

Maya Simionescu, Ph.D.

CURRICULUM VITAE

CURRENT ADDRESS:

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POSITIONS AND TITLES:

- Director, Institute of Cellular Biology and Pathology "N. Simionescu", Bucharest
- Visiting Professor, Yale University, School of Medicine, New Haven, USA
- Visiting Professor at McGill University, School of Medicine, Montreal, Canada
- Visiting Professor at Columbia University, New York, USA
- Borun Visiting Professor of Cardiology, University of California, Los Angeles, USA
- Member of the Romanian Academy
- Member of the Academy of Medical Sciences
- President of the Romanian Society for Cell Biology
- Executive President of the National Science and Art Foundation
- President of the Romanian Academy's Section of Biological Sciences

EDUCATION

1954 - Baccalaureate, High School "Iulia Hasdeu", Bucharest

1959 - School of Biology, University of Bucharest

1978 - Doctor in Biological Sciences University of Bucharest

PROFESSIONAL EXPERIENCE

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|--------------|---|
| 1960-1971 | Institute of Endocrinology, Bucharest, Scientific Investigator |
| 1971-1973 | Rockefeller University, New York, USA, Research Associate |
| 1973-1979 | Yale University, School of Medicine New Haven, USA
Senior Research Associate and Lecturer in Cell Biology and Cytology |
| 1979-1994 | Yale University, Visiting Professor |
| 1979 | McGill University, Visiting Professor |
| 1990-1991 | Columbia University, Visiting Distinguished Professor |
| 1979-1995 | Institute of Cellular Biology and Pathology, Bucharest,
Senior Scientific Investigator (grade I) |
| 1998-2006 | Romanian Academy, Vice-President |
| 1995-present | Institute of Cellular Biology and Pathology "N. Simionescu" - Director |
| 2006-present | President of the Biological Section of the Romanian Academy |

SPECIAL TRAINING IN CELL BIOLOGY

1970 - 1979 Rockefeller University, New York, NY, USA and Yale University, New Haven, CT, USA, Department of Cell Biology, Prof. George E. Palade (Nobel Prize Laureate)

TEACHING EXPERIENCE:

19 years at Yale University, USA: Cell Biology, Cytology, Histology Course
5 years - University of Bucharest, University of Constanta, Romania

AWARDS AND HONORS

- 1978 - *The Louis and Arthur Lucian International Award for Research in Circulatory Diseases*-McGill University, Montreal, Canada
1987 - *Medal of the Institute of Clinical Electron Microscopy*, Bologna, Italy
1990 - 1991 - *Ludwig Schaefer Distinguished Professor*, Columbia University, USA
1990 - Correspondent Member of the Romanian Academy
1991 - Member of the Romanian Academy
1998 - Vicepresident of the Romanian Academy
1998 - Member of the Academy of Medical Sciences
1998 - *Sanofi Thrombosis Prize* - for Atherosclerosis and Thrombosis Research
2000 - Doctor Honoris Causa of the University "Ovidius", Constanta, Romania
2000 - Doctor Honoris Causa of the University of Medicine "Gr.T.Popa", Iasi, Romania
2000 - Award "*Serviciul credincios*" - *Great Crosse*, Romanian Presidency
2001 - Award "*Rio Branco – Comendador*", of the Brazilian Presidency
2001 - Honorary Member, Academy of Sciences of Moldova Republic
2001 - UNESCO - L'Oreal Special Honour Award for Women in Science
2004 - "*Ion Pavel*" Prize of the Romanian Academy of Medical Sciences
2004 - Award "*Cultural Merit*" - *Officer Degree* granted to the Institute of Cellular Biology and Pathology "N. Simionescu", Romanian Presidency
2005 - *Académica Correspondiente* de la Reial Acadèmia de Doctors, Barcelona, Spain
2006 - Doctor Honoris Causa of the West University, Timisoara, Romania
2008 - National Order "*Steaua Romaniei*" - *Great Officer*, Romanian Presidency
2008 - "*Opera Omnia*" Prize, of the Romanian Ministry of Education and Research
2011 - Doctor Honoris Causa of the „Vasile Goldiș” West University, Arad, Romania
2013 - *Gold medal – EUREKA*, Bruxelles, 2013 - Research and Industrial Innovation for patent applications: Nervous conductors made of collagen and process for preparing the same. Inventors: Albu Madalina Georgiana, Lascar Ioan, Zamfirescu Dragos George, Simionescu Maya, Zegrea Ion, Titorencu Irina Domnica, Popescu Marius, Bumbeneci Georgeta.
2013 - Prize AGEPI (State Agency for Intellectual Property) for Innovation INNOVA - 2013 Brussels, Patent: Nervous conductors made of collagen and process for preparing the same
2013 - National Order of the "*Legion d'Honneur*" - French Republic
2014 - First Prize for innovation "Nerve conduction collagen and process for obtaining them" *Romanian Innovation Awards 2014*, part of the campaign 3M P3MIEAZA INOVATIA, together with Inventors: Albu Madalina Georgiana, Lascar Ioan, Zamfirescu Dragos George, Simionescu Maya, Zegrea Ion, Titorencu Irina, Popescu Marius, Bumbeneci Georgeta.

MEMBER OF SCIENTIFIC SOCIETIES

American Society for Cell Biology
Romanian Society for Cell Biology (President)
European Cell Biology Organization
European Life Scientist Organization (Vice-President)

CONSULTANT FOR GRANT APPLICATIONS

National Institute of Health (NIH), Bethesda, USA
National Science Foundation (NSF), Washington, USA
Swiss National Science Foundation
Wellcome Trust, United Kingdom
Institute of Cardiology, Texas, Houston, TX, USA
Dept. of Experimental Medicine, Pharmacia Biotechnology, Uppsala, Sweden
Medical Research Council (MRC), London, United Kingdom
INSERM - France
Romanian Academy and the Ministry of Education and Research
European Research Council Expert - European Commission

EDITORIAL BOARDS

1977-1992 - Microvascular Research
1989-present - European Journal of Cell Biology
1989-present - Differentiation
1993-present - Cell and Tissue Research
1990-present - Sciences at Techniques de l'Animal de Laboratoire
1995-present - Journal of Submicroscopical Cytology and Pathology
1999-present - Biomedical Reviews
2004-present - Journal of Cellular and Molecular Medicine

MAIN ACHIEVEMENTS

Publications

Over **400 scientific papers** published in international peer review journals;

Citations ISI: about 6900; Hirsh Index: 40

- **55 chapters in international handbooks** (Elsevier, Annals of New York Academy of Science, Raven Press, William and Wilkins, Academic Press, Marcel Dekker, Springer International etc.);

- **2 monographs** published by Plenum Press (co-editor);

- **2 monographs** published in Romania

Patents:

1. Patent application: "Nervous conductors made of collagen and process for preparing the same". Inventors: Albu Madalina Georgiana, Lascar Ioan, **Simionescu Maya**, Zamfirescu Dragos George, Zegrea Ion, Titorencu Irina Domnica, Popescu Marius, Bumbeneci Georgeta.

2. European Patent Application EP 13 003 858-1: "Method to block site-specifically chemokine-related inflammatory processes in vascular diseases and metastasis" Inventors: Gerd Bendas (DE); Martin Schlesinger (DE); Lubor Borsig (CH); Erdal Cevher (TR); Saadet Kevser Pabuccuoglu (TR); Koray Gok (TR); Maria Mihaly (RO); Marian Enachescu (RO); Manuela Calin (RO); Maya Simionescu (RO); Reinhard Zeisig (DE); Annika Hoffmann (DE)

Chairperson and invited speaker (plenary lectures) at over 70 scientific international meetings.

A SCIENTIFIC SIDE PROJECT: *"A Romanian Institute of Cellular Biology and Pathology"*

Having a great desire to develop Cell Biology in Romania, in 1971 while in USA, Prof. Maya Simionescu together with Prof. Nicolae Simionescu initiated a daring project for an Institute of Cellular Biology and Pathology (ICBP) in Bucharest, Romania, designing a detailed structural plan and the scientific program. The main objectives of ICBP were: biomedical research, training scientists from the entire country, Ph.D. and post-doctoral programs, promotion of modern cell biology and pathology in Romania and facilitation of international exchanges. Since 1979 when officially opened, Maya Simionescu was responsible for the scientific program, trained young scientists in a framework of a Ph.D. program, many of them are working now in abroad laboratories in Europe and USA.

In over 35 years of intensive research activity, ICBP became an internationally recognised institution. Since 1995, under the leadership of Maya Simionescu, ICBP was re-elected as institution member of **UNESCO-Molecular Cell Biology Network**, **Centre of Excellence** of the **Romanian Academy** and of the **Ministry of Education and Research** and was selected, by competition, **Centre of Excellence of the European Community**.

PUBLICATIONS

(selected list)

MONOGRAPHS, CHAPTERS IN HANDBOOKS

- N. Simionescu and M. Simionescu. 1969. Surgical experimental models of the endocrine glands (in Romanian). Editura Academiei RSR, 158 pages, 133 figures, 39 tables.
- N. Simionescu and M. Simionescu. 1977. The cardiovascular system. In: Histology, IV ed. (L. Weiss, R.O. Greep, eds.), McGraw Hill Book Co., New York, p. 373-421 and V ed. (L. Weiss, ed.), 1983, Elsevier North Holland Pbl. Amsterdam, p. 371-433.
- G.E. Palade, M. Simionescu and N. Simionescu. 1979. Transport of solutes across the vascular endothelium. In: Transport of Macromolecules in Cellular systems (S.C. Silverstein, ed.), Dallem Konferenzen 1978, Berlin, Life Sci. rep. vol. 11, pp. 145-166.
- M. Simionescu. 1979. Transendothelial movement of large molecules in the micro-vasculature. In: Pulmonary Edema (A.P. Fishman, E.M. Renkin, eds.), Monograph Series, vol. III, Am. Physiol. Soc., Bethesda, pp. 39-52.
- M. Simionescu. 1980. Structural and functional differentiation of microvascular endothelium. Ciba Foundation Symposium 71 (new series): "Blood cells and vessel walls: functional interactions", Excerpta Medica, London, pp. 39-60.
- M. Simionescu. 1980. Ultrastructural organization of the alveolo- capillary unit. In: Ciba Foundation Symposium, 78: "Metabolic functions of the lung", Excerpta Medica, London, pp. 11-36.
- N. Simionescu and M. Simionescu. 1980. The hydrophylic pathways of capillary endothelium, a dynamic system. In: A. Benzon Symposium 15, "Water transport across epithelia" (H.A. Ussig, N. Bindslev, N.A. Lassen, O. Sten-Knudsen, eds.), Munksgaard, Copenhagen, pp. 1-21.
- M. Simionescu, N. Simionescu and G.E. Palade. 1982. Biochemically differentiated microdomains of the cell surface of capillary endothelium. Ann. N.Y. Acad. Sci. 401: 9-24.
- G.E. Palade, M. Simionescu and N. Simionescu, 1982. Differentiated microdomains in the vascular endothelium. In: Pathobiology of the Endothelial Cell (H.L. Nossel, H.J. Vogel, eds.) Academic Press, New York, p. XXIII - XXXIII
- N. Simionescu, C. Heltianu, F. Antohe and M. Simionescu. 1982. Endothelial cell receptors for histamine. Ann. N.Y. Acad. Sci. 401: 132- 149.
- M. Simionescu. 1983. Differentiated distribution of anionic sites on capillary endothelium. In: The pathogenicity of cationic proteins (P.P. Lambert, P. Bergmann, R. Beauwens, eds.), Raven Press, New York, pp. 76-88.
- M. Simionescu. 1983. Alveolar capillary endothelium, functional morphology, In: The cells of the alveolar unit. (G. Favez, A. Junod, P. Leuenberger, eds.), Hans Huber Publishers, Bern, Stuttgart, Vienna, pp. 74-82.
- M. Simionescu. 1983. Specific labeling of membrane domains. In: New methods in the study of microcirculation. Publ. INSERM, Paris, p.35-45

- M. Simionescu and N. Simionescu. 1983. Ultrastructure of the microvascular wall: functional correlations. In *Handbook of Physiology. The Cardiovascular System*, vol. IV, Microcirculation (E.M. Renkin, C.C. Michel, eds.), Williams and Wilkins Co., Baltimore, MD, p. 41-101
- M. Simionescu. 1985. Cellular organization of the alveolar-capillary unit. Structural-functional correlations. In: *Pulmonary circulation and acute lung injury*, (S. Said, ed.), Future Publ. Co. Inc., Mount Kisko, New York, pp. 13-37.
- M. Simionescu. 1985. Regional differentiation of the cell surface charge distribution in the continuous endothelium of the microvasculature. In *Glomerular Dysfunction and Biopathology of Vascular Wall*. S. Seno, A. Copley, M. Venkatachalam, Y. Hamashima, T. Tsujii (eds.), Academic Press, Tokyo, p. 3-11.
- M. Simionescu and N. Simionescu. 1987. Endothelial cell surface domains in pulmonary alveolar capillaries. In *Pulmonary Endothelium in Health and Disease* (U. Ryan, ed.), Marcel Dekker Inc., New York, Basel, pp. 35-62.
- N. Simionescu and M. Simionescu. 1987. Receptor-mediated transcytosis of albumin: identification of albumin binding proteins in the serum plasma membrane of capillary endothelium. In: *Microcirculation - an update* (M. Tsuchiya et al. eds.) vol I, Excerpta Medica, Amsterdam pp. 67-82.
- N. Simionescu, M. Simionescu (editors). 1988. *Endothelial Cell Biology in Health and Disease*, Plenum Press, New York and London, 458 pages (19 chapters contributed by 39 authors).
- N. Simionescu and M. Simionescu. 1988. The cardiovascular system. In: *Cell and Tissue Biology. A Textbook of Histology* (L. Weiss, ed.) VI ed., Urban and Schwarzenberg, Baltimore, pp. 353-400.
- M. Simionescu. 1988. Receptor-mediated transcytosis of plasma molecules by vascular endothelium. In: *Endothelial Cell Biology in Health and Disease* (N. Simionescu, M. Simionescu, eds.), Plenum Press, New York, pp. 69-101
- N. Simionescu, M. Simionescu. 1989. Endothelial specific binding sites for permeant plasma macromolecules: albumin binding proteins. In: *Vascular Endothelium: Receptors and Transduction Mechanisms* (J. Catravas, C. Norman Gillis, U. Ryan, eds.) NATO ASI Series A: Life Sciences, Vol. 175, Plenum Press, New York, pp. 55-68.
- M. Simionescu and N. Ghinea. 1990. The use of tracers in transport studies. In: *Models of Lung Disease. Microscopy and Structural Methods* (J. Gill, ed.), *Lung Biology in Health and Disease* (C. Lenfant, exec. ed.) Marcel Dekker Inc., New York, Basel, pp. 359-408.
- M. Simionescu. 1991. Lung endothelium: structure-function correlates. In: *The Lung: Scientific Foundations* (R.G. Crystal, J.B. West, eds. in chief), Raven Press, New York, pp. 301-312.
- N. Simionescu and M. Simionescu. 1991. Cellular interactions of lipoproteins with vascular endothelium: endocytosis and transcytosis. In *Lipoproteins as Carriers of Pharmacological Agents* (M. Shaw, ed.), Marcel Dekker Inc., New York, pp. 45-95
- M. Simionescu. 1991. Cellular organization of the alveolar capillary unit: structural-functional correlations. In: *The Pulmonary Circulation and Acute Lung Injury* (S.I. Said, ed.), Second Edition, Futura Publishing Company, Inc. Mount Kisko, N.Y., pp. 13-42.

- M. Simionescu and N. Simionescu (eds.). 1991, with collaboration of F. Antohe, L. Dobrila, N. Ghinea, M. Hasu, C. Heltianu, V. Jinga, I. Manduteanu, V. Partenie, G. Popescu, D. Popov, E. Vasile. *Endothelial Transport of Macromolecules: Transcytosis and Endocytosis*. Cell Biology Reviews, Springer International, Berlin, vol. 25, nr.1, 78 pages.
- Simionescu M. 1992. Endothelial cell response to normal and abnormal stimuli: modulation, disfunction, injury: adaptation, repair, death. In: *Endothelial Cell Dysfunctions* (N. Simionescu, M. Simionescu, eds.), Plenum Press, NY, pp. 3-10.
- N. Simionescu and M. Simionescu (eds.). 1992. *Endothelial Cell Dysfunction*, Plenum Press, New York and London, 565 pages.
- N. Simionescu, A. Sima, A. Dobrian, D. Tîrziu, M. Simionescu. 1993. Pathobiochemical changes of the arterial wall at the inception of atherosclerosis. In: *Current Topics in Pathology*, Vol. 87, Vollmer/Roessner (eds), Springer-Verlag, Berlin Heidelberg, pp. 1-45.
- M. Simionescu, N. Simionescu. 1993. Modulations and dysfunctions in the artery intima at the inception of hypercholesterolemic atherogenesis. In: *New Horizons in Coronary Heart Disease*. C.J. Schwartz, G.V.R. Born (eds). Science Press, UK, pp. 11.1-11.14.
- N. Simionescu, M. Simionescu. 1994. Monocyte migration into athero-prone regions of the artery wall is preceded by characteristic pathobiochemical modifications of the local intima. In: *7th Munster International Arteriosclerosis Symposium. New Pathogenic Aspects of Arteriosclerosis Emphasizing Transplantation Atheroarteritis*. W.H. Hauss, R.W. Wissler, H-J. Bauch (eds). Westdeutscher Verlag, Germany, pp. 54-65.
- M. Simionescu. 1994. Biochemical and functional differentiation of endothelial cell plasma membrane: from microdomains to specific molecules. In: *Functionality of the endothelium in health and diseased states: a comprehensive review*. G. Pastelin, R. Rubio, G. Ceballos, J. Suarez (eds), Editora del Gobierno del Estado de Veracruz-Llave, Mexic, pp. 19-40.
- N.Simionescu, M.Simionescu. 1994. Alterations of the endothelium and subendothelium at the inception of hypercholesterolemic atherogenesis. In: *Functionality of Endothelium in Health and Diseased States: a Comprehensive Review*. G. Pastelin, R. Rubio, G. Ceballos, J. Suarez (eds), Editora del Gobierno del Estado de Veracruz-Llave, Mexic, pp. 269-284.
- M. Simionescu, D. Popov, A. Sima, H. Hasu, G. Costache, S. Faitar, A. Vulpanovici, C. Stancu, N. Simionescu. 1995. The hyperlipidemic and diabetic hamster, a novel animal model. *Atherosclerosis X*, F.P.Woodford, J. Davignon and A. Sniderman (eds.), Elsevier Science B. V. pp. 105-110.
- M. Simionescu. 1997. Lung endothelium: structure-function correlates. In: *"The Lung: Scientific Foundations, Second Edition*, (R.G. Crystal, J.B. West et al. ds.), The Lung, Lippincot-Raven Publishers, Philladelphia, pp. 615-628.
- M. Simionescu, A. Sima, D. Popov, M. Hasu, G. Costache. 1997. Pathobiology of the vessel wall in combined diabetes and atherosclerosis. In: *Recent Advances in Microscopy of Cells, Tissues and Organs*, Antonio Delfino Editore, pp. 309-313.
- M. Simionescu, A. Sima, D. Popov. 1997. The vascular endothelium in diabetes-induced accelerated atherosclerosis. In: *Vascular Endothelium, Physiology, Pathology, and Therapeutic Opportunities*. G. Born and C. J Schwartz, (eds) Schattauer, pp. 329-345.

- M. Simionescu. 2000. Structural, biochemical and functional differentiation of the vascular endothelium. In: "Morphogenesis of the endothelium", W.Risau (ed.), Harwood Academic Publishers, pp.1-23.
- M. Simionescu. 2001. Effect of hyperlipemia and hyperglycemia on the vascular endothelium, In: "Vascular endothelium - source and target for inflammatory mediators", NATO ASI Series, J.D. Catravas, A.D. Callow, U.S. Ryan, M. Simionescu (eds.) p. 87-99.
- D. Popov, M. Simionescu. 2001. Structural and transport property alterations of the lung capillary endothelium in diabetes. In: Advances in Microanatomy of Cells and Tissues, Biophysical and Biochemical Correlates, P.M.Motta (ed.), pp. 405-412.
- M. Simionescu, D. Popov, A. Sima. 2002. Cellular and molecular alterations in diabetes – induced cardiovascular complications studied in an original experimental model, in "Introducere in diabetologia experimentală", Ed: D.Cheta, Romanian Academy Publishing House, pp. 173-209.
- M. Simionescu. 2004. Endothelial cell – a key player in all stages of atherosclerosis. in "Cellular Dysfunction in Atherosclerosis and Diabetes - Reports from Bench to Bedside", eds. Simionescu M., Sima A., Popov D.
- Simionescu M., D. Popov, A. Sima. Endothelial dysfunction in diabetes. In: Vascular involvement in diabetes – clinical, experimental and beyond, ed. D. M. Cheta, Romanian Academy Publishing House si Karger, 15- 34, 2005
- Popov D., D.L. Radu, The role of hyperglycemia in the development of diabetic complications investigated in a transgenic mouse model. in monografia "Vascular involvement in diabetes", ed. D.M. Cheta, Karger si Romanian Academy Publishing House, 2005, p. 121-143
- Simionescu M., Antohe F. Functional ultrastructure of the vascular endothelium - changes in various pathologies. In: The Vascular Endothelium, Editors: Salvador Moncada and Annie Higgs, 2006
- Simionescu M, Sima AV. Morphology of atherosclerotic lesions. In: Inflammation and atherosclerosis. Eds: Wick G, Grundtman C, pp. 19-37, 2012.

ARTICLES

CELL BIOLOGY AND PATHOLOGY OF THE CARDIOVASCULAR SYSTEM

- N. Simionescu, M. Simionescu, G.E. Palade, 1972. Permeability of intestinal capillaries. Pathway followed by dextrans and glycogens. *J. Cell Biol.* 53: 365-392.
- N. Simionescu, M. Simionescu, G.E. Palade, 1973. Permeability of muscle capillaries to exogenous myoglobin. *J. Cell Biol.* 57: 424-452.
- M. Simionescu, N. Simionescu, G.E. Palade, 1974. Morphometric data on capillary endothelium. *J. Cell Biol.* 60: 128-152.
- N. Simionescu, M. Simionescu, G.E. Palade, 1975. Permeability of muscle capillaries to small heme-peptides. Evidence for the existence of patent transendothelial channels. *J. Cell Biol.* 64: 586-607.
- M. Simionescu, N. Simionescu, G.E. Palade, 1975. Segmental differentiations of cell junctions in the vascular endothelium. The microvasculature. *J. Cell Biol.* 67: 863-885.
- N. Simionescu, M. Simionescu, G.E. Palade, 1975. Structural- functional correlates in the transendothelial exchange of water- soluble macromolecules. Japan-United States Seminar on Hemorrhology and Thrombosis, Kobe, Japan. *Thrombosis Research, Suppl. II, Vol. 8*, pp. 257-269.
- M. Simionescu, 1975. The morphological basis for normal endothelial permeability. Intracellular pathways. International Workshop Conference on Atherosclerosis, London (Ont.), Canada. Proceedings.
- N. Simionescu, M. Simionescu, 1976. Galloylglucoses of low molecular weight as mordant in electron microscopy. I.Procedure and evidence for mordanting effect. *J. Cell Biol.* 70: 608-621.
- N. Simionescu, M. Simionescu, 1976. Galloylglucoses of low molecular weight as mordant in electron microscopy. II.The moiety and functional groups possibility involved in the mordant effect. *J. Cell Biol.* 70: 622-633.
- M. Simionescu, N. Simionescu, G.E. Palade, 1976. Segmental differentiations of cell junctions in the vascular endothelium. Arteries and Veins. *J. Cell Biol.* 68: 705-723.
- Simionescu M., N.Simionescu, G.E.Palade, 1976. Characteristic endothelial junctions in different segments of the vascular system. Japan - United States Seminar on Hemorrhology and Thrombosis, Kobe, Japan. *Thromb. Res.*, Vol.8: Suppl.II: 247 - 256
- N.Simionescu, M.Simionescu, G.E.Palade, 1976. Structural- functional correlates in the transendothelial exchange of water- soluble macromolecules. Japan - United States Seminar on Hemorrhology and Thrombosis, Kobe, Japan. *Thromb. Res.*, vol.8: Suppl.II: 257 - 269
- N.Simionescu, M.Simionescu, G.E.Palade, 1976. Recent studies on vascular endothelium. In: Proceedings of the International Symposium on Atherogenesis, Acapulco, Mexico. *Ann.N.Y.Acad.Sci.*, 275: 64 - 75
- M.Simionescu, N.Simionescu, 1977. The organization of mesothelial junctions in the peritoneal mesothelium. *J.Cell Biol.* 74: 98 - 110

- N. Simionescu, M. Simionescu, G.E. Palade, 1978. Structural basis of permeability in sequential segments of the microvasculature in the diaphragm. I. Bipolar microvascular fields. *Microvasc. Res.* 15: 1-16.
- N. Simionescu, M. Simionescu, G.E. Palade, 1978. Structural basis of permeability in sequential segments of the microvasculature in the diaphragm. II. Pathways followed by microperoxidase across the endothelium. *Microvasc. Res.* 15: 17-36.
- M. Simionescu, N. Simionescu, 1978. Isolation and characterization of endothelial cells from the heart microvasculature. Procedure and cell characterization. *Microvasc. Res.* 16: 426-452.
- N. Simionescu, M. Simionescu, G.E. Palade, 1978. Open junctions in the endothelium of the postcapillary venules of the diaphragm. *J. Cell Biol.* 79: 27-44.
- G.E. Palade, M. Simionescu, N. Simionescu, 1978. Transport of solutes across the vascular endothelium. In: *Transport of macromolecules in cellular systems* (S. Silverstein, ed.), Berlin, Dahlem Konferenzen, pp. 145-166.
- G.E. Palade, M. Simionescu, N. Simionescu, 1979. Structural aspects of the permeability of the microvascular endothelium. *Acta Physiol. Scand. Suppl.* 463: 14-32.
- G.E. Palade, M. Simionescu, N. Simionescu, 1981. Differentiated microdomains on the luminal surface of the capillary endothelium. *Biorheology* 17: 563-568.
- N. Simionescu, M. Simionescu, G.E. Palade, 1981. Differentiated microdomains on the luminal surface of capillary endothelium. I. Preferential distribution of anionic sites. *J. Cell Biol.* 90: 605-613.
- M. Simionescu, N. Simionescu, J. Silbert, G.E. Palade, 1981. Differentiated microdomains on the luminal surface of capillary endothelium. II. Partial biochemical characterization of the anionic sites. *J. Cell Biol.* 90: 614-621.
- N. Simionescu, C. Heltianu, F. Antohe, M. Simionescu, 1982. Endothelial cell receptors for histamine. *Ann. N.Y. Acad. Sci.* 401: 132 - 149.
- M. Simionescu, N. Simionescu, G.E. Palade, 1982. Biochemically differentiated micro-domains of the cell surface of capillary endothelium. *Ann. N.Y. Acad. Sci.* 401: 9 - 24.
- C. Heltianu, M. Simionescu, N. Simionescu, 1982. Histamine receptors of vascular endothelium revealed in situ with a histamine- ferritin conjugate. Characteristic high affinity binding sites in venules. *J. Cell Biol.* 93: 357-364.
- M. Simionescu, N. Simionescu, G.E. Palade, 1982. Differentiated microdomains on the luminal surface of capillary endothelium: distribution of lectin receptors. *J. Cell Biol.* 94, 406-413.
- M. Simionescu, N. Simionescu, G.E. Palade, 1982. Preferential distribution of anionic sites on the basement membrane and the abluminal aspect of the endothelium in fenestrated capillaries. *J. Cell Biol.* 95: 425-434.
- N. Simionescu, F. Lupu, M. Simionescu, 1983. Rings of membrane sterols surround the openings of vesicles and fenestrae in capillary endothelium. *J. Cell Biol.* 97: 1592-1600.

- D. Simionescu, M. Simionescu, 1983. Differentiated distribution of the cell surface charge on the alveolar-capillary unit. Characteristic paucity of anionic sites on the air-blood barrier. *Microvasc. Res.* 25: 85-101.
- E. Vasile, M. Simionescu, N. Simionescu, 1983. Visualization of the binding endocytosis and transcytosis of low density lipoproteins in the arterial endothelium, in situ. *J. Cell Biol.* 96: 1677-1689.
- M. Simionescu, N. Simionescu, G.E. Palade, 1984. Partial chemical characterization of the anionic sites in the basal lamina of fenestrated capillaries. *Microvasc. Res.* 28: 352-367.
- C. Heltianu, M. Simionescu, N. Simionescu. 1984. Detection of histamine receptors at cellular level. *Biochem. Pharmacol.* 33: 343- 346.
- M. Simionescu, N. Simionescu, 1985. Function of the endothelial cell surface. *Ann. Rev. Physiol.* 48: 279-293.
- N. Simionescu, M. Simionescu. 1985. Interaction of endogenous lipoproteins with capillary endothelium in spontaneously hyperlipoproteinemic rats. *Microvasc. Res.* 30: 314-332.
- M. Simionescu, N. Simionescu, F. Santoro, G.E. Palade, 1985. Differentiated microdomains on the luminal plasmalemma of murine muscle capillaries. Segmental variations in young and old animals. *J. Cell Biol.* 100: 1396-1407.
- F. Lupu, M. Simionescu, 1985. Organization of the intercellular junctions in the endothelium of the cardiac valves. *J. Submicrosc. Cytol.* 17: 119-132.
- C. Heltianu, E. Constantinescu, M. Simionescu. 1986. Blood platelets express proteins immunologically related to red cell spectrin and band 4.1, *Rev. Roum. Biochim.* 23: 189-194.
- M. Simionescu, N. Simionescu. 1986. Functions of the endothelial cell surface. *Ann. Rev. Physiol.* 48: 279-293.
- A. Nistor, M. Simionescu, 1986. Uptake of low density lipoproteins by the hamster lung. Interaction with capillary endothelium. *Am. Rev. Resp. Dis.*, 134: 1266-1272.
- E. Constantinescu, C. Heltianu, M. Simionescu, 1986. Immunological detection of an analogue of the erythroid protein 4.1 in endothelial cells. *Cell Biol Int. Rep.* 10: 861-868.
- N.Simionescu, E.Vasile, F.Lupu, G.Popescu, M.Simionescu, 1986. Prelesional events in atherogenesis: accumulation of extracellular cholesterol rich liposomes in the arterial intima and cardiac valves of hyperlipidemic rabbits, *Am.J.Pathol.* 123: 85-101.
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Manea A., Simionescu M. Nox enzymes and oxidative stress in atherosclerosis. *Encyclopedia of Bioscience*, Special issue: "Cellular and Molecular Mechanisms of Cardiovascular Diseases: Role of Oxidative Stress", Editor Ana Fortuno, PhD, University of Navarra, Pamplona, Spain. Publisher: Frontiers in Bioscience; New York, USA, 651-670, 2012.

Manduteanu I, Simionescu M. Inflammation in atherosclerosis: a cause or a result of vascular disorders? *J Cell Mol Med. Review's Serie "Cellular Dysfunction in Inflammatory – Related Vascular Disorders"*, 2012. doi: 10.1111/j.1582-4934.2012.01552.x.

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Titorencu I., Pruna V, Jinga V.V., Simionescu M. Osteoblast ontogeny and implications for bone pathology: an overview, *Cell Tissue Res.*, 355(1):23-33, 2014.

INVITED SPEAKER

- 3rd International Conference on Molecular Basis of Metabolic Regulation “Adipose Tissue Function and Dysfunction: Organ Cross-Talk and Metabolic Risk”, COST Action BM0602, November 14-15, Bari, Italy (2008)
- 2nd Annual Symposium of the Finnish Atherosclerosis Society, March (2008)
- Anniversary Congress of the Romanian Medical Association at 150 Years of Activity, Bucharest, 23-24 November (2007)
- Conference on the Endothelial Cell and Tumor Angiogenesis, Timisoara, 19-21 April (2007)
- Symposium on Renal and Endothelial Pathology in honor of Prof. Dr. Donscho Kerjaschki. Vienna, 8-11 February (2007)
- West University, Timisoara, 27 March (2006)
- 6th National Conference on Atherothrombosis, Bucharest, 31 March (2006)
- Inaugural Workshop of the Cardio-Diabetology Research Reports and Training Unit “Combating Cardiovascular Diseases and Diabetes”, Bucharest, 27 – 29 April (2006)
- Balkan Medicine Symposium. SERA Progress. May (2006)
- 2nd International Congress of the Romanian Society for Cell Biology, Iassy, 7 – 10 June (2006)
- XIVth International Symposium on Atherosclerosis 18 - 22 June, Rome, Italy, (2006)
- 45th National Congress of Cardiology. Poiana Brasov, 23 - 26 September (2006)
- 8th International Conference “Vascular Endothelium: Translating Discoveries into Public Health Practice”, Knossos Royal Village, Greece (2005)
- 5th National Conference on Atherothrombosis. April 2005, Bucharest, Romania
- International Symposium: "Combating Cardiovascular Diseases and Diabetes", Bucharest, Romania (2005)
- Advanced Technology Practical Training Course “From Cellular and Molecular Biology to the Medicine of the XXIst Century” (2005)
- Advanced Study School „From cell and Molecular Biology to the XXI Century Medicine”, IBPC, Bucharest, October (2005)
- International Symposium “Cell and Molecular Biology – a key to defeat global risk diseases: atherosclerosis, diabetes, and immune disorders”, Bucharest, Romania (2004)
- Metabolic syndrome, type II diabetes, and atherosclerosis congress, Marrakesh, Maroc (2004)
- International Workshop on “Cardiovascular Dysfunction in Hyperlipidemia and Diabetes”, Bucharest, Romania (2002)
- Cell Biology Meeting, Hannover, Germany (2002)
- Symposium ELSO Nice, France (2002)
- Symposium Exocytosis- Membrane Structure and Dynamics, Tomar, Portugal (2002)
- EuroConference on Membrane Microdomains and Caveolae, Barcelona, Spain (2001)
- XIIth Balkan Biochemical Biophysical Days "Molecular Biosciences in the Post-Genomic Era", Bucharest, Romania (2001)
- Co-director NATO Advanced Study Institute Vascular Endothelium: Source and Target of Inflammatory Mediators. Crete, Greece (2000)
- Leopold Koss Special Annual Lecture, Faculty of Medicine, Univ. Bern, Switzerland (1999)
- XV Congress of the International Federation of Associations of Anatomists and 4th International Malpighi Symposium, Rome, Italy (1999)
- Meeting of the Electron Microscopical Society of Austria, Germany and Switzerland, Regensburg, Germany (1997)
- European Congress for Molecular Cell Biology, Brighton, England (1997)
- 3rd Harveian-Texan Conference “New Horizons in Vascular Endothelium”, Germany, (1996)
- Boehringer Ingelheim Fonds International Titisee Conference, Germany (1996)
- 2nd International Malpighi Symposium, Rome, Italy, (1995)
- Symposium "Functionality of the endothelium in the health and diseased states", Veracruz, Mexico, (1993).

- XXXII International Congress of International Union of Physiological Sciences, Glasgow, England, (1993)
- Inaugural William Harvey Research Institute - The University of Texas Health Science Center at San Antonio Biomedical Conference, Buckinghamshire, England, (1992)
- Ludwig Schaefer Visiting Professor, College of Physicians and Surgeons of Columbia University, Dept. Physiology and Cellular Biophysics, New York, USA, (1990 and 1991)
- Borun Visiting Professor of Cardiology, University of California, Department of Internal Medicine, Division of Cardiology, Los Angeles, CA, USA, (1990)
- Columbia University, Dept. of Physiology and Cellular Biophysics, New York, USA, (1990)
- 13th Annual Meeting of the German Society for Cell Biology - Special Lecture at the City Hall of Bielefeld, Germany, (1989)
- NATO Advanced Study Institute, Symposium on Vascular Endothelium - Receptors and Transduction Mechanisms, Porto Carras, Greece, (1988)
- IVth World Congress on Microcirculation, Tokyo, Japan, (1987)
- 2nd European Congress on Cell Biology, Budapest, Hungary, (1986)
- 4th International Symposium "Biology of the Vascular Endothelium Cell", Noordwijkerhout, The Netherlands, (1986)
- Kurashiki Symposium on Biopathology of the Vascular Wall, Kurashiki, Japan, (1984)
- IIIrd International Congress on Cell Biology, Tokyo, Japan, (1984).
- Medical Research Institute for Kidney Diseases, Shigei, Kurashiki, Okayama, Japan, (1984).
- INSERM Course on "New Methods for the Study of Microcirculation", Paris, France, (1983).
- Institute Gulbenkian Science, Deiras, Portugal, (1983).
- University of Lisbon, Faculty of Medicine, Dept. of Histology, Lisbon, Portugal, (1983).
- The New York Academy of Sciences Symposium on Endothelium, USA, (1982)
- First International Symposium on the Pathogenic Role of Cationic Proteins Interaction with Biological Membranes, Brussels, Belgium, (1982).
- Symposium: The Cells of the Alveolar Unit, Lausanne, Switzerland, (1982).
- FEBS Advanced Course: Membrane Traffic in the Animal Cell, Heidelberg, Germany, (1982).
- Faculty of Medicine Xavier Bichat, Paris, France, (1982).
- Ciba Foundation Symposium no. 78: Metabolic Activities of the Lung, London, (1980).
- 30th Annual Fall Meeting of the American Physiological Society, Symposium on Capillary Permeability and Mechanisms of Transport, New Orleans, LO, USA, (1979).
- Ciba Foundation Symposium no. 71: Blood Cells and Vessel Walls: Functional Interactions, London, England, (1979).
- Xth World Conference European Society for Microcirculation, Cagliari, Italy, (1978).
- Symposium: Microvascular Transport: Structure-Function Relationship, Newark, USA, (1978).
- 62nd Annual Meeting American Physiological Society Meeting Symposium on Pulmonary Edema, Atlantic City, New Jersey, USA, (1978).
- 2nd Gordon Conference on Physicochemical Aspects of Water and Solute Exchanges in the Microvasculature, Tilton, NH, USA, (1978).
- McGill University, Department of Anatomy and Biology, Montreal, QU, Canada, (1978).
- 90th Session of the American Association of Anatomists, Detroit, Michigan, USA, (1977).
- Rockefeller University, Department of Cellular Immunology and Department of Cell Biology, New York, NY, USA, (1977).
- IXth World Conference European Society for Microcirculation, Antwerp, Belgium, (1976).
- Gordon Research Conference on Physicochemical Aspects of Water and Solute Exchanges in the Microvasculature, Plymouth, USA, (1976).
- The New York Academy of Sciences Symposium on Atherogenesis, Acapulco, Mexico, (1976)
- Japan-United States Seminar on Hemorheology and Thrombosis, Kobe, Japan, (1975).
- International Workshop on Atherosclerosis, London-Ontario, Canada, (1975).
- New York Heart Association Symposium on "The Intima", New York, USA, (1975).
- Tokyo University, Faculty of Medicine, Department of Anatomy, Tokyo Japan, (1975).

- Medical Science Institute, Meguro, Tokyo, Japan, (1975).
- Kyoto University, Faculty of Medicine, Department of Anatomy and Histology, Department of Pathology, Kyoto, Japan, (1975 and 1984).
- Dept. of Experimental Medicine, Pharmacia Fine Chemicals, Uppsala, Sweden, (1974)