioactivity assessment of biological extracts*', Private funding, (2017-2018), Role: Principal Investigator.
- 2)** Title: '*Phi class Glutathione Transferase as Molecular Target of Multiple-Herbicide Resistance: Development Novel Strategies for Weed Management*'. Bayer CropScience AG, Germany, (2017, Role: Principal Investigator).
- 3)** Title: '*Analysis of biological extracts*'. Private funding, (2015-2016), Role: Principal Investigator.
- 4)** Title: '*Analysis and evaluation of microalgae extracts*'. Private funding, (2015-2018), Role: Principal Investigator.
- 5)** Title: '*Analysis and evaluation of natural plant extracts*'. Private funding, (2013-2015), Role: Principal Investigator.
- 6)** Title: '*Analysis and evaluation of melon extracts*'. Private funding, (2012-2014), Role: Principal Investigator.

H. PUBLICATIONS (<http://publicationslist.org/Labrou>)

i) PUBLICATIONS OVERVIEW

Total citations: >3,735

H-index: 34

i10-index: 88

Total papers >146

Total chapters in International Books: 35

Abstract/Proceedings in national and international conferences >80

ii) PhD Thesis

N.E. Labrou (1996). Anthraquinone-carboxyl biomimetic dyes and their application in enzyme molecular characterization and enzyme purification, PhD Thesis, Agricultural University of Athens.

iii) ISI peer-reviewed research Articles

- N.E. Labrou & Y.D. Clonis** (1994). The affinity technology in downstream processing. *J. Biotechnol.*, 36, 95-119.
- N.E. Labrou & Y.D. Clonis** (1995). The interaction of *Candida boidinii* formate dehydrogenase with a new

family of chimeric biomimetic dye-ligands. *Arch. Biochem. Biophys.* 316, 169-178.

3. N.E. Labrou & Y.D. Clonis (1995). Oxaloacetate decarboxylase: on the mode of interaction with substrate-mimetic affinity ligands. *Arch. Biochem. Biophys.* 321, 61-70.

4. N.E. Labrou & Y.D. Clonis (1995). Biomimetic affinity ligands for oxalate-recognizing enzymes. Studies with oxalate oxidase and oxalate decarboxylase. *J. Biotechnol.*, 40, 59-70.

5. N.E. Labrou, A. Karagouni & Y.D. Clonis (1995). Biomimetic-dye affinity adsorbents for enzyme purification: application to the one-step purification of *Candida boidinii* formate dehydrogenase. *Biotech. Bioeng.*, 48, 278-288.

6. N.E. Labrou & Y.D. Clonis (1995). Biomimetic-dye affinity chromatography for the purification of bovine heart L-lactate dehydrogenase. *J. Chromatogr A.*, 718, 35-44.

7. N.E. Labrou, E. Eliopoulos & Y.D. Clonis (1996). Dye-affinity labelling of bovine heart mitochondrial malate dehydrogenase and study of the NADH-binding site. *Biochem. J.*, 315, 687-693.

8. N.E. Labrou, E. Eliopoulos & Y.D. Clonis (1996). Molecular modeling for the design of dye-ligands and their interaction with mitochondrial malate dehydrogenase. *Biochem. J.*, 315, 695-703.

9. N.E. Labrou & Y.D. Clonis (1996). Biomimetic-dye affinity chromatography for the purification of mitochondrial L-malate dehydrogenase from bovine heart. *J. Biotechnol.*, 45, 185-194.

10. N.E. Labrou & Y.D. Clonis (1997). Biomimetic-dye affinity chromatography for simultaneous separation and purification of lactate dehydrogenase and malate dehydrogenase from bovine heart. *Bioprocess Engineering*, 16, 157-161.

11. N.E. Labrou & Y.D. Clonis (1997). L-malate dehydrogenase from *Pseudomonas stutzeri*: purification and characterization. *Arch. Biochem. Biophys.*, 337, 103-114.

12. N.E. Labrou, E. Eliopoulos & Y.D. Clonis (1999). Molecular Modelling for the Design of a Biomimetic Chimeric Ligand. Application to the Purification of Bovine Heart L-Lactate dehydrogenase. *Biotechnol. Bioeng.* 63, 322-332.

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