

Curriculum vitae Europass



General Information

Name **Petrescu, Andrei-Jose**
 Address Institute of Biochemistry of the Romanian Academy - IBAR
 Phone (+4).021.223.90.69 Mobile: (+4).072.863.81.05
 Fax (+4).021.223.90.68
 E-mail ap@biochim.ro
 Web Page <http://www.biochim.ro/ib/departaments/strbiochem/StrBiochem.php>
 Nationality Romanian

Position

Period 2000 - present.
 Position Head of DBBS - *Department of Bioinformatics & Structural Biochemistry*
 Institutie Institute of Biochemistry of the Romanian Academy - IBAR,
 Splaiul Independentei 296,
 060031 Bucharest 17
 Responsibilities Coordination of research programs of *DBBBS*,
 PhD Coordinator,
 Lectures at Undergraduate, MSc, PhD and Post.Doc level

Education

Qualification *PhD in Physics*, Subject - Biophysics
 Main Focuss Molecular Biophysics / Physics Techniques in Biochemistry, Molecular Modelaing & Simulation,
 Glycobiology
 Institution University of Bucharest, Faculty of Physics

Research & Post.Doc Stages

>25
 - 1991 Faculty of Pharmacy, Wurzburg - Department of Biochemistry, 3 months
 - 1993 - 2009 Department of Biochemistry of the University of Oxford, 1-4 mnth/year
 - 1994 - 1999 CEA-Saclay - Lab L.Brilluoain; Lab Sim.Mol, 5 EU stages 4-6 months.
 - 1999 - 2000 IWR Biocomputing, University of Heidelberg
 - 2005 - 2014 University of Wageningen, FP5, FP6 Grants

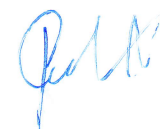
Afiliations

Membership in societities and şi organisations:

- *SCR (Senior Common Room) Member*, *Corpus Christi College, Oxford* - în 1998
- *Glycobiology Institute, Department of Biochemistry, University of Oxford*
- *Biochemical Society, UK*
- *Romanian Society of Biochemistry and Molecular Biology*

Responsibilities

- *Member of CNATDCU - the National Council for Titles, Diplomas and Certificates*
- *Member of the Comitee of European Bioinformatics Comunities in - ELIXIR*
- *Member of the Editorial Board of - Rom. J. Biochem.*
- *Romanian Grants Evaluator for CNCSIS, UEFISCDI & Romanian Academy*
- *Reviewer of BMC Bioinformatics, QSAR & Combinatorial Science etc*



Research Management

DBBS-IBAR research co-ordinator.

Research Grant Coordination:

- *Research within the frame of Romanian Academy Plani (per annum)* 1
- *National Grants and Contracts - last 5 years* 11
- *International Grans* 5
 - 1998-1999 NATO-CNS 971675 - "Computer Networking"
 - 2000 Wellcome Trust: "Computing Equip. for Molec. Modeling"
 - 2002-2005 Wellcome Trust: "A DB of structural information on glycoproteins"
 - 2002-2004 FP5-EU: "NONEMA"
 - 2005-2010 FP6-EU: "BIOEXPLOIT" (WP2.4 Coordinator)

Member of Meeting Organising Comitee:

- 1st *Brithish-Rom. Workshop "Perspectives in Glycobiology"*, Bucharest, May (1997)
- TEMPUS Workshop "Protein Structure and Function"*, Bucharest, Aug (1998)
- 1st *International Meeting of SRBBM*, Bucharest, Sep (1998)
- 12th *Balkan Biochem Biophys Days*, Bucharest, May (2001)
- Workshop "Molecular basis of Plant Defence Mechanisms"*, Bucharest, Feb (2003)
- FEBS Course "Recombinant DNA Technology"*, Bucharest, Sep (2003)
- International Meeting "Glycosylation & Disease"*, Bucharest, June (2004)
- FEBS Course "Recombinant DNA Technology"*, Bucharest, Sep (2005)
- FEBS-IUBMB Meeting "Protein Folding in Health & Disease"*, Bucharest, Jun (2005)
- FEBS Course "Recombinant DNA Technology"*, Bucharest, Sep (2008)

Research Results

Scientific Papers:

- *Published Papers:* 75
 - Articles in Main International Journals (ISI):* 54
 - Book Chapters:* 2
 - Articles in national scientific journals* 23
- *Patents:* 4

Results Impact:

- *Hirsh Index* 23
- *Citations (ISI-Thomson)* >2000

Prizes

- *The "N.Simionescu" Award of the Academiei Romane, 2000:*
"For Contributions in Protein Folding"
- *The Ministry of Research Award 2006:*
"For International Collaboration within EU-FP6"

Educational Activities:

- *PhD Coordinator of SCOSAAR - the Advanced Studies School of the Romanian Academy;*
- *PostDoc Coordinator - in the Program "Cellular & Molecular Biotehнологies for Medicine"*
- *Coordinator of the Bioinformatics module in ERASMUS Programme "International MSc on Infectious Diseases and One Health"*
- *MSc Lectures at the: Normal Superior School - București*
 - Course in Bioinformatics and Molecular Modeling in Biochemistry (2009 - prezent)
- *Internațional FEBS Course "Recombinant DNA Technology & Protein Expression"*
 - Lectures in Bioinformatics, 2003,2005,2008;

Selection of significant publications

- Kozuki T, Chikamori K, Surleac MD, Micluta MA, Petrescu AJ, Norris EJ, Elson P, Hoeltge GA, Grabowski DR, Porter ACG, Ganapathi RN, Ganapathi MK. Roles of the C-terminal domains of topoisomerase II α and topoisomerase II β in regulation of the decatenation checkpoint. **Nucleic Acids Res.** **45(10)**:5995-6010 (2017)
- Butnaru CM, Chiritoiu MB, Chiritoiu GN, Petrescu SM, Petrescu AJ. "Inhibition of N-glycan processing modulates the network of EDEM3 interactors" **Biochem Biophys Res Commun.** **486(4)**:978-984 (2017)
- Ruta LL, Kissen R, Nicolau I, Neagoe AD, Petrescu AJ, Bones AM, Farcasanu IC. Heavy metal accumulation by *Saccharomyces cerevisiae* cells armed with metal binding hexapeptides targeted to the inner face of the plasma membrane. **Appl Microbiol Biotechnol.** **101(14)**:5749-5763 (2017)
- Rajaraman J, Douchkov D, Hensel G, Stefanato FL, Gordon A, Ereful N, Caldararu OF, Petrescu AJ, Kumlehn J, Boyd LA, Schweizer P, "An LRR/Malectin Receptor-Like Kinase Mediates Resistance to Non-adapted and Adapted Powdery Mildew Fungi in Barley and Wheat." **Front Plant Sci.**; **7**:1836-1844 (2016).
- Diaz-Granados A, Petrescu AJ, Goverse A, Smant G. "SPRYSEC Effectors: A Versatile Protein-Binding Platform to Disrupt Plant Innate Immunity." **Front Plant Sci.** **7**:1575-1588 (2016)
- De Oliveira AS, Koolhaas I, Boiteux LS, Caldararu OF, Petrescu AJ, Oliveira Resende R, Kormelink R. Cell death triggering and effector recognition by Sw-5 SD-CNL proteins from resistant and susceptible tomato isolines to Tomato spotted wilt virus. **Mol Plant Pathol.** **17(9)**:1442-1454 (2016)
- Sueldo DJ, Shimels M, Spiridon LN, Caldararu O, Petrescu AJ, Joosten MH, Tameling WI., "Random mutagenesis of the nucleotide-binding domain of NRC1 (NB-LRR Required for Hypersensitive Response-Associated Cell Death-1), a downstream signalling nucleotide-binding, leucine-rich repeat (NB-LRR) protein, identifies gain-of-function mutations in the nucleotide-binding pocket.", **New Phytol.** **208(1)**, 210-223. (2015)
- Zhang YH, Shetty K, Surleac MD, Petrescu AJ, Schatz DG. "Mapping and Quantitation of the Interaction between the Recombination Activating Gene Proteins RAG1 and RAG2.", **J.Biol.Chem.** **290(19)**, 11802-17. (2015)
- Sarbu M, Munteanu CVA, Dehelean L, Petrescu AJ, Jasna PK, Zamfir AD, "Identification and structural characterization of novel O- and N-glycoforms in the urine of a Schindler disease patient by Orbitrap mass spectrometry" **J.Mass.Spectrometry**, **50(9)**, 1044-1056 (2015)
- Ciubotaru M, Surleac MD, Metskas LA, Koo P, Rhoades E, Petrescu A-J, Schatz DG., "The architecture of the 12RSS in V(D)J recombination signal and synaptic complexes" **Nucleic Acid Res**, **43(2)**, 917-931 (2015)
- Sela H, Spiridon LN, Ashkenazi H, Bhullar NK, Brunner S, Petrescu A-J, Fahima T, Keller B, Jordan T, "3D modeling and diversity analysis reveals distinct AVR recognition sites and evolutionary pathways in wild and domesticated wheat Pm3 R genes" **Mol Plant Microbe Interact.**, **27(8)**, 835-845 (2014)
- Slootweg EJ, Spiridon LN, Roosien J, Butterbach P, Pomp R, Westerhof L, Wilbers R, Bakker E, Bakker J, Petrescu A-J, Smant G, Goverse A "Structural Determinants at the Interface of the ARC2 and LRR Domains Control the Activation of the NB-LRR Plant Immune Receptors Rx1 and Gpa2.", **Plant Physiol.**, **161(3)**, 1510-1528 (2013)
- Ciubotaru M, Trexler AJ, Spiridon LN, Surleac MD, Rhoades E, Petrescu A-J, Schatz DG. "RAG and HMGB1 create a large bend in the 23RSS in the V(D)J recombination synaptic complexes.", **Nucl.Acids.Res.**, **41(4)**, 2437-2425 (2013)
- Flangea C, Petrescu A-J, Seidler DG, Munteanu CVA, Zamfir AD, "Identification of an unusually sulfated tetrasaccharide chondroitin/dermatan motif in mouse brain by combining chip- nanoelectrospray multistage MS2-MS4 and high resolution mass spectrometry.", **Electrophoresis**, **34(11)**, 1581-1592 (2013)
- Sela H, Spiridon LN, Petrescu A-J, Akerman M, Mandel-Gutfreund Y, Nevo E, Loutre C, KSela H, Spiridon LN, Petrescu A-J, Akerman M, Mandel-Gutfreund Y, Nevo E, Loutre C, Keller B, Schulman AH, Fahima T, "Ancient diversity of splicing motifs and protein surfaces in the wild emmer wheat (*Triticum dicoccoides*) LR10 coiled coil (CC) and leucine-rich repeat (LRR) domains" **Mol. Plant Pathol**, **13(3)**, 276-287 (2012)
- Marin MB, Ghenea S, Spiridon LN, Chiritoiu GN, Petrescu A-J, Petrescu SM. "Tyrosinase degradation is prevented when EDEM1 lacks the intrinsically disordered region", **PLoS One**, **7(8)**, e42998 (2012)
- Cioaca D, Ghenea S, Spiridon LN, Marin M, Petrescu A-J, Petrescu SM. "C-terminus glycans with critical functional role in the maturation of secretory glycoproteins.", **PLoS One**, **6(5)**, e19979 (2011)
- Maekawa T, Cheng W, Spiridon LN, Töller A, Lukasik E, Saijo Y, Liu P, Shen Q-H, Micluta MA, Somssich IE, Takken FLW, Petrescu A-J, Chai J, Schulze-Lefert P, "Coiled-coil domain-dependent homodimerization of intracellular MLA immune receptors defines a minimal functional module for triggering cell death", **Cell Host-Microbe**, **9(3)**: 187-199 (2011)
- Grozav AG, Willard BB, Kozuki T, Chikamori K, Micluta MA, Petrescu A-J, Kinter M, Ganapathi R, Ganapathi MK. "Tyrosine 656 in topoisomerase II β is important for the catalytic activity of the enzyme: Identification based on artifactual +80-Da modification at this site". **Proteomics**. **11(5)**: 829-842 (2011)
- Slootweg E, Roosien J, Spiridon LN, Petrescu A-J, Tameling W, Joosten M, Pomp R, vanSchaik C, Borst JW, Smant G, Schots A, Bakker J, Goverse A. "Nucleocytoplasmic Distribution Is Required for Activation of Resistance by the Potato NB-LRR Receptor Rx1 and Is Balanced by Its Functional Domains.", **Plant Cell**. **22(12)**: 4195-4215 (2010)
- Postma W, Tytgat T, Prins P, Qin L, Overmars H, Vossen J, Spiridon L, Petrescu AJ, Goverse A, Bakker J, Smant G, Rehman S. "A secreted SPRY domain-containing protein (SPRYSEC) from the plant-parasitic nematode *Globodera rostochiensis* interacts with a CC-NB-LRR protein from a susceptible tomato.", **Mol Plant Microbe Interact.**, **22(3)**, 330-340 (2009)

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- Balasu MC, Spiridon LN, Miron S, Craescu CT, Scheidig AJ, Petrescu AJ, Szedlacsek SE. "Interface analysis of the complex between ERK2 and PTP-SL.", **PLoS One**, **4(5)**, e5432 (2009)
- Kammenga JE, Doroszuk A, Riksen JA, Hazendonk E, Spiridon L, Petrescu A-J, Tijsterman M, Plasterk RH, Bakker J. "A *Caenorhabditis elegans* wild type defies the temperature-size rule owing to a single nucleotide polymorphism in *tra-3*". **PLoS Genet**. **3(3)**, e34 (2007)
- Kudla U, Milac AL, Qin L, Overmars H, Roze E, Holterman M, Petrescu A-J, Goverse A, Bakker J, Helder J, Smant G. "Structural and functional characterization of a novel, host penetration-related pectate lyase from the potato cyst nematode *Globodera rostochiensis*". **Mol. Plant Pathol**, **8(3)**, 293-305 (2007)
- Petrescu A-J, Wormald MR, Dwek RA. "Structural aspects of glycomes with a focus on N-glycosylation and glycoprotein folding.". **Curr Opin Struct Biol**. **16(5)**: 600-607 (2006)
- Paduraru C, Spiridon L, Yuan W, Bricard G, Valencia X, Porcelli S, Besra G, Petrescu SM, Petrescu A-J, Cresswell P. "An N-linked glycan modulates the interaction between the CD1d heavy chain and beta 2-microglobulin.". **J Biol Chem.**, **281(52)**, 40369-78 (2006)
- Milac AL, Avram S, Petrescu A-J, "Evaluation of a neural networks QSAR method based on ligand representation using substituent descriptors Application to HIV-1 protease inhibitors." **J Mol Graph Model**. **25(1)**, 37-45 (2006)
- Costin GE, Valencia JC, Wakamatsu K, Ito S, Solano F, Milac A-L, Vieira WD, Petrescu A-J, Lamoreux ML, Hearing VJ. "Mutations in dopachrome tautomerase (*Dct*) affect eumelanin/pheomelanin synthesis, but do not affect intracellular trafficking of the mutant protein.". **Biochem J**. **391**, 249-259 (2005)
- Kudla U, Qin L, Milac AL, Kielak A, Maissen C, Overmars H, Popeijus H, Roze E, Petrescu A-J, Smant G, Bakker J, Helder J, "Origin, distribution and 3D-modelling of *Gr-EXP1*, an expansin from the potato cyst nematode *Globodera rostochiensis*" **FEBS Lett**, **579**, 2451-2457 (2005)
- Jaubert S, Milac A-L, Petrescu A-J, de Almeida-Engler J, Abad P, Rosso M-N, "In Planta Secretion of a Calreticulin by Migratory and Sedentary Stages of Root-Knot Nematode", **Mol. Plant-Microbe Int.**, **18**, 1277-1284 (2005)
- Petrescu A-J, Milac A-L, Petrescu SM, Dwek RA, Wormald M.R. "Statistical analysis of the protein core around N-glycosylation sites. Implications on occupancy, folding and function", **Glycobiology**, **14**: 103-114 (2004)
- Wormald M, Petrescu A-J, Pao Y-L, Glythero A, Elliot T, Dwek RA, "Conformational Studies of Oligosaccharides and Glycopeptides: Complementarity of NMR, X-Ray Crystallography and Molecular Modelling", **Chem.Rev.**, **102**, 371-387 (2002)
- Hinsen K, Petrescu A-J, Dellerue S, Bellissent-Funel MC, Kneller, GR, "Liquid-like and solid-like motions in proteins", **J.Mol. Liquids**, **98-99**, 381-398 (2002)
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- Dellerue S, Petrescu A-J, Smith JC, Longeville S, Bellissent-Funel M-C "Collective dynamics of a photosynthetic protein probed by neutron spin-echo spectroscopy and molecular dynamics simulation" **Physica B**, **276-278**, 514-515 (2000)
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- Branza-Nichita N., Petrescu A-J, Negroiu G., Dwek RA., Petrescu SM, "N-glycosylation processing and glycoprotein folding-lessons from the tyrosinase- related proteins", **Chem. Rev.**, **100**, 4697-4711 (2000)
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- Branza-Nichita N., Negroiu G., Petrescu A-J, Garman E.F., Platt F.M., Wormald M., Dwek R.A., Petrescu S.M. "Mutations at Critical N-Glycosylation Sites Reduce Tyrosinase Activity by Altering Folding and Quality Control", **J.Biol.Chem.**, **275**, 8169-8175 (2000)
- Petrescu A-J, Petrescu S.M., Dwek R.A., Wormald M.R., "A Statistical Analysis of N- and O-glycan linkages from crystallographic data" **Glycobiology**, **9**, 343-352 (1999)
- Nichita-Branza N., Petrescu A-J, Dewk R.A., Wormald M., Platt F., Petrescu S.M., "Tyrosinase folding and copper loading in vivo: a crucial role for calnexin and β -glucosidase II" **Biochem.Biophys.Res.Comm.**, **261**, 720-725 (1999)
- Negroiu G., Branza-Nichita N., Petrescu A-J, Dwek RA., Petrescu SM, "Protein specific N-glycosylation of tyrosinase and TRP-1 in B16 cells", **Biochemical J.**, **344**, 659-665 (1999)
- Negroiu G, Branza-Nichita N, Costin G, Titu H, Petrescu A-J, Dwek RA, Petrescu S-M. "Investigation of the Intracellular Transport of Tyrosinase and TRP-1 the effect of the ER Glucosidases Inhibition" **Mol.Cell.Biol**, **45**, 1001-1010 (1999)
- Smith J.C., Lamy A, Kataoka M, Yunoki J, Petrescu A-J, Receveur V, Calmettes P, Durand D, "Motions in native and denatured proteins" **Physica B**, **241-243**, 1110-1114 (1998)
- Petrescu A-J, Calmettes P, Receveur V., Durand D., Smith J., "Excluded Volume in the Configurational Distribution of a Strongly Denatured Protein", **Protein. Sci.**, **7**, 1396-1403, (1998)

Petrescu A-J, Butters T.D., Reinkensmeier G., Petrescu S.M., Platt F.M., Dwek R.A., Wormald M.R., "The Solution NMR Structure of Glc₃Man₉ unit in Glc₃Man₇GlcNAc₂", **EMBO J.**, **16**, 4302-4310 (1997)

Petrescu, S.M., Petrescu A-J, Tițu H., Dwek, R.A., Platt, F.M. "Inhibition of N-Glycan Processing in B16 Melanoma Cells Results in Inactivation of Tyrosinase but Does not Prevent its Transport to the Melanosome", **J.Biol.Chem.**, **272**, 15796-803 (1997)

Petrescu A-J, Receveur V., Calmettes P., Durand D., Desmadril M., Roux B., Smith J.C., "Small Angle Neutron Scattering By a Strongly Denatured Protein: Analysis using Random Polymer Theory", **Biophysical J.**, **72**, 335-342 (1997)

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Petrescu S.M., Petrescu A-J, Rudiger H., "Purification and Partial Characterisation of a lectin from *Datura innoxia* seeds", **Phytochemistry**, **34**, 343-348 (1993)

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