

ANASTASSIOS ECONOMOU- CURRICULUM VITAE

NATIONALITY : Greek
DATE AND PLACE OF BIRTH : 29/05/1964 - Alexandroupoli, Greece
HOME ADDRESS : A.Papandreou 118, Mastabas-71305 Iraklio, Crete, Greece
WORK ADDRESS : IMBB-FORTH and Department of Biology-UoC, P.O. BOX 1385, 711 10, Iraklio, Crete, GREECE
Tel : +30-81-39 11 66-7, Fax : +30-81-39 11 66
e-mail: aeconom@imbb.forth.gr
WWW: <http://ecoserver.imbb.forth.gr>
WWW: <http://profi.imbb.forth.gr/>

EDUCATION:

1970-1982 Zariphios Elementary School of Alexandroupoli and 1st Alexandroupoli Public High School.

ACADEMIC RECORD:

UNDERGRADUATE STUDIES:

1982-1986 B.Sc. degree in Biology, Aristotle University of Thessaloniki, Greece.

POST-GRADUATE STUDIES:

1986-1990 Ph.D. degree. John Innes Institute and University of East Anglia, Norwich, U.K.
Thesis title: "Genetic analysis of a region of the *Rhizobium* Sym plasmid pRL1JI".
Advisor: Prof. A.W.B. Johnston.

POST-DOCTORAL RESEARCH EXPERIENCE:

1/1990-1/1991 Higher Scientific Officer-UG8. John Innes Institute, Norwich, U.K. Advisor: Dr. J.A. Downie.
9/1992-6/1993 Molecular Biology Institute, University of California at Los Angeles, U.S.A. and
7/1993-8/1995 Department of Biochemistry, Dartmouth Medical School, Hanover, U.S.A., Advisor: Prof. W.Wickner.

EMPLOYMENT :

09/1995- Lecturer in Microbiology, Department of Biology, Division of Biotechnology and Applied Biology, University of Crete, Greece.
10/1996- Resarcher, Institute of Molecular Biology and Biotechnology, Crete, Greece.
11/1999 Assistant Professor in Microbiology, Department of Biology, Division of Biotechnology and Applied Biology, University of Crete, Greece.
12/2005 Associate Professor in Microbiology, Department of Biology, Division of Biotechnology and Applied Biology, University of Crete, Greece.

FELLOWSHIPS AND AWARDS:

1987-1988 Sectoral Training Grant-Biotechnology Action Programme (European Union).
1988-1989 same as above (renewed).
1990-1991 2 year Post-doctoral fellowship-Plant Molecular Biology programme of the Agricultural and Food Research Council (AFRC,UK)
9/92-12/92 Postdoctoral fellowship -Lucille P. Markey Trust-UCLA (declined)
9/92-12/92 Postdoctoral fellowship -UNESCO Biotechnology Council.
1/93-12/93 Postdoctoral fellowship-European Molecular Biology Organization (EMBO)
9/93-9/94 Postdoctoral fellowship-Fogarty International Center/National Institutes of Health, U.S.A. Rank: Top 0.1%
1/94-12/96 Postdoctoral fellowship-Human Frontier Science Programme (HFSP). Rank: 2nd/500
9/95-12/95 Short-term research fellowship-Journal of Cell Science
6/96 Lepetit award-Italian Society of General Microbiology and Microbial Biotechnology.

ORGANIZATION/ADMINISTRATION/ADVISORY BOARDS:

02/99-10/2010 MINOTECH Biotechnology-director
10/07-09 IMBB scientific advisory committee-elected member
10/08- Head of Applied Biology and Biotechnology division, University of Crete, Dpt of Biology
08-12 member of workgroup WGJ on "[Sample preparation](#): Crystallization and Biophysical Characterisation"-EU project Instruct: An Integrated Structural Biology Infrastructure for Europe.
03/09 IMBB proteomics facility-director

REVIEWER FOR SCIENTIFIC JOURNALS:

Acta Biochimica et Biophysica Sinica, BBA-Biomembranes, Biochimica and Biophysica Acta Reviews, Bioorganic & Medicinal Chemistry, Biotechnology Journal, Cell, Cell reports, Electronic Journal of Biotechnology, EMBO Journal, EMBO Reports, European Journal of Biochemistry, FEBS Letters, FEMS Microbiology Reviews, Journal of Biological Chemistry, Journal of Biotechnology, Journal of Cell Biology, Journal of Molecular Biology, Journal of Molecular Catalysis B: Enzymatic, Microbes and Infection, Microbiology, Molecular Biology and Evolution, Molecular Membrane Biology, Molecular Microbiology, Nature, Nature Methods, Nature Microbiology Reviews,

Nature Structural and Molecular Biology, PLoS ONE, Proceedings Natl Acad Science USA, Trends in Microbiology, Trends in Cell Biology

EDITORIAL BOARD MEMBER AND EDITING:

- Molecular Membrane Biology (Editorial Advisory Panel Member)
- Biochemical and Biophysical Acta Molecular Cell Reviews 1694. Special Issue on Bacterial Protein Secretion, R. Dalbey and A. Economou (Guest Editors).
- Open Biotechnology Journal (Editorial board member)
- Protein Secretion (2010) In the series: Methods in Molecular Biology (Humana Press) Economou, A. (editor).

REVIEWER FOR FUNDING AGENCIES:

International: ICGEB/UNIDO Collaborative Grant Programme (Trieste, Italy); Dutch Chemical Research Organization (SON) Grant Programme; European Research Council, Human Frontiers in Science Grant Programme (International); Fund for Scientific Research (FWO; Flanders-Belgium); University of Louvain Research Council (Belgium); European Union, Quality of Life programme; Israel Science Foundation; Dutch Life Science Research Organization (NWO) Grant Programme; INSERM (France); BBSRC (UK); Third World Academy of Sciences (TWAS) Research Grants programme (International); The Wellcome Trust (UK); Agence Nationale de la Recherche (ANR)(France)- Programme BLANC; Gordon Research Conferences (USA); Agence Nationale de la Recherche (ANR)-National programme in nanosciences and nanotechnologies (France); National Science Foundation, Division of Molecular and Cellular Biosciences (USA).

National: University of Ioannina Research Council (Greece).

SEARCH COMMITTEES/RECRUITMENT EVALUATOR:

International: University of Frankfurt, Institute of Biochemistry (Germany); Institute of Science and Technology (Austria)

National: University of Crete (Dpt of Biology; Dpt of Materials Science); Agricultural University of Athens; FoRTH-Chemical Process Institute-Patras (Greece); University of Ioannina (Dpt of Biological Applications and Technology); University of Athens (Dpt of Biology; Dpt of Chemistry); Harokopeio University (Athens), University of Thessaly (Dpt of Biochemistry; Dpt of Agriculture, Fisheries and Marine environment; School of Medicine).

MEMBERSHIP OF PROFESSIONAL SOCIETIES:

Society of General Microbiology (U.K.); Greek Society of Biochemistry and Biophysics (Greece); American Society for Microbiology (U.S.A.); American Chemical Society (U.S.A); Greek Proteomics Society; Greek Biotechnology Society

ORGANIZATION OF INTERNATIONAL MEETINGS:

- Organization Committee, ASM meeting on: "Bacterial protein trafficking", 2006, Fodele, Crete.
- Vice-Chair, Gordon Conference on "Protein trafficking", 2007, Italy.
- Scientific Advisory Committee, BIT Life Sciences' 2nd Annual World Congress of Gene 2008, Dec 3-6, 2008, Guangzhou, China Theme: Decoding Life for Human Health
- Co-Organizer/Chairperson, Gordon Conference on "Protein trafficking", March 02-07, 2010, Galveston, TX, USA
- Organization Committee, 1st International Proteomics Conference-Crete, October 07-08, 2010, Iraklio, Crete, Greece.
- Organizer, 1st Greek Orbitrap Users Workshop-Crete, October 09, 2010, Iraklio, Crete, Greece.
- Organizer, Workshop on Functional and Structural Proteomics-FunSPA2011, October 06-07, 2011 Athens, Greece.

INVITED CONFERENCE SPEAKER:

- 15-03-88 7th Nitrogen Fixation Congress, Cologne, Germany (Oral poster presentation)
- 27-06-94 FEBS special meeting on: "Biological Membranes", Helsinki, Finland.
- 02 -06-95 Cold Spring Harbor Symposium on: "Protein Kinesis", CSHL, USA. Organizer: B.Stillman
- 18-09-95 European Science Foundation Symposium on: "Molecular Chaperones" A.Pelaghia, Crete, Greece. Organizer: C.Georgopoulos
- 24-03-97 European Cell Biology Organization Symposium, Brighton, UK.
- 08-12-98 Joint workshop on collaborative Greek-German research projects, Tuebingen, Germany
- 08-06-00 International Symposium on "Membrane Trafficking in Bacteria", Brussels, Belgium. Organizer: J.Anne.
- 18-06-00 IUBMB/FEBS Congress 2000 "Beyond the Genome", Birmingham, UK.
- 03-04-01 From Prokaryotes to Eukaryotic Organelles: Cellular, Biochemical and Genetical Integration. Hvar, Croatia. Organizer: J.Soll
- 15-05-01 1st International Symposium on "Type III protein secretion", Kloster Banz, Germany. Organizers: C.Hueck and M.Hensel.
- 17-09-01 Membrane transporters in lower eucaryotes, Chania, Crete. Organizer: G.Dialinas
- 30-09-01 ESF Euroconference on "Protein targeting: Structural and mechanistic aspects" Acquafreda di Maratea, Italy, Organizaers: C.Robinson and A.Driessen.

- 15-12-01 Hellenic Polymer Society, 2001 meeting, Iraklio. Crete. Organizer, D.Vlassopoulos.
- 09-04-02 Netherlands Society for Microbiology Symposium on Microbial membrane Transport, Organizer, C.M.J.E. Vandenbroucke-Grauls
- 26-04-02 EMBO Conference on "Prokaryotes in the Third Millennium", Heidelberg, Germany. Organizers, A.Toussaint and D.Holden.
- 12-06-02 Onassis Foundation Summer Workshop on "Transmembrane signaling", Iraklio, Crete.
- 10-04-03 FEBS Advanced Lecture Course on "Origin and Evolution of Mitochondria and Chloroplasts. Hvar, Croatia. Organizers: J. Soll and U.Vothknecht.
- 02-09-03 Joint EURESCO Conference/FEBS Advanced Course on "Molecular Chaperones" Tomar, Portugal. Organizer: I. Braakman.
- 27-09-03 Joint EURESCO Conference/FEBS Advanced Course on "Protein Targeting" Spa, Belgium. Organizers: A.Driessen and J.Soll.
- 12-10-03 Meeting of the Italian Societies of Cell and Developmental Biology, General Microbiology, Genetics, and Molecular Biology. Rimini, Italy October 10-13, 2003. Organizers: J.Meldolesi and B.Colonna.
- 19-10-03 Juan March Foundation Symposium on "Bacterial Protein Secretion". Madrid, Spain, 19-22 October 2003. Organizers: V.deLorenzo and T.Pugsley.
- 12-03-05 FEBS Advanced Course on "Origin and Evolution of Mitochondria and Chloroplasts". Munich, Germany. Organizers: J. Soll and U.Vothknecht.
- 12-06-05 Gordon Conference on "Protein trafficking", New London, NH. Organizers: R.Dalbey and H.Bernstein. (Discussion Leader)
- 06-05-06 ASM meeting on: "Bacterial protein trafficking", Fodele, Crete. Organizers: T.Pugsley, T.Economou and T.Palmer
- 12-06-06 Gordon Conference on "Bacterial cell surfaces", New London, NH. Organizers: R.Young and A.Driessen. (Discussion Leader)
- 30-09-06 EMBO meeting on "Protein Transport", Gdansk, Poland. Organizers: T.Pugsley and J.Soll.
- 12-03-07 FEBS Advanced Course on "Origin and Evolution of Mitochondria and Chloroplasts". Munich, Germany. Organizers: J. Soll and U.Vothknecht.
- 10-06-07 Gordon Conference on "Protein trafficking", Italy. Organizers: J.Soll and C.Kohler. (speaker/vice-chair)
- 31-03-08 Society for General Microbiology Symposium on Protein Targeting, Edinburgh, Scotland. Organizers: T.Palmer and I.Henderson.
- 28-06-08 33rd FEBS Congress – 11th IUBMB Conference "Biochemistry of Cell Regulation" Athens, Greece, Chairperson: I. Frangoulis.
- 25-10-08 EMBO meeting on "Regulation of Protein Transport", Saint-Maxime, France. Organizers: T. Pugsley and R. Zimmermann.
- 03-03-09 Proteomics Data Analysis network final meeting and HUPO Brain Proteomics workshop. (Orthodox Academy of Crete, Kolymbari)
- 01-04-09 Hellenic Proteomics Society meeting, Nafplio (Organizer: T.Vlahou)
- 25-09-10 4th meeting of the Greek Crystallographic Society, Larisa, Greece.
- 25-04-11 EMBO meeting on "Protein Transport Systems-Structures, mechanisms and medical aspects", Saint-Maxime, France. Organizers: R. Zimmermann and N. Borgese.
- 21-05-11 33d Conference of the Greek Society of Biological Sciences, Edessa, Greece. Organizer: A. Lazou
- 09-08-11 International meeting on "Membrane Protein Biochemistry and Proteomics", Hanover, NH, USA. Organizer: W.Wickner.
- 14-12-11 62^o Panhellenic conference of the Greek Society for Biochemistry and Molecular Biology, Eugenides Foundation, Athens, Greece. Organizer: R. Matsa.

INVITED LECTURES:

- 18-05-88 Plant Molecular Biology Laboratory, University of Leiden, Leiden, The Netherlands
- 8,9-05-91 Educational workshop, Alexandroupoli, Greece, on the: "Molecular Biology and Biotechnology of Symbiotic Nitrogen Fixation" for the seminar series "Biotechnology and Energy Conservation" organized by the Greek Productivity Centre (EL.KE.PA).
- 25-07-91 Institute for Molecular Biology and biotechnology, Iraklio, Crete, Greece.
- 23-11-94 University of Crete, Department of Biology, Iraklio, Crete, Greece.
- 20-03-96 Polytechnic School of Lausanne, Department of Physical Chemistry, Switzerland.
- 22-03-96 Pasteur Institute, Paris, France.
- 26-03-96 John Innes Institute, Norwich, UK.
- 27-03-96 Laboratory of Molecular Biology, Medical Research Council, Cambridge, UK.
- 04-06-97 University of Witten/Herdecke, Institute of Molecular Biology, Germany
- 14-06-98 SmithKline Beecham Pharmaceuticals, Philadelphia, USA.
- 01-03-99 Department of Pharmacology, Aristotle University, Thessaloniki, Greece.
- 15-03-99 Biozentrum-Basel, Switzerland.
- 19-11-99 Pasteur Institute, Paris, France.
- 23-06-00 Pfizer Pharmaceuticals, Central Research Facility, Groton, CT, USA
- 29-06-00 Pfizer Pharmaceuticals, Drugfinder Unit, MA, USA
- 30-06-00 Integrated Genomics, Chicago, USA
- 17-05-01 Max-Planck Institute for Biophysics, Frankfurt, Germany
- 18-05-01 University of Stuttgart-Hohenheim, Stuttgart, Germany

24-10-01 University of Manchester, Manchester, UK.
 27-06-02 Pfizer Pharmaceuticals, Central Research Facility, Groton, CT, USA
 28-06-02 Pfizer Pharmaceuticals, Drugfinder Unit, Boston, MA, USA
 13-06-03 Bijvoet Centre for Biology, NMR spectroscopy Unit, Univeristy of Utrecht, The Netherlands.
 22-06-05 Rutgers University, NJ, USA
 23-06-05 Columbia University, NY, USA
 27-02-06 University of Geneva Medical School
 25-10-06 University of Freiburg, Department of Biochemistry
 18-04-07 Pasteur Institute, Athens
 29-04-07 University of Chicago, Department of Microbiology
 23-04-08 University of Crete, Department of Materials Science
 06-03-09 Novozymes, Denmark
 02-04-09 National Cancer Institute, Amsterdam, Netherlands.
 17-03-10 University of Frankfurt, Inst. fuer Organische Chemie und Chemische Biologie, Germany
 26-03-10 GlaxoSmithKline, Stevenage, UK

FUNDING:

Research grants: 29 (EU:12; Greece:13; NIH: 2; Industry: 2), **Total funding:** 5.192 KEuro

1. PROGRAMME: Training and Mobility of Researchers (FW4)
 AGENCY: European Union
 TITLE: "Regulation of protein secretion by the Signal Recognition Particle"
 CONTRACT No: ERBFMRXCT-960035
 IMBB BUDGET: 240,000 EURO
 ROLE: Research Partner
 PARTNERS: S.Cusack (Co-ordinator-Grenoble), B.Dobberstein (Heidelberg), I.Sinning (Heidelberg), J.Luirink (Amsterdam), T.Samuelsson (Stockholm), E. Sauer-Eriksson (Umeo), K. Strub (Geneva), S.High (Manchester),
 DURATION: 09/96-8/00, extended till 8/01
2. PROGRAMME: Biotech 2 (FW4)
 AGENCY: European Union
 TITLE: "Delivery of elicitors and pathogenicity factors from bacterial pathogens and their interaction with plant cells: application of basic studies"
 CONTRACT No: BIO4-CT97-2244
 IMBB BUDGET: 240,000 EURO
 ROLE: Research Partner (collaboration with N.Panopoulos)
 PARTNERS: J.Mansfield (Co-ordinator-Kent), C.Boucher (Toulouse), U. Bonas (Jenna), E.Romantschuk (Helsinki), T.Nuernberger (Halle), G.Freyssinet (Rhône-Poulenc Agrochimie S.A.), J.Nash (Merlin Synthesis Laboratories)
 DURATION: 09/97-08/00
3. PROGRAMME: Bilateral Greek-German research agreement
 AGENCY: General Secretariat of Research and Technology, Greece
 TITLE: Bacterial protein secretion:moleular mechanism and biotechnology
 CONTRACT No: GRI-088-97
 IMBB BUDGET: 12,000 EURO
 ROLE: Co-ordinator
 PARTNERS: A.Kuhn, U. Hohenheim, Stuttgart, Germany
 DURATION: 10/97-09/99
4. PROGRAMME: Biotech 2 (FW4)
 AGENCY: European Union
 TITLE: "Characterization of the secretory pathway of Streptomyces lividans and its modification for the overproduction of heterologous proteins"
 CONTRACT No: BIO4-CT98-0051
 IMBB BUDGET: 140,000 EURO
 ROLE: Research Partner
 PARTNERS: J. Anne (Co-ordinator-Louvain), J.F. Martin (Leon), R.Mellado (Madrid), J.Engel (Frankfurt), P.Mazodier (Paris), E.Bosmans (Eurogenetics SA)
 DURATION: 09/98-08/00, extended till 11/00
5. PROGRAMME: EPET II
 AGENCY: General Secretariat of Research and Technology, Greece
 TITLE: "Large-scale production of biopharmaceuticals"
 CONTRACT No: 97 EKBAN 2-17
 IMBB BUDGET: 280,000 EURO
 ROLE: Research Partner
 PARTNERS: A.Tsiftoglou, (Co-ordinator, Thessaloniki) and Vioser, S.A., Trikala
 DURATION: 1/09/96-31/8/01
6. PROGRAMME: Univeristy of Crete Research Fund (ELKE)
 AGENCY: Univeristy of Crete
 TITLE: "Molecular mechanism of bacterial protein secretion"
 CONTRACT No: KA 1194
 IMBB BUDGET: 6,000 EURO

- ROLE: Co-ordinator
 PARTNERS: -
 DURATION: 03/1999-02/2001
- 7. PROGRAMME:** LEONARDO Multiplier Project,
 AGENCY: E.U.
 TITLE: "Computer Assisted Assessment in the Workplace"
 PARTNERS: M.Eleftheriou (Institute of Marine Biology of Crete and Department of Biology, UoC)
 CONTRACT No:
 IMBB BUDGET: 10.000 EURO
 DURATION: 2/1999-1/2001
- 8. PROGRAMME:** Bilateral Greek-German research agreement
 AGENCY: General Secretariat of Research and Technology, Greece
 TITLE: Bacterial protein secretion:moleular mechanism and biotechnology
 CONTRACT No: GRI-088-99
 IMBB BUDGET: 12,000 EURO
 ROLE: Co-ordinator
 PARTNERS: A.Kuhn, U. Hohenheim, Stuttgart, Germany
 DURATION: 04/00-03/02
- 9. PROGRAMME:** Human Potential (FW5)
 AGENCY: European Union
 TITLE: "Membrane machineries for protein and solute transport through the bacterial cell envelope"
 CONTRACT No: RTN1-1999-00149
 IMBB BUDGET: 200,000 EURO
 ROLE: Research Partner
 PARTNERS: T. Pugsley (Co-ordinator-Pasteur), F.Pattus (Strasbourg), A.Engel (Basel), W. Welte (Konstanz), G.Cornelis (Brussels), A.Driessen (Groningen), J.Tommassen (Utrecht)
 DURATION: 06/2000-05/2004
- 10. PROGRAMME:** PENED
 AGENCY: General Secretariat of Research and Technology, Greece
 TITLE: "Cloning of genes for regulatory proteins and biotechnological application in heterologous production systems"
 CONTRACT No: 99ED560PENED99
 IMBB BUDGET: 52,000 EURO
 ROLE: Research Partner
 PARTNERS: A.Tsiftoglou (Co-ordinator-Thessaloniki) and K. Mavromara (Athens)
 DURATION: 05/00-04/02
- 11. PROGRAMME:** Quality of Life (FW5)
 AGENCY: European Union
 TITLE: "The targeting and biosynthesis of membrane and secretory proteins"
 CONTRACT No: QLK3-CT-2000-00082
 IMBB BUDGET: 200,000 EURO
 ROLE: Research Partner
 PARTNERS: S.High (Co-ordinator-Manchester), S.Cusack (Grenoble), B.Dobberstein (Heidelberg), I.Sinning (Heidelberg), J.Luirink (Amsterdam), E. Sauer-Eriksson (Umeo), K. Strub (Geneva), Astra-Zeneca (UK)
 DURATION: 10/2000-09/2004
- 12. PROGRAMME:** Quality of life (FW5)
 AGENCY: European Union
 TITLE: "Robust biopharmaceutical production bioprocesses by exploiting *Streptomyces* protein secretion"
 CONTRACT No: QLRT-2000-00122
 IMBB BUDGET: 255.000 EURO
 ROLE: Research Partner
 PARTNERS: J. Anne (Co-ordinator-Louvain), J.F. Martin (Leon), R.Mellado (Madrid), J.Engel (Frankfurt), P.Mazodier (Paris), E.Bosmans (Eurogenetics SA), C.Gershater (SmithKlineBeecham), D. Marechal (Eurogentec)
 DURATION: 01/2001-12/2003
- 13. PROGRAMME:** Pfizer Academic collaborative grant
 AGENCY: DrugPfinder Group, Pfizer Pharamceuticals, Inc.
 TITLE: "Translocase antibacterials"
 CONTRACT No: -
 IMBB BUDGET: 282,000 EURO
 ROLE: Academic primary Investigator
 PARTNERS: -
 DURATION: 03/2001-12/2006
- 14. PROGRAMME:** Quality of life (FW5)
 AGENCY: European Union
 TITLE: "Gene mining of metagenomes for the exploitation of novel enzymes and biotherapeutics"
 CONTRACT No: QLK3-CT-2002-02056
 IMBB BUDGET: 315.000 EURO
 ROLE: Research Partner
 PARTNERS: J. Anne (Co-ordinator-Louvain), A.W.B. Johnston (Norwich), H.Flint (Aberdeen), Rodriguez-Valera Francisco (San Juan Alicante), W. Streit (Gottingen), Combinature BioPharm A.G. (Berlin), Novo-Nordisk (Copenhagen).
 DURATION: 11/2002-10/2006
- 15. PROGRAMME:** Quality of life NETWORK OF EXCELLENCE (FW6)
 AGENCY: European Union
 TITLE: A network for bringing nanotechnologies to life"

CONTRACT No: QLK3-CT-2002-02056
 IMBB BUDGET: 200,000 EURO
 ROLE: Research Partner
 DURATION: 10/2003-09/2005

16. PROGRAMME: AKMON
 AGENCY: General Secretariat of Research and Technology, Greece
 TITLE: "Biopharmaceutical production and quality control"
 CONTRACT No:
 IMBB BUDGET: 282,200 EURO
 ROLE: Research Partner
 PARTNERS: D.Kafetzopoulos (co-ordinator)
 DURATION: 01/2004-01/2007

17. PROGRAMME: PENED
 AGENCY: General Secretariat of Research and Technology, Greece
 TITLE: "A biosensor to measure protein-protein interactions"
 CONTRACT No: 03KD623
 IMBB BUDGET: 40,000 EURO
 ROLE: Research Partner
 PARTNERS: E.Gizelli (Co-ordinator-IMBB/U.Crete) and M. Vambakaki (U.Crete)
 DURATION: 10/05-09/08

18. PROGRAMME: Information Society technologies (FW6)
 AGENCY: European Union
 TITLE: "Integration of Nano-Biology and ICT to Provide a Continuous Care and Implantable Monitoring System for Diabetic patients"
 CONTRACT No: INFSo-IST-031867
 IMBB BUDGET: 747.000 EURO
 ROLE: Research Partner
 PARTNERS: L. Shenkman (Co-ordinator-Tel-Aviv)
 DURATION: 06/2006-05/2010

19. PROGRAMME: Quality of life (FW6)
 AGENCY: European Union
 TITLE: "Systems biology strategies and metabolome engineering for the enhanced production of recombinant proteins in *Streptomyces*"
 CONTRACT No: LSHG-CT-2005-037056
 IMBB BUDGET: 309.000 EURO
 ROLE: Research Partner
 PARTNERS: J. Anne (Co-ordinator-Louvain), C.Gershater(SmithKlineBeecham), D. Marechal(Eurogentec S.A.)
 DURATION: 06/2006-05/2009

20. PROGRAMME: Structural Biology
 AGENCY: National Institutes of Health
 TITLE: "Biophysical characterization of the SecA/peptide/SecY interaction"
 CONTRACT No: R01 GM073854-01A2
 IMBB BUDGET: 25.000 EURO
 ROLE: Research Partner
 PARTNERS: B.Kalodimos (Co-ordinator, Rutgers University, USA)
 DURATION: 01/2007-12/2011

21. PROGRAMME: Social Responsibility Fund
 AGENCY: Alpha bank
 TITLE: "Small equipment for IMBB Proteomics facility"
 CONTRACT No: -
 IMBB BUDGET: 10,000 EURO
 ROLE: Academic primary Investigator
 PARTNERS: -
 DURATION: 2008

22. PROGRAMME: Regional Potential
 AGENCY: European Union
 TITLE: "Proteomics Facility at IMBB"
 CONTRACT No: 229823
 IMBB BUDGET: 1.000.000 Euro
 ROLE: (Co-ordinator)
 PARTNERS: G.Garinis T.Loukeris, C.Spilianakis and K.Tokatlidis
 DURATION: 03/2009-02-2012

23. PROGRAMME: Co-Operation (Synergasia)
 AGENCY: General Secretariat of Research and Technology, Greece
 TITLE: "OASYS: Osteoarthritis comprehensive systematic analysis for targeted therapy"
 CONTRACT No:
 IMBB BUDGET: 150,000 EURO
 ROLE: Research Partner
 PARTNERS: A. Tzezou (Co-ordinator, U. Thessaly Medical School)
 DURATION: 01/2011-12/2014

24. PROGRAMME: Co-Operation (Synergasia)
 AGENCY: General Secretariat of Research and Technology, Greece
 TITLE: "SYMPA: Collaboration on Metalloproteomics analysis"
 CONTRACT No:
 IMBB BUDGET: 146,000 EURO

- ROLE: Research Partner
 PARTNERS: S.Pergantis (Co-ordinator-U.Crete, Dpt. Chemistry)
 DURATION: 01/2011-12/2014
25. PROGRAMME: Co-Operation (Synergasia)
 AGENCY: General Secretariat of Research and Technology, Greece
 TITLE: "OncoSeed Diagnostics: Biology of Circulating Tumour Cells, Distant Metastasis & Development of Liquid Biopsy Methods"
- CONTRACT No:
 IMBB BUDGET: 150,000 EURO
 ROLE: Research Partner
 PARTNERS: G.Mavrothalassitis (Co-ordinator-IMBB/U.Crete Medical School)
 DURATION: 01/2011-12/2016
26. PROGRAMME: IraklitosII
 AGENCY: Ministry of Education, Greece
 TITLE: "Molecular and proteomics dissection in bacterial pathogens"
- CONTRACT No:
 IMBB BUDGET: 45,000 EURO
 ROLE: Primary Investigator
 PARTNERS: -
 DURATION: 09/2010-08/2013
27. PROGRAMME: IraklitosII
 AGENCY: Ministry of Education, Greece
 TITLE: "Translocase nanomachine: molecular mechanism and antibiotic development"
- CONTRACT No:
 IMBB BUDGET: 45,000 EURO
 ROLE: Primary Investigator
 PARTNERS: -
 DURATION: 09/2010-08/2013
28. PROGRAMME: Development of Human Potential 2007-2013- Ministry of Employment and Social Protection, Greece
 AGENCY: Society for Development Activities "House of Industry" (branch of the Federation of Greek Industries)
 TITLE: "Enterpreneurial and Technological Information Network"
- CONTRACT No:
 IMBB BUDGET: EURO
 ROLE: Member of work group (Sector: Health)
 PARTNERS: PRAXI/HELP-FORWARD Network (Co-ordinators: N. Melanitis, P.Karniouras)
 DURATION: 01/2011-12/2015
29. PROGRAMME: Infectious diseases
 AGENCY: National Institutes of Health
 TITLE: "Biophysical characterization of the TypeIII protein translocase ATPase and chaperones"
- CONTRACT No:
 IMBB BUDGET: 25.000 EURO
 ROLE: Research Partner
 PARTNERS: B.Kalodimos (Co-ordinator, Rutgers University, USA)
 DURATION: 11/2011-10/2015

TRAINING WORKSHOPS ATTENDED :

- Technical seminars on: "Management of Macromolecules- Chromatography/Electrophoresis", organized by Pharmacia/LKB, 6 & 7 July 1989, University of East Anglia, Norwich, U.K.
- Practical Workshop on: "Expression of DNA sequences coding for secretory and membrane proteins in *E. coli* and in cell-free systems", organized by the European Molecular Biology Organization (EMBO) H. Bujard and B. Dobberstein (organizers), 4-14 September 1989, EMBL/ZMBH, Heidelberg, Germany, with a fellowship from EMBO.
- Practical Workshop on: "Bacterial Genetics", organized by the International Centre for Genetic Engineering and Biotechnology (ICGEB, UNIDO), T. Silhavy and C. Bruschi (organizers) 16 March - 3 April 1992, ICGEB, Trieste, Italy, with a fellowship from UNIDO.
- NATO/FEBS summer school on : "Membrane receptors and signal transduction" K.W.A. Wirtz (organizer) 15-30 August 1992, Isle of Spetsai, Greece, with a fellowship from FEBS

TEACHING EXPERIENCE:

Research Training:

Postdocs: 8; PhD: 8; MSc: 12; Rotation students: 29; Final year projects: 16; Visiting students/postdocs: 8

Graduate Courses:

- 1999- Introductory Microbiology-Graduate lectures, Department of Chemistry, University of Crete.
- 1999- Protein secretion-Graduate lectures, University of Athens, Dpt of Biology.
- 2002- BIO408/BIO506 From proteins to the proteome Molecular Biology Biomedicine and Protein Biotechnology programmes- University of Crete
- 2003- BIO502 Proteins in a cellular environment Protein Biotechnology programme- University of Crete
- 2003- BIO501 Analysis of protein structure using a molecular viewer Protein Biotechnology programme- University of Crete
- 2007- BIO1403 Molecular Organization of life (2007-) Molecular Biology Biomedicine programme- University of Crete

Undergraduate Courses:

- 1989-1990 Demonstrating in Microbiology practicals for first year Biology students, School of Biological Sciences, University of East Anglia, Norwich, UK.
- 1990-1991 Organizing and running Molecular Biology tutorials for second year Biology students, School of Biological Sciences, University of East Anglia, Norwich, UK)
- 1995- General Microbiology (lectures and practicals), Department of Biology, University of Crete.
- 1997- Bacterial Molecular Genetics 2nd year, Department of Biology, University of Crete.
- 2003- Protein-structure function- 4th year lectures, Department of Biology, University of Crete
- 2005- Protein Kinesis (lectures)-, Departments of Biology and Chemistry, University of Crete.

COMPUTER SKILLS:

Word-processing, graphics, spreadsheet, database, internet and use of basic molecular biology software (Apple Macintosh).

LANGUAGES :

Greek, English [Proficiency certificates awarded by the University of Cambridge, U.K. (1980) and Michigan State University, U.S.A. (1980), French [Certificat de bonne connaissance de la langue Francaise awarded by the Institut Francais (1979)], German (beginner's level)

PUBLICATIONS:

Metrics (Jun 2010):

refereed publications: **51**; total citations: **2,140**; citations/paper: **42,4**; total journal impact factor: **437,6**; *h* index: **24**

A. REFEREED PAPERS:

1. Economou, A., Roussis, A., Millioni, D. and Katinakis, P. (1989)
Patterns of protein synthesis in the moderately halophilic bacterium *Deleya halophilia* in response to sudden changes in external salinity.
FEMS Microbiology-Ecology **62**, 103-110.
 2. Economou, A., Hawkins, F.K.L., Downie, J.A. and Johnston, A.W.B. (1989)
Transcription of *rhiA* a gene on a *Rhizobium leguminosarum* bv. *viciae* Sym plasmid requires *rhiR* and is repressed by flavonoids that induce *nod* genes.
Molecular Microbiology **3**, 87-91.
 3. Economou, A., Hamilton, W.D.O., Johnston, A.W.B. and Downie, J.A. (1990)
The *Rhizobium* nodulation gene *nodO* encodes a Ca²⁺-binding protein that is exported without N-terminal cleavage and is homologous to haemolysin and related proteins.
EMBO Journal **9**, 349-354.
 4. Surin, B.P., Watson, J.M., Hamilton, W.D.O., Economou, A., and Downie, J.A. (1990)
Molecular characterization of the nodulation gene *nodT* from two biovars of *Rhizobium leguminosarum*.
Molecular Microbiology **4**, 245-252.
 5. Scheu, A.K., Economou, A., Hong, G.F., Ghelani, S., Johnston, A.W.B., and Downie, J.A. (1992)
Secretion of *Rhizobium leguminosarum* nodulation protein NodO by haemolysin-type systems.
Molecular Microbiology **6**, 231-238.
 6. Cubo, T., Economou, A., Murphy, G., Johnston, A.W.B., And Downie, A.J. (1992)
Molecular characterization and regulation of the rhizosphere-expressed genes *rhiABCR* that can influence nodulation by *Rhizobium leguminosarum* biovar *viciae*.
Journal of Bacteriology **174**, 4026-4035.
 7. Economou, A., Davies, A.E., Johnston, A.W.B. and Downie, J.A. (1994)
The *Rhizobium leguminosarum* bv. *viciae* *nodO* gene can enable a *nodE* mutant of *R. l. trifolii* to nodulate vetch.
Microbiology **140**, 2341-2347.
 8. Economou, A. and Wickner, W. (1994)
SecA promotes preprotein translocation by undergoing ATP-driven cycles of membrane insertion and deinsertion.
Cell **78**, 835-843.
- See also related News & Views Minreview by: Schekman R. Translocation gets a push. *Cell*. 1994 78(6):911-913.
9. Douville, K.D., Price, A., Eichler, J., Economou, A. and Wickner, W. (1995)
SecYEG and SecA are the stoichiometric subunits of preprotein translocase.
Journal of Biological Chemistry, **270**, 20106-20111.
 10. Economou, A., Pogliano, J.P., Beckwith, J., Oliver, D.B. and Wickner, W. (1995)
SecA membrane cycling at SecYEG is driven by distinct ATP binding and hydrolysis events and is regulated by SecD and SecE.
Cell **83**, 1171-1181.
 11. Wickner, W, Leonard, M.R. and Economou, A. (1995)
On the road to translocase, in: Protein Kinetics: the dynamics of Protein Trafficking and Stability. Cold Spring Harbor Symposia on Quantitative Biology, Vol. LX, Cold Spring Harbor Press. pp. 285-290. (invited review)
 12. Barny, M.-A., Schoonejans, E., Economou, A., Johnston A.W.B. and Downie, J.A. (1996)
The C-terminal domain of the *Rhizobium leguminosarum* chitin synthase NodC is important for function and determines the orientation of the N-terminal region in the inner membrane.
Molecular Microbiology **19**, 443-453.
 13. Price, A., Economou, A., Duong, F. and Wickner, W. (1996)
Separable ATPase and membrane insertion domains of the SecA subunit of preprotein translocase.
Journal of Biological Chemistry **271**, 31580-31584.
 14. Shilton, B., Svergun, D.I., Volkov, V.V., Koch, M.H.J, Cusack, S. and Economou, A. (1998)
Escherichia coli SecA shape and dimensions.
FEBS Letters **436**, 277-282.
 15. Economou, A. (1998)
Bacterial preprotein translocase: mechanism and conformational dynamics of a processive enzyme
Molecular Microbiology **27**: 511-518.
 16. Rodelas, B., Lithgow, J.L., Wisniewski-Dye, F., Hardman, A., Wilkinson, A., Economou, A., Williams, P. and Downie, J.A. (1999)
Analysis of quorum-sensing-control of rhizosphere-expressed (*rhi*) genes in *Rhizobium leguminosarum* biovar *viciae*
Journal of Bacteriology **181**, 3816-3823.

17. Karamanou, S., Vrontou, E., Sianidis, G., Baud, C, T. Roos, Kuhn, A., Politou, A. and Economou, A. (1999)
A molecular switch in SecA protein couples ATP hydrolysis to protein translocation.
Molecular Microbiology **34**, 1133-1145.
18. Economou, A. (1999)
Follow the leader: bacterial protein export through the Sec translocase
Trends in Microbiology **7**: 315-319. (*invited review*)
19. Economou, A. (2000)
Bacterial protein translocase: a unique molecular machine with an army of substrates.
FEBS Letters **476**, 18-21. (*invited review*)
20. Pozidis, C., Lammertyn, E., Politou, A., Anné, J., Tsiftoglou, A., Sianidis, G. and Economou, A. (2001)
Protein secretion biotechnology in *Streptomyces lividans*: large-scale production of tumor necrosis factor alpha.
Biotechnology and Bioengineering **72**, 611-619.
21. Sianidis, G., Karamanou, S., Vrontou, E., Boulias, K., Repanas, K., Kyripides, N., Politou, A.S. and Economou, A. (2001)
Cross-talk between catalytic and regulatory elements in a DEAD motor domain is essential for SecA function.
EMBO Journal **20**, 961-970.
22. Roos, T., Kiefer, D., Hugenschmidt, S., Economou, A. and Kuhn, A. (2001)
Undecisive M13 procoat protein mutants bind to SecA but do not activate the translocation ATPase.
Journal of Biological Chemistry **276**, 37909-37915.
23. Economou, A. (2001)
Sec, drugs and rock'n'roll: antibiotic targeting of bacterial protein translocation.
Emerging Therapeutic Targets **5**, 141-153. (*invited review*)
24. Dempsey, B., Economou, A., Dunn, S.D., Shilton, B.H. (2002)
The 68 kDa ATPase Domain of SecA forms a tetramer in solution.
Journal of Molecular Biology **315**, 831-843.
25. Baud, C., Karamanou, S., Sianidis, G., Vrontou, E., Politou, A. and Economou, A. (2002)
Allosteric communication between signal peptides and the DEAD motor domain of SecA.
Journal of Biological Chemistry **277**, 13724-13731.
26. Economou, A. (2002)
Bacterial secretome: the assembly manual and operating instructions.
Molecular Membrane Biology **19**, 159-169. (*invited review*)
27. Pozidis, C., Chalkiadaki, A., Gomez-Serrano, A., Stahlberg, H., Brown, I., Tabakaki, N., Lustig, A., Sianidis, G., Politou, S.A., Engel, A., Panopoulos, N.J., Mansfield, J., Pugsley, T., Karamanou, S. and Economou, A. (2003)
Type III protein translocase: HrcN is a peripheral membrane ATPase that is activated by oligomerization
Journal of Biological Chemistry **278**, 25816 - 25824
28. Vrontou, E., Karamanou, S., Baud, C., Sianidis, G. and Economou, A.
Global co-ordination of protein translocation by the SecA IRA1 switch.
Journal of Biological Chemistry **279**, 22490-7
29. Papanikou, E., Karamanou, S., Baud, C., Sianidis, G., Frank, M. and Economou, A. (2004)
Helicase Motif III in SecA is essential for coupling preprotein binding to translocation ATPase.
EMBO Reports **5**, 807-611.
30. Vrontou, E. and Economou, A. (2004)
Structure and function of SecA, the preprotein translocase nanomotor.
Biochemical and Biophysical Acta Molecular Cell Reviews **1694**, 67-80.
Special Issue on Bacterial Protein Secretion, R. Dalbey and A. Economou (Guest Editors) (*invited review*)
31. Baud, C., Papanikou, E., Karamanou, S., Sianidis, G., Kuhn, A. and Economou, A. (2005)
Purification of a functional mature region from a SecA-dependent preprotein.
Protein Expression & Purification **40**, 336-339.
32. Karamanou, S., Sianidis, G., Guridis, G., Pozidis, C., Papanikolau, Y., Papanikou, E. and Economou, A. (2005)
E. coli SecA truncated at its termini is functional and dimeric.
FEBS Letters **579**, 1267-1271.
33. Papanikou, E., Baud, C., Karamanou, S., Sianidis, G., Frank, M., Keramissanou, D., Kalodimos, C.G., Kuhn, A. and Economou, A. (2005)
Identification of the preprotein binding domain of SecA.
Journal of Biological Chemistry **280**, 43209-43217.
34. Sianidis, G., Pozidis, C., Becker, B., Vrancken, K., Sjoeholm, C., Karamanou, S., Takamiya-Wik, M., van Mellaert, L., Shaefer, T., Anné, J. and Economou, A. (2006)
Functional large-scale production of a novel *Jonesia* sp. xyloglucanase by heterologous secretion from *Streptomyces lividans*.
Journal of Biotechnology **121**, 498-507.
35. Mueller, S., Pozidis, C., Stone, R., Meesters, C., Engel, A., Economou, A. and Stahlberg, H., (2006)
The Type III Protein Translocase ATPase HrcN assembles in a double-hexameric ring.

- Molecular Microbiology** **61**, 119-125.
36. Sianidis, G., Wohler, S.-E., Pozidis, C., Karamanou, S., Luzhetskyy, A., Vente, A. and Economou, A. (2006) Cloning, purification and characterization of a functional anthracyclin glycosyltransferase. **Journal of Biotechnology** **125**, 425-433.
37. Keramissanou, D., Biris, N., Gelis, I., Sianidis, G., Karamanou, S., Economou, A. and Kalodimos, C.G. (2006) Disorder-order folding transitions underlie catalysis in the helicase motor of SecA. **Nature Structural and Molecular Biology** **13**, 594-602.
- NSMB paper of the month. See also News & Views Minireview by: Cavanaugh et al., NSMB 2006 13:566-569.*
38. Papanikolaou, Y., Papadovassilaki, M., Raveli, R., Cusack, S., Economou, A. and Petratos, K. (2006) Crystal structure of dimeric SecA of *E. coli*, the preprotein translocase motor. **Journal of Molecular Biology** **366**, 1545-1557.
39. Economou, A., Christie, P.J., Fernandez, R.C., Palmer, T., Plano, G.V. and Pugsley, A.P. (2006) Secretion by numbers: protein traffic in prokaryotes. **Molecular Microbiology** **62**, 308-319.
40. Karamanou, S., Gouridis, G., Papanikou, E., Sianidis, G., Gelis, I., Keramissanou, D., Vrontou, E., Kalodimos, C.G. and Economou, A. (2007) Preprotein-controlled catalysis in the helicase motor of SecA. **EMBO Journal** **26**, 2904-2914.
- See comment from Faculty of 1000; see article in LabTimes*
41. Gelis, I., Bonvin, A.M.J.J., Keramissanou, D., Koukaki, M., Gouridis, G., Karamanou, S., Economou, A. and Kalodimos, C.G. (2007) Structural basis for signal sequence recognition by the 204kDa translocase motor SecA determined by NMR. **Cell** **131**, 756-769.
- See comment from Faculty of 1000; see presentation by Thireos et al., 2008*
42. Papanikou, E., Karamanou, S. and Economou, A. (2007) Bacterial protein secretion through the translocase nanomachine. **Nature Reviews in Microbiology** **5**, 839-851. (*invited review*)
- Featured article of the month*
43. Karamanou, S., Bariami, V., Papanikou, E., Kalodimos, C.G. and Economou, A. (2008) Assembly of the translocase motor onto the protein-conducting channel. **Molecular Microbiology** **70**, 311-322.
44. Economou, A. (2008) Clamour for a kiss. **Nature** **455**, 879-880.
45. Gouridis, G., Karamanou, S., Gelis, I., Kalodimos, C. and Economou, A. (2009) Signal peptides are allosteric activators of the protein translocase. **Nature** **462**, 363-36.
46. Sardis, M.F. and Economou, A. (2010) SecA: a tale of two protomers. **Molecular Microbiology** **76**, 1070 - 1081. (*invited review*)
47. Gouridis, G., Karamanou, S., Koukaki, M., Economou, A. (2010) *In vitro* assays to analyze translocation of the model secretory preprotein alkaline phosphatase. **Methods Mol Biol.** **619**, 157-172.
48. Kapellios, E.A., Karamanou, S., Sardis, M-F., Aivaliotis, M., Economou, A. and Pergantis, S.P. (2011) Using nano-electrospray ion mobility spectrometry (GEMMA) to determine the size and relative molecular mass of proteins and protein assemblies: a comparison with MALLS and QELS. **Analytical Bioanalytical Chemistry** **399**, 2421-2433.
49. Segers, K., Klaassen, H., Economou, A., Chaltin, P. and Anné, J. (2011) Discovery of small-molecule SecA inhibitors via high-throughput screening. **Analytical Biochemistry** **413**, 90-96.
50. Strohoffer, C., Förster, T., Chorvat, D., Kasak, P., Lacik, I., Koukaki, M., Karamanou, S., Economou, A. (2011) Quantitative analysis of energy transfer between fluorescent proteins in a CFP-GBP-YFP construct and its response to Ca²⁺. **Physical Chemistry Chemical Physics (in press)**
51. Chen, L., Balabanidou, V., Remeta, D.P., Minetti, C.A.S.A., Portaliou, A.G., Economou, A. and Kalodimos, C.G. (2011) Structural instability tuning as a regulatory mechanism in protein-protein interactions. **Molecular Cell (in press)**

B. REFEREED CONFERENCE PAPERS

1. Schenkman, L., Koukaki, M., Karamanou, S. and Economou, A. (2007) The P. CÉZANNE Project: Innovative approaches to continuous glucose monitoring in diabetics. **Conf Proc IEEE Eng Med Biol Soc.** **1**, 6060-6063.
2. Kapellios, E.A., Karamanou, S., Sardis, M-F., Aivaliotis, M., Pergantis, S.P. and Economou, A. (2009) Nano-electrospray Differential Ion Mobility Spectrometry for Protein Sizing and Molecular Mass Determination: Method Development and Validation 18th International Mass Spectrometry Conference, Bremen 2009 (<https://www.imsc-bremen-2009.de:2220/ConfTool/>)

3. Gouridis, G., Karamanou, S., Chatzi, C., Sardis, M.F. Gelis, I., Kalodimos, C.G. and A.Economou (2009) Recognition specificity and promiscuity in the secretome.
Cancer Genomics Proteomics 6:51-71
THIRD INTERNATIONAL CONFERENCE OF THE HELLENIC PROTEOMICS SOCIETY
From Proteomics Research to Clinical Practice
March 30 - April 1, 2009 Nafplio, Greece
4. Papanastasiou, M., Sardis, M.-F., Aivaliotis, M., Karamanou, S. and Economou, A. (2010) Comprehensive Characterization of the Inner Membrane Proteome of *Escherichia coli* Using a nanoLC-LTQ Orbitrap MS. 58th ASMS Conference on Mass Spectrometry, Utah.
5. Aivaliotis, M., Balabanidou, V., Papanastasiou, M., Karamanou, S and Economou, A. (2010) Global and targeted complexome analysis of the cytosolic proteome of Enteropathogenic *Escherichia coli* using Native-PAGE combined with nLC-LTQ Orbitrap MS. 58th ASMS Conference on Mass Spectrometry, Utah.
6. Aivaliotis, M., Papanastasiou, M. and Economou, A. (2010) Study of non-covalent protein complexes using a top-down approach on a hybrid LTQ-Orbitrap mass spectrometer. 58th ASMS Conference on Mass Spectrometry, Utah.

C. BOOK CHAPTERS AND SCIENTIFIC EDITING

1. Economou, A. and Downie, J.A. (1992) The nodulation of legumes by rhizobia, in: "Nitrogen Fixation and its Research in China" Hong. G.F. (ed.) Berlin, Springer-Verlag, pp. 315-341.
2. Wickner, W, Leonard, M.R. and Economou, A. (1995) On the road to translocase, in: Protein Kinesis: the dynamics of Protein Trafficking and Stability. Cold Spring Harbor Symposia on Quantitative Biology, Vol. LX, Cold Spring Harbor Press. pp. 285-290.
3. Bernard Dixon (1995) Power unseen: how microbes rule the world. Translation into Greek: M. Astropekaki. 2002. Scientific editor: A.Economou Crete Univeristy Press
4. Brock biology of Microorganisms (2002) Translation into Greek Volume A (2005) and Volume B (2007): Scientific editor/Translation team co-ordinator: A.Economou Crete Univeristy Press.
5. Understanding our Microbial Planet,-Metagenomics initiative, US National Academy of Sciences (Greek translation, 2009); Scientific editor: A.Economou. Crete Univeristy Press.
6. Gouridis, G., Karamanou, S., Koukaki, M. and Economou, A. (2010) Characterization of a secretory substrate for *in vivo* and *in vitro* studies. in Protein Secretion (2010) Economou, A. (editor), In the series: Methods in Molecular Biology (Humana Press).

D. INVITED CONFERENCE PAPERS:

1. Johnston, A.W.B., Davies, E.O., Hamilton, W.D.O., Economou, A., Burn, J.E., Hawkins, F.K.L., Latchford, J.W. and Hong, G.F. (1988) Genetic analyses of early stages in the infection of legumes by *Rhizobium*, in: "Nitrogen Fixation: Hundred Years After" (Proceedings of the 7th International Congress on Nitrogen Fixation), Bothe, H., Bruijn, F.J. and Newton, W.E. (eds), Gustav Fisher-Verlag, pp. 437-442.
2. Johnston, A.W.B., Burn, J.E., Economou, A., Davies, E.O., Hawkins, F.K.L. and Bibb, M.J. (1988) Genetic factors affecting host-range in *Rhizobium*, in: "Proceedings of the 4th International Symposium on the Molecular Genetics of Plant-Microbe Interactions", Palacios, R. and Verma, D.P.S. (eds), APS Press, pp. 378-384.
3. Johnston, A.W.B., Davies, E.O., Economou, A., Burn, J.E. and Downie, J.A. (1989) The complexity of the regulation of expression of nodulation genes of *Rhizobium*, in: "Genetic Engineering of Crop Plants" (Proceedings of the 49th Nottingham Easter School), Lycett, G.W. and Grierson, D. (eds), Butterworths, pp. 249-258.
4. Johnston, A.W.B., Latchford, J.W., Davies, E.O., Economou, A., and Downie, J.A. (1990) Five genes on the Sym plasmid of *Rhizobium leguminosarum*, whose products are located in the bacterial membrane or periplasm, in: "Signal Molecules in Plants and Plant-Microbe Interactions" (Proceedings of the NATO Advanced Research Workshop on Molecular Signals in Microbe-Plant Symbiotic and Pathogenic Systems), Lugtenberg, B.J.J. (ed), NATO ASI Series, Springer-Verlag, pp. 311-318.
5. Downie, J.A., Economou, A., Scheu, A-K., Johnston, A.W.B., Firmin, J.L., Wilson, K.E., Cubo, T.M., Mavridou, A., Marie, C., Davis, A. and Surin, B.P. (1990) The *Rhizobium leguminosarum* bv. *viciae* NodO protein compensates for the exported signal made by the host-specific nodulation genes, in: "Nitrogen Fixation: Achievements and Objectives" (Proceedings of the 8th International Congress on Nitrogen Fixation), Gresshoff, P.M., Roth, J., Stacey, G. and Newton, W.E. (eds), Chapman & Hall, pp.201-206.
6. Downie, J.A., Marie, C., Scheu, A-K., Firmin, J.L., Wilson, K.E., Davis, A.E., Cubo, T.M., Mavridou, A., Johnston, A.W.B. and Economou, A. (1991)

Genetic and biochemical studies on the nodulation genes of *Rhizobium leguminosarum* bv. *viciae*, in: "Proceedings of the 5th International Symposium on the Molecular Genetics of Plant-Microbe Interactions" Hennecke, H. and Verma, D.P.S. (eds), Kluwer Academic Publishers, Dordrecht, The Netherlands. pp. 134-141.

7. Downie, J.A., Barny, M.-A., Cubo, T.-M., Davies, A., Economou, A., Firmin, J.L., Johnston, A.W.B, Marie, C., Mavridou, A., Rimilla, R., Scheu, A.-K., Sutton, J.M., and Wilson, K.E. (1992) Host recognition in the *Rhizobium leguminosarum*-pea symbiosis, in: "Perspectives in plant-cell recognition", Collow, J. & Green, J. (eds), Cambridge University Press. pp. 257-266.
8. Economou, A., Karamanou, S., Vrontou, E., Sianidis, G., Ross, T., Kuhn, A., Pozidis, C. and Baud, C. (1999) Bacterial protein secretion: molecular mechanism and biotechnology. Proceedings of the DLR/GSRT meeting on "Molecular aspects of Biotechnology", December 7-9, 1998, Tuebingen, Germany.
9. Roos, T., Economou, A. and Kuhn, A. (1999) Precursor-triggered binding of SecA to the lipid surface depends on the presence of a bound nucleotide. Proceedings of the DLR/GSRT meeting on "Molecular aspects of Biotechnology", December 7-9, 1998, Tuebingen, Germany.
10. Anne, J., Bosmans, E., Bron, S., Economou, A., Engels, J.W., Martin, H.F., Mazodier, P. and Mellado, R. (1999) Characterization of the secretory pathway of *Streptomyces lividans* and its modulation for overproduction of heterologous proteins. Proceedings of the European Union Biotech meeting on regulation of the cell factory, Verona, 21-23 March 1999.
11. Anné, J., Bosmans, E., Bron, S., Economou, A., Engels, J.W., Mazodier, P., Martin, J.F., Mellado, R. (1999) Characterisation of the secretory pathway of *Streptomyces lividans* and its modulation for overproduction of heterologous proteins. Proceedings of the European Union FW4 Biotechnology meeting. Graz 27-30 Oct. 1999.
12. Tampakaki, N., Economou, A. and Panopoulos, N.J. (1999) Molecular architecture of the Type III secretion apparatus common in plant and animal pathogens. Proceedings of the Hellenic Society for Molecular Biology and Biochemistry, Athens.
13. Baud, C., Sioumpara, M., Bolis, D., Sianidis, G., Krambovitis, E., Karamanou, S., Politou, A.S. and Economou, A. (2000) The molecular mechanism of SecA-signal peptide interaction. Proceedings of the Hellenic Society for Molecular Biology and Biochemistry, Thessaloniki.
14. Chalkiadaki, A., Gomez-Serrano, A., Tabakaki, A., Boulias, K., Sianidis, G., Panopoulos, N.J., Yphantis, D., Politou, A.S. and Economou, A. (2000) Type III protein translocase: molecular characterization of the ATPase subunit. Proceedings of the Hellenic Society for Molecular Biology and Biochemistry, Thessaloniki.
15. Vrontou, E., Karamanou, S., Sianidis, G., Baud, C., Tilmann Roos, R., Andreas Kuhn, A., Politou, A.S. and Economou, A. (2000) The IRA1 molecular switch in SecA couples ATP hydrolysis to protein translocation. Proceedings of the Hellenic Society for Molecular Biology and Biochemistry, Thessaloniki.