



## INFORMAȚII PERSONALE

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## POZIȚIA ACTUALĂ

Director, Institutul de Biochimie

## EXPERIENȚA PROFESIONALĂ

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- |              |   |
|--------------|---|
| 1997–Prezent | Cercetator științific gr. I, Director<br>Institutul de Biochimie, Bucuresti (România)<br>Coordonator de grup , Conducator de doctorat din anul 2000 |
| 1992–1997    | Cercetator științific gr. II<br>Institutul de Biochimie, Bucuresti (România)<br>Coordonator de grup   |
| 1983–1992    | Cercetator științific gr III<br>Institutul de Biochimie, Bucuresti (România)  |

## EDUCAȚIE ȘI FORMARE

Nivelul 8 CEC

**Stagii de cercetare in strainatate:**

- 1997 -2007, Departamentul de Biochimie al Universitatii Oxford, 3-6 luni/an
- 1999, Visiting professor, Universitatea Washington, Saint Louis, USA, 2 luni
- 1995-1997, Grant Wellcome Trust in colaborare cu Oxford Glycobiology Inst
- 1993, Royal Society Fellowship, Universitatea Oxford, 3 luni
- 1991, FEBS Fellowship, Facultatea Farmacie a Universitatii Wurzburg - 5 luni

1995–1997	Post Doc Departamentul de Biochimie, Univ. Oxford, UK, 1993-1995 Domeniul: Glicobiologie moleculara si biologie celulara	Nivelul 8 CEC
1989–1992	Doctorat in Biologie Academia Romana, Institutul de Biochimie Bucuresti Domeniul: Biochimie si biologie moleculara	Nivelul 7 CEC
1974–1979	Licenta si specializare in Biochimie, Facultatea de Biologie, Universitatea Bucuresti	Nivelul 6 CEC

#### COMPETENȚE PERSONALE

Limba(i) maternă(e) română

Alte limbi străine cunoscute

	ÎNȚELEGERE		VORBIRE		SCRIERE
	Ascultare	Citire	Participare la conversație	Discurs oral	
franceză	C2	C2	C2	C1	C1
engleză	C2	C2	C2	C2	C2

Niveluri: A1 și A2: Utilizator elementar - B1 și B2: Utilizator independent - C1 și C2: Utilizator experimentat

Cadrul european comun de referință pentru limbi străine

Competențe organizaționale/manageriale

**Coordonare granturi**

*Granturi Internaționale*

- 1995 - 1997 *Wellcome Trust "Collab. Research Grant"* cu Universitatea Oxford
- 1997 - 1999 *NATO Linkage grant High Technology* cu Universitatea Oxford
- 1998 - 2000 *Wellcome Trust "Collab. Initiative Research Grant"* cu Univ. Oxford
- 2002 - 2005 *Wellcome Trust "Collaborative Grant"* cu Universitatea Oxford
- 2011 - 2013 *Grant SEE/ RO-Swiss* cu Universitatea din Lausanne
- 2019 - 2022 *Grant EU H2020-MSCA-RISE (participant) - colaborare* cu Instituto de Medicina Molecular, The Chancellor, Masters and Scholars of the University of Oxford, University of Sussex, Weizmann Institute of Science.

*Granturi Naționale* (PCE, Academia Romana, Proiecte Complexe etc): >20

Exemple: CEEX/MATNANTECH 2006, CEEX/VIASAN 2006, CEEX/RELANSIN, CEEX/CERES 2007, PNIII-P3-53/2016; PNII&III: ID-PCE-2016-0650; ID-PCE-2011-3-0342; ID-PCE-168/2007.

**Proiecte coordonate Fonduri europene:**

- POSDRU *Biotehnologii celulare cu aplicații în medicina*, 2010-2013, 7.5 mil euro
- POSCCE *Dezvoltarea infrastructurii de cercetare a IBAR*, 2010-2013, 4.5 mil euro

**Domenii expertiză**

**Biologia Moleculară a Celulei** - *investigarea pterii și traficului intracelular al proteinelor, mecanisme și puncte de control pe calea secretorie, cale de degradare ale proteinelor și relația lor cu prezentarea antigenică*

**Medicină Moleculară** - *metode de diagnostic și tratament în cancer, dezvoltarea proteomicii și spectrometriei de masă.*

**Glicobiologie Moleculară** - *biosinteza glicoproteinelor și interacția cu chaperone moleculare și lectine din rețiculul endoplasmic. investigarea raportului specificitate/diversitate în distribuția microheterogenității de glucid a glicoproteinelor în funcție de specie și organ;*

**Biologie Celulară, Biochimie Analitică și Preparativă** - *dezvoltare de metode biochimice.*

**INFORMAȚII SUPPLEMENTARE****Premii**

- FEBS fellowship 1990
- DAAD fellowship 1990
- Royal Society fellowship 1994
- Wellcome Trust International Grants CRIG : 1995, 1998, 2002
- Premiul Academiei Române "E. Racoviță", 2002, pentru "*Contribuții în Pterea Tirozinazel*"

**Alte responsabilități**

- Conducător Doctorale, SCOSAAR - Școala de Studii Avansate a Academiei Române*
- Membri al Comitetului Infrastructurii Europene de Cercetare – ESFRJ 2007-2008*
- Membri în panelul european de evaluare ERC – Development and Cell Biology 2008-2015*
- Expert European FP EU ( Impact assessment FP projects) din 2001*
- Membri CNADTCU : 2010-2016*
- Membri CCCDI- Coordonator Bioeconomie, (2015-2021)*
- Membri în Comitetul de Redacție al Revistei Molecular Life din 2016*
- Membri în Comisi de Doctorat din 1997*
- Președinte al Societății Române de Biochimie și Biologie Moleculară din 2000*

**Membri în societăți internaționale**

- Membri al European Society for Pigment Cell Research*
- Membri al American Society of Biochemistry and molecular Biology*
- Membri al Biochemical Society UK*
- Membri MSR al Colegiului Corpus Christi din Oxford în anul 1998*

Activitate științifică	Index Hirsch (ISI Thompson):	27
	Citări ISI-WoS, fără autocitări:	2550
	Factorul impact total al publicațiilor ISI	>270
	Scorul de Influență (AI) al publicațiilor ISI	>125

#### Lucrări științifice relevante

- Chiritoiu G, Munteanu CVA, Sulea TA., Spiridon L., Petrescu AJ., Jandus C., Romero P, Petrescu SM. . "Methionine oxidation selectively enhances T cell reactivity against a melanoma antigen", *iScience*(107205), (2023) IF: 6.1
- Flintoaca Alexandru PR, Chiritoiu GN, Lixandru D, Zurac S, Ionescu-Targoviste C, Petrescu SM . "EDEM1 regulates the insulin mRNA level by inhibiting the endoplasmic reticulum stress-induced IRE1/JNK/c-Jun pathway", *iScience* 26(10): 107956, (2023) IF: 6.10
- Militaru IV, Rus AA, Munteanu CVA, Manica G, Petrescu SM . "New panel of biomarkers to discriminate between amelanotic and melanotic metastatic melanoma", *Frontiers in oncology* 12: 1061832, (2023)
- Ghenea S, Chiritoiu M, Tacutu R, Miranda-Vizueta A, Petrescu SM . Targeting EDEM protects against ER stress and improves development and survival in C. elegans. *PLoS genetics*. 2022, 18(2):e1010069.IF=5.90
- Munteanu CVA, Chiritoiu GN, Chiritoiu M, Ghenea S, Petrescu AJ, Petrescu SM. Affinity proteomics and deglycoproteomics uncover novel EDEM2 endogenous substrates and an integrative ERAD network. *Molecular & cellular proteomics : MCP*, 2021:100125.IF=5.91
- Manica G, Ghenea S, Munteanu CVA, Martin EC, Butnaru C, Surleac M, Chiritoiu GN, Alexandru PR, Petrescu AJ, Petrescu SM . EDEM3 Domains Cooperate to Perform Its Overall Cell Functioning. *Int. J. Mol. Sci.*, 2021, 4(22):2172.IF=4.56
- Chiritoiu M, Chiritoiu GN, Munteanu CVA, Pastrama F, Ivessa NE and Petrescu SM . EDEM1 Drives Misfolded Protein Degradation via ERAD and Exploits ER-Phagy as Back-Up Mechanism When ERAD Is Impaired. *International Journal of Molecular Sciences*. 2020, 10(21):3468.IF=4.10
- Munteanu CVA, Chiritoiu GN, Petrescu AJ, Petrescu SM . Profiling Optimal Conditions for Capturing EDEM Proteins Complexes in Melanoma Using Mass Spectrometry. *Advances in experimental medicine and biology*. 2019, 1140:155-167.IF=2.13
- Butnaru CM, Chiritoiu MB, Chiritoiu GN, Petrescu SM, Petrescu AJ . Inhibition of N-glycan processing modulates the network of EDEM3 interactors. *Biochemical and biophysical research communications*, 2017, 486(4):978-984.IF=2.56
- Lazar C, Uta M, Petrescu SM, Branza-Nichita N . Novel function of the endoplasmic reticulum degradation-enhancing α-mannosidase-like proteins in the human hepatitis B virus life cycle, mediated by the middle envelope protein. *Cellular microbiology*, 2017, 19(2).
- Chiritoiu GN, Jandus C, Munteanu CV, Ghenea S, Gannon PO, Romero P, Petrescu SM . Epitope located N-glycans impair the MHC-I epitope generation and presentation. *Electrophoresis*, 2016, 37(11):1448-60.IF=2.74
- Cucu D, Chiritoiu G, Petrescu S, Babes A, Stanica L, Duda DG, Horii A, Dima SO, Popescu I . Characterization of functional transient receptor potential melastatin 8 channels in human pancreatic ductal adenocarcinoma cells. *Pancreas*, 2014, 43(5):795-800.IF=2.96
- Filimon A, Zurac SA, Milac AL, Sima LE, Petrescu SM, Negroiu G . Value of dopachrome tautomerase detection in the assessment of melanocytic tumors. *Melanoma research*, 2014, 24(3):219-35.
- Lazar C, Macovei A, Petrescu S, Branza-Nichita N . Activation of ERAD pathway by human hepatitis B virus modulates viral and subviral particle production. *PLoS one*. 2012, 7(3):e34169.IF=3.73
- Marin MB, Ghenea S, Spiridon LN, Chiritoiu GN, Petrescu AJ, Petrescu SM . Tyrosinase degradation is prevented when EDEM1 lacks the intrinsically disordered region. *PLoS one*, 2012, 7(8):e42998.
- Ciocca D, Ghenea S, Spiridon LN, Marin M, Petrescu AJ, Petrescu SM . C-terminus glycans with critical functional role in the maturation of secretory glycoproteins. *PLoS one*, 2011.

6(5):e19979.IF=4.09

- Negroi G, Dwek RA, Petrescu SM . Tyrosinase-related protein-2 and -1 are trafficked on distinct routes in B16 melanoma cells. *Biochemical and biophysical research communications*, **2005**, 328(4):914-21.
- Negroi G, Dwek RA, Petrescu SM . The inhibition of early N-glycan processing targets TRP-2 to degradation in B16 melanoma cells. *The Journal of biological chemistry*, **2003**, 278(29):27035-42.
- Negroi G, Dwek RA, Petrescu SM . Folding and maturation of tyrosinase-related protein-1 are regulated by the post-translational formation of disulfide bonds and by N-glycan processing. *The Journal of biological chemistry*, **2000**, 275(41):32200-7.
- Branza-Nichita N, Petrescu AJ, Negroi G, Dwek RA, Petrescu SM . N-glycosylation processing and glycoprotein folding-lessons from the tyrosinase-related proteins. *Chemical reviews*, **2000**, 100(12):4697-712.
- Petrescu SM, Branza-Nichita N, Negroi G, Petrescu AJ, Dwek RA . Tyrosinase and glycoprotein folding: roles of chaperones that recognize glycans. *Biochemistry*, **2000**, 39(18):5229-37.
- Branza-Nichita N, Negroi G, Petrescu AJ, Garman EF, Platt FM, Wormald MR, Dwek RA, Petrescu SM . Mutations at critical N-glycosylation sites reduce tyrosinase activity by altering folding and quality control. *The Journal of biological chemistry*, **2000**, 275(11):8169-75.
- Negroi G, Branza-Nichita N, Costin GE, Titu H, Petrescu AJ, Dwek RA, Petrescu SM . Investigation of the intracellular transport of tyrosinase and tyrosinase related protein (TRP)-1. The effect of endoplasmic reticulum (ER)-glucosylases inhibition. *Cellular and molecular biology (Noisy-le-Grand, France)*, **1999**, 45(7):1001-10.
- Negroi G, Branza-Nichita N, Petrescu AJ, Dwek RA, Petrescu SM . Protein specific N-glycosylation of tyrosinase and tyrosinase-related protein-1 in B16 mouse melanoma cells. *The Biochemical journal*, **1999**, 344 Pt 3:659-65.
- Zapun A, Petrescu SM, Rudd PM, Dwek RA, Thomas DY, Bergeron JJ . Conformation-independent binding of monoglucosylated ribonuclease B to calnexin. *Cell*, **1997**, 88(1):29-38.
- Petrescu AJ, Butters TD, Reinkensmeier G, Petrescu S, Platt FM, Dwek RA, Wormald MR . The solution NMR structure of glucosylated N-glycans involved in the early stages of glycoprotein biosynthesis and folding. *The EMBO journal*, **1997**, 16(14):4302-10.

#### Speaker invitat la conferințe internaționale

- 1999, *Gordon Conference on Glycobiology*, Ventura, USA "Folding of metalloenzyme tyrosinase is calnexin/calreticulin dependent"
- 1999, *European Research Conferences, Biology of Molecular Chaperones*, Aquafredda di Maratea, Italy " interaction of tyrosinase with calnexin prevents folding and is essential for activity"
- 2000, *18th International Congress of Biochemistry and Molecular Biology, Beyond the Genome*, Birmingham, "Folding of glycoenzymes in the endoplasmic reticulum "
- 2002, *6th Jenner conference Glycoimmunology*, Seillac, France "The glycosylation of tyrosinase in melanoma cells and the effect on Ag presentation"
- 2003, *NATO Advanced Workshop "ER metabolism"*, Siena, Italy "Glycoprotein folding in the ER"
- 2005, *GLYCO XVIII* Florence, Italy, "New strategies for a melanoma vaccine"
- 2011, *21st International Symposium on Glycoconjugates*, Viena, C-terminus Glycans with Critical Role in the Maturation of a Secretory Glycoprotein
- 2011, *9th International Calreticulin Workshop*, Copenhagen, Denmark "Calreticulin regulates the ER export of truncated albino tyrosinases"
- 2014, *IC-ANMBES 2014* Brasov, Romania "Quantitation of Protein Degradation in ERAD Pathway by Mass Spectrometry and T Cell Recognition"
- 2017 *Functional imaging of cellular signals* 11-16 June 2017, Amsterdam
- 2018 *Golgi meeting*, Sorrento, Italy, "FEBS advanced courses"
- 2018 *Biology and pathology of cytoskeleton: the crossroads of three cytoskeletal systems*, Prague
- 2023 *The 17th FEBS Congress, 8-12 July 2023*, Tours, Franta

#### Organizare Manifestări Științifice Internaționale:

- 1<sup>st</sup> British-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)
- FEBS Course "Recombinant DNA Technology", Bucharest, Sep (2001)
- 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)
- Conferinta Diaspora in cercetarea romaneasca, Workshop "Domenii emergente in Stiintele Vietii la nivel molecular (2008)
- Conferinta internationala Chemistry and Life (2010), Bucuresti, Aula Academiei Romane cu participarea laureatului Nobel Baruch Blumberg
- Annual International Conference of the Romanian Society of Biochemistry and Molecular Biology- in fiecare an in perioada (2000-2018)
- EU-COST Workshop: "Structure-Guided Investigation of Effector Function, Action and Recognition", (2014), Bucuresti, Amfiteatrul I.H.Radulescu, Academia Romana
- 2nd @RoBioinfo Seminar, 18-20 April 2018, Bucuresti, Institutul de Biochimie (2018)

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