

INFORMAȚII PERSONALE

Stefana -Maria Petrescu

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POZIȚIA ACTUALĂ

Director, Institutul de Biochimie

EXPERIENȚA PROFESIONALĂ

- | | |
|--------------|--|
| 1997–Prezent | Cercetator stiintific gr. I, Director
Institutul de Biochimie, Bucuresti (România)
Coordonator de grup , Conducator de doctorat din anul 2000 |
| 1992–1997 | Cercetator stiintific gr. II
Institutul de Biochimie, Bucuresti (România)
Coordonator de grup |
| 1983–1992 | Cercetator stiintific gr III
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** Nivelul 8 CEC
 Departamentul de Biochimie, Univ. Oxford, UK, 1993-1995
 Domeniul: Glicobiologie moleculara si biologie celulara

1989–1992 **Doctorat in Biologie** Nivelul 7 CEC
 Academia Romana, Institutul de Biochimie Bucuresti
 Domeniul: Biochimie si biologie moleculara

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 aplicatii in 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 plierii si traficului intracelular al proteinelor: mecanisme si puncte de control pe calea secretorie, caile de degradare ale proteinelor si relatia lor cu prezentarea antigenica*

Medicină Moleculară - *metode de diagnostic si tratament in cancer, dezvoltarea proteomicii si spectrometriei de masa.*

Glicobiologie Moleculară - *biosinteza glicoproteinelor si interactia cu chaperoane moleculare si lectine din reticulul endoplasmic, investigarea raportului specificitate/diversitate in distributia microheterogenitatii de glucid a glicoproteinelor in functie de specie si organ;*

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

INFORMAȚII SUPLIMENTARE

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 Plierea Tirozinazei*"

Alte responsabilități

Conducator Doctorate, SCOSAAR - Școala de Studii Avansate a Academiei Române
Membru al Comitetului Infrastructuri Europene de Cercetare – ESFRI 2007-2008
Membru in panelul european de evaluare ERC – Development and Cell Biology 2008-2015
Expert European FP EU (Impact assessment FP projects) din 2001
Membru CNADTCU : 2010-2016
Membru CCCDI- Coordonator Bioeconomie, (2015-2021)
Membru în Comitetul de Redactie al Revistei Molecular Life din 2016
Membru în Comisii de Doctorat din 1997
Președinte al Societății Române de Biochimie și Biologie Moleculară din 2000

Membru in societăți internaționale

Membru al European Society for Pigment Cell Research
Membru al American Society of Biochemistry and molecular Biology
Membru al Biochemical Society UK
Membru MSR al Colegiului Corpus Christi din Oxford in anul 1998

Activitate științifică	Index Hirsch (ISI Thompson):	28
	Citări ISI-WoS, fără autocitări:	2550
	Factorul Impact total al publicațiilor ISI	>270
	Scorul de Influență (AI) al publicațiilor ISI	>125

Lucrări științifice relevante

- Alina-Veronica Ghionescu, Mihaela Uta, Andrei Sorop, Catalin Lazar, Petruta R. Flintoaca-Alexandru, Gabriela Chiritoiu, Livia Sima, Stefana-Maria Petrescu, Simona Olimpia Dima, Norica Nichita . **"The endoplasmic reticulum degradation-enhancing α -mannosidase-like protein 3 attenuates the unfolded protein response and has pro-survival and pro-viral roles in hepatoma cells and hepatocellular carcinoma patients"**, *Journal of Biomedical Science* 32, (2025)
- Trif C, Banica AM, Manolache A, Anghel SA, Huțanu DE, Stratulat T, Badea R, Oprita G, Selescu T, Petrescu SM, Sisignano M, Offermanns S, Babes A, Tunaru S . **"Inhibition of TRPM8 function by the prostacyclin receptor requires coupling to Gq/11 proteins"**, *British journal of pharmacology*, (2023)
- 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-Vizuete 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):219-36.
- 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.
- Cioaca 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
- Negroiu 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.
- Negroiu 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.
- Negroiu 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, Negroiu 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, Negroiu G, Petrescu AJ, Dwek RA . Tyrosinase and glycoprotein folding: roles of chaperones that recognize glycans. *Biochemistry*, **2000**, 39(18):5229-37.
- Branza-Nichita N, Negroiu 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.
- Negroiu 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)-glucosidases inhibition. *Cellular and molecular biology (Noisy-le-Grand, France)*, **1999**, 45(7):1001-10.
- Negroiu 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 conferinta internationale

- 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 th 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 47th FEBS Congress, 8-12 July 2023, Tours, Franta

Organizare Manifestări Științifice Internaționale:

- 1st 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)
- Conferința Diaspora în cercetarea românească, Workshop "Domenii emergente în Științele Vietii la nivel molecular (2008)
- Conferința internațională Chemistry and Life (2010), București, Aula Academiei Române cu participarea laureatului Nobel Baruch Blumberg
- Annual International Conference of the Romanian Society of Biochemistry and Molecular Biology- în fiecare an în perioada (2000-2018)
- EU-COST Workshop: "Structure-Guided Investigation of Effector Function, Action and Recognition", (2014), București, Amfiteatrul I.H.Radulescu, Academia Romana
- 2nd @RoBioinfo Seminar, 18-20 April 2018, București, Institutul de Biochimie (2018)