

**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel in the order listed for Form Page 2.

Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME		POSITION TITLE	
Richard A. Lockshin		Professor; P.I	
EDUCATION/TRAINING ( <i>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.</i> )			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Harvard College, Cambridge, MA	A.B.	1959	Biochem.Sci.
Harvard University, Cambridge, MA	M.A.	1961	Biology
Harvard University, Cambridge, MA	Ph.D.	1963	Biology
U Edinburgh, Inst. Animal Genetics, Scotland	Postdoc	1963-1965	Devel. Biol.

**NOTE: The Biographical Sketch may not exceed four pages. Items A and B (together) may not exceed two of the four-page limit. Follow the formats and instructions on the attached sample.**

**A. Positions and Honors.** List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

1965•1975 U. Rochester School of Medicine and Dentistry Rochester, N. Y. Asst. Prof Physiology

1975-1979 St. John's University Jamaica, NY Assoc. Prof. Biological Sciences

1983•1992 St. John's U Jamaica, NY Chairman Biological Sciences

1979-2010 St. John's U. Jamaica, NY Professor Biological Sciences

2012- St. John's U., Jamaica NY, Professor Emeritus, Biological Sciences

**ACADEMIC HONORS AND AWARDS:**

**2004-2008** [Asterisk = high visibility presentation]:

- "Festschrift in tribute to Professor Richard A. Lockshin on his 70th birthday" (2008). J. Cell. Mol. Med. 11 (6): 1210-419.
- Samali, Afshin (2008). "A tribute to professor Richard A. Lockshin on his 70th birthday". J. Cell. Mol. Med. 11 (6): 1210-1.
- Z Zakeri et al Honoring contributions of Richard A Lockshin to the field of cell death. Cell Death and Differentiation 15, 1087 - 1088 (16 Jun 2008),
- Individual listing in Wikipedia (unknown contributor)
- \*Keynote speaker: Keystone conference on Autophagic Cell Death, Monterey, CA, April 2007.
- \*Elected fellow, New York Academy of Sciences, January 2007
- \*History and future of apoptosis and autophagy. Keynote speech, International Cell Death Society, Angra dos Reis, Brazil, June 2006.
- \*Lifetime achievement award, International Cell Death Society, June 2006
- \*Introductory (keynote) speaker, La Journée Claude Bernard, Société de Biologie, Paris, France, La mort cellulaire programmée : histoire et avenir d'un concept. La Journée Claude Bernard, Société de Biologie, Paris, France, November 2004 (published in a special edition of Journal de Biologie)
- Organizer and introducer, Mechanisms of Cell death 2004, Maynooth, Ireland June 25-July 1 2004
- \*Introductory (keynote) speaker, ECDO conference on Apoptosis, Chania, Crete, Greece, October 2004
- \*Member, Editorial Board, Cell Death and Differentiation 2000-2009
- Member, Editorial Board, Apoptosis 2004-
- \*Associate Editor, Journal of Biological Chemistry. 2003-2009
- Ad-Hoc Reviewer, several journals (Journal of Cell Biology, Journal of Morphology, others)
- Ad-Hoc Reviewer, NSF, AIRC (Italy)
- Ad-Hoc Reviewer, Ireland NSF
- Reviewer, Promotion and Tenure Committee, Institut Pasteur, Paris, France, Jan 2007
- Ad-Hoc Reviewer, Israel Science Foundation, January 2007
- NIH Panel, General Medicine, February 2007; November 2007

- Panel member, NSERC (National Science and Engineering Council of Canada) Cell and Molecular Biology, Grant Evaluation Panel

- NIH panel, NIGMS, Feb 2004 (telephone reviewer)

- NIH panel, NIGMS, Feb 2005; Feb 2006; Feb 2007; 2008, 2009-2011

#### **Previous to 2004 (Synopsis)**

- NIH Panelist, 2004 (telephone reviews)

- President, International Cell Death Society, 1998-2000

- **Invited Chair, symposium session of ceremonies in honor of 100th Anniversary of the Nobel Prizes, Stockholm, October 2001**

- Founding Chair, Gordon Conferences on Cell Death, 1996

- Editorial Boards, Cell Death and Differentiation, 1994-; Apoptosis, 2000-; Board of Directors, American Aging Association, 1993-1998; J. Biol. Chem. 2004-2009.

- Outstanding Achievement Award, St. John's University, 1987

- IMSD award.2002

- Presidential Award, Long Island University, 1987;

- Outstanding Achievement Award (for work with high school science students), New York City, 1982

- Gerontological Society of America, numerous offices including Chairman, Biological Sciences Section, 1987; Nominated for editorship, Journal of Gerontology, 1986, 1992; Publications Committee, 1988•1992; Editorial Board, Journals of Gerontology, 1989-1993

- Sigma Xi Regional Lecturer, 1982•1984

- Television Series, Health, WNYC, 1981;

- Television Series, Biology Today, ABC, 1979

- Television Series, The Biology of Aging, CBS, 1977;

- A.B. Cum Laude, Sigma Xi.

#### **PRESENTATIONS AT PROFESSIONAL MEETINGS** Numerous, including recently:

[Asterisk = high visibility presentation]

- Invited Chair: 17th ECDO Euroconference on Apoptosis entitled "Destruction, Degradation and Death". Institut Pasteur (September 22 to September 27, 2009):

- Invited to attend the celebration of the Two Hundred Year Anniversary of Karolinska. Institutet in 2010, the Nobel Assembly at Karolinska Institutet and the Nobel Foundation have decided to support the organization of three Nobel Symposia, one of which is entitled "The Cell Cycle and Apoptosis in Disease".

- Co-Organizer of meeting By International Cell Death Society "Multidisciplinary Approaches in Cell Death Research From Yeast to Man " May 28-31, 2010; Antalya Turkey.

- Co-Organizer of meeting By International Cell Death Society "Signaling in cell death survival, proliferation and degeneration" São Paulo Brazil;June-10-13, 2011

- Co-Organizer of meeting By International Cell Death Society "Metabolism of Cell Death: Its Ramifications for Therapeutics and Drug Development" June 29-July 1, 2012 PLACE: Singapore

- Invited Chair: "Death, Danger, Inflammation and Immunity Institute Pasteur Paris France; May 31th to June 1st, 2012.

- Invited Chair: 20th EUROCONFERENCE ON APOPTOSIS: "From Death to Eternity" September 14 -17, 2012 Roma Italy.

- Richard Lockshin, Cell death basic principles: Past and present (Introductory talk, Cell cycle and cell death: cellular and molecular perspectives, basic and clinical aspects, The Second International Symposium of Molecular Technology, (Biotechnology in Progress) Tehran, Iran, June 2007)

- Richard Lockshin, Modes of cell death: real and imagined questions (Research talk, The Second International Symposium of Molecular Technology, (Biotechnology in Progress) Tehran, Iran, June 2007)

- Also an organizer for Korsmeyer Symposium Boston, Jan 25-26, 2007 (in memoriam for a highly respected researcher in the field)

- Also an organizer for Satellite Meeting of the International Cell Death Society, Nice, France June 8-11, 2007, Cell Death and Cancer

- \*Keynote speaker: Keystone conference on Autophagic Cell Death, Monterey, CA, April 2007.

- \*Elected fellow, New York Academy of Sciences, January 2007

- \*History and future of apoptosis and autophagy. Keynote speech, International Cell Death Society, Angra dos Reis, Brazil, June 2006.

- \*Lifetime achievement award, International Cell Death Society, June 2006
- Cell death, apoptosis, and medical implications, meeting on sex and gender, New York, May 2006.
- History and future of apoptosis and autophagy, University of Chile, Santiago, Chile, January 2007
- Autophagic and apoptotic cell death, Invited seminar, the Buck Institute, Sausalito, California, April 2005
- From the ridiculous to the sublime: How crazy ideas in science led to major advances, After Dinner Speaker, Inauguration of Molecular Biology Institute, University of Colorado, Colorado Springs CO, November 2004.
- \*Introductory (keynote) speaker, La Journée Claude Bernard, Société de Biologie, Paris, France, La mort cellulaire programmée : histoire et avenir d'un concept. La Journée Claude Bernard, Société de Biologie, Paris, France, November 2004 (published in a special edition of Journal de Biologie)
- Keynote speaker, International Seminar on Programmed Cell Death in Plants, Havana, Cuba March 2004 (plus 5 other talks in Cuba)
- Introductory speaker, 7<sup>th</sup> International Congress SLE and Related Conditions, May 2004.
- Organizer and introducer, Mechanisms of Cell death 2004, Maynooth, Ireland June 25-July 1 2004
- \*Introductory (keynote) speaker, ECDO conference on Apoptosis, Chania, Crete, Greece, October 2004
- **Invited Chair, symposium session of ceremonies in honor of 100th Anniversary of the Nobel Prizes, Stockholm, October 2001**
- Co-organizer and introductory speaker, Mechanisms of Cell Death 2000, Third Biannual Symposium of the International Cell Death Society, El Escorial, Spain, May, 2000;
- Invited presentations in Spain (2—University of Santander, and Institute for Biotechnology, Madrid), Italy (2—University of Roma 'Tor Vergata' Department of Biology and Department of Medicine), May, 1999;
- Invited presentations in Belgium (2—Institute of Cell Pathology, Louvain and European Society of Cell Biology, Gent), November, 1999; Early events in apoptosis, 14th Congress of Electron Microscopists, CanCun, Mexico, September, 1998; Introduction and overview, 2nd International Meeting of the Cell Death Society, New York, New York July, 1998;
- "Free radicals in apoptosis," Third Annual Biomedical Workshop, "Free Radicals in Disease Process," Ponce, Puerto Rico, February, 1999;
- Programmed cell death and apoptosis in developmental biology, R.A. Lockshin, Keynote Speaker, International Symposium on Cell Death, Gent, Netherlands, March, 1999

### **Grant panels and editorial boards**

- Panel member, NIH NIGMS Study Section, 2009-2014
- Panel member, NSERC (National Science and Engineering Council of Canada) Cell and Molecular Biology, Grant Evaluation Panel
- Panelist, NIH Study Section, Molecular Genetics, March 2002
- Invited to participate in NIH panel Feb 2003 (declined because of scheduling conflict)
- NIH panel, NIGMS, Feb 2004 (telephone reviewer)
- NIH panel, NIGMS, Feb 2005, 2006-2012
- Member, Editorial Board, Cell Death and Differentiation 2000-2009
- Member, Editorial Board, Apoptosis 2004-
- Associate Editor, Journal of Biological Chemistry 2004-2009; 2009-2014.
- Ad-Hoc Reviewer, several journals (Journal of Cell Biology, Journal of Morphology, others)

### **B. Selected peer-reviewed publications (in reverse chronological order). (since 2004, approximately 170 total).**

#### **Books:**

2004-:

Lockshin RA, 2014, Born This Way: The Practice of Science and the Rise of Molecular Biology, Amazon Kindle

Lockshin RA 2013, Born This Way: Becoming, Being, and Understanding Scientists, Amazon Kindle

Khosravi-Far R, Zakeri Z, Lockshin RA, Piacentini M. eds Methods in Enzymology. Programmed cell death. Methods Enzymol. 2008;446a.

Khosravi-Far R, Zakeri Z, Lockshin RA, Piacentini M. eds Methods in Enzymology. Programmed cell death. Methods Enzymol. 2008;446b.

Lockshin RA 2007 The Joy of Science. An Examination of How Scientists Ask and Answer Questions Using the Story of Evolution as a Paradigm, Springer-Verlag, Amsterdam Dec. 2007.

Editor: When Cells Die II (Wiley Press, 2004), Co-author, 2 chapters.

*Prior to 2004:*

Cell Death in Biology and Pathology, ed. by Ivor D. Bowen and Richard A. Lockshin, Chapman and Hall, London, 1981.

Holbrook, N., Martin, G.R., and Lockshin, R. A., Cellular Aging and Cell Death, Wiley-Liss, New York, 1996

Lockshin RA, Zakeri Z, and Tilly JL, Why Cells Die A Comprehensive Evaluation of Apoptosis and Programmed Cell Death, Wiley-Liss, New York, 1998, 680 pp

Mechanisms of Cell Death, Ann. N.Y. Acad. Sci., ed. by Zahra Zakeri, Richard A. Lockshin, and Luis Benitez- Bribiesca, 1999 213 pp. Preface by R A Lockshin, pp ix-x.

Mechanisms of Cell Death II. Ann. N.Y. Acad. Sci., ed. by Zahra Zakeri, Richard A. Lockshin, and Carlos Martinez-A., Preface by R. A. Lockshin, December 2000.

### **Contributed Chapters and Reviews**

Lockshin, RA 2015. Programmed Cell Death 50 (and beyond). Cell Death Differ. *In press*

Zakeri Z, Penalzoza CG, Smith K, Ye Y, Lockshin RA, 2015 What cell death does in development. Int J Dev Biol. 2015;59(1-3):11-22

Galluzzi L et al. 2015 Essential versus accessory aspects of cell death: recommendations of the NCCD 2015 . Cell Death Differ. Cell Death Differ. 2015 Jan;22(1):58-73..

Maghsoudi N, Zakeri Z, Lockshin RA. 2012 Programmed cell death and apoptosis--where it came from and where it is going: from Elie Metchnikoff to the control of caspases. Exp Oncol. Oct;34(3):146-52. Review.

Klionsky DJ et al, 2012, Guidelines for the use and interpretation of assays for monitoring autophagy, Autophagy. 2012 Apr;8(4):445-544.

Lockshin RA, Smaili SS, Lavandero S, Zakeri Z. 2012, ICDS 2011 meeting 'Signaling in cell death survival, proliferation and degeneration'. Cell Death Differ. 2012 Jan;19(1):184.

Birge RB, Cronje MJ, Lockshin RA, Zakeri Z. International Cell Death Society annual meeting 2009. Cell Death Differ. 2010 Jan;17(1):187.

Khosravi-Far R, Zakeri Z, Lockshin RA, Piacentini M. Methods in Enzymology book on cell death. Methods Enzymol. 2008;446:xxi-xxii. (Introduction)

Zakeri Z and Lockshin RA, Chapter 1 Cell Death: History and Future, in Khosravi-Far, R., ed., Methods in Enzymology, 2008: 442: 1-10

Zakeri Z, Melendez A, Lockshin RA. Detection of autophagy in cell death. Methods Enzymol. 2008;442:289-306.

Historical Studies of Various Forms of Cell Death, Richard A Lockshin and Zahra Zakeri, In Roninson, Brown, and Bredesen: Beyond Apoptosis: Cellular Outcomes of Cancer Therapy, Submitted May 25, 2007 *Published:*

Lockshin RA, ICDS Meeting in Shanghai, Cell Death Differ 2008

Lockshin RA. Early work on apoptosis, an interview with Richard Lockshin. Cell Death Differ. 2008 Jul;15(7):1091-5.

Zakeri Z, Lockshin RA. Cell death: history and future. Adv Exp Med Biol. 2008;615:1-11. Review.

Lockshin RA, Zakeri Z. Cell death in health and disease. J Cell Mol Med. 2007 Nov-Dec;11(6):1214-24. Epub 2007 Nov 20. Review.

Lockshin, R.A., 2005, La mort programée: histoire et avenir d'un concept. J Soc Biol. 2005; 199(3):169-73.

Zakeri Z and Lockshin R.A. 2005, Cell death and apoptosis: an historical overview, in *Apoptosis*, edited by I. Scovazzi.

Lockshin RA and Zakeri Z, 2004, Caspase-independent cell death? Oncogene 23: 2766-2773

Lockshin RA and Zakeri Z, 2004, Apoptosis, autophagy, and more. Int J Biochem Cell Biol. 2004 Dec;36(12):2405-19

Editor: When Cells Die II (2004).

Introduction: When Cells Die II (2004)

Zakeri Z and Lockshin RA, Cell Death in Development, in When Cells Die II. (2004)

(Other requests for reviews refused)

### **Original papers**

Datan E, Shirazian A, Benjamin S, Matassov D, Tinari A, Malorni W, Lockshin RA, Garcia-Sastre A, Zakeri Z. 2014 mTOR/p70S6K signaling distinguishes routine, maintenance-level autophagy from autophagic cell death during influenza A infection. Virology. Mar;452-453:175-90. doi: 10.1016/j.virol.2014.01.008. Epub 2014 Feb 5.

- Penaloza CG, Estevez B, Han DM, Noroouzi M, Lockshin RA, and Zakeri Z, 2013. Sex dependent regulation of Cytochrome p450 family members Cyp1a1, Cyp2e1 and Cyp7b1 by methylation of DNA, FASEB J, In press.
- Loos B, Engelbrecht AM, Lockshin RA, Klionsky DJ, Zakeri Z., 2013, The variability of autophagy and cell death susceptibility: Unanswered questions. *Autophagy*. 2013 Jul 10;9(9). [Epub ahead of print]
- N. Maghsoudi<sup>1,2</sup>, Z. Zakeri, R.A. Lockshin, 2012, Programmed cell death and apoptosis: where it came from and where it is going: from Elie Metchnikoff to the control of caspases. *Exp Oncol* : 34, 3, 146–152
- Lockshin RA, Smaili SS, Lavandero S, Zakeri Z. 2012, ICDS 2011 meeting 'Signaling in cell death survival, proliferation and degeneration'. *Cell Death Differ*. 19:184.
- Phan BD, Entezari M, Lockshin RA, Bartelt DC, Mantell LL., 2011, Hydrogen peroxide enhances phagocytosis of *Pseudomonas aeruginosa* in hyperoxia. *J Immunotoxicol*. 2011 8:3-9
- Facey CO, Lockshin RA. 2010, The execution phase of autophagy associated PCD during insect metamorphosis. *Apoptosis*. 15; 639-52.
- Birge RB, Cronje MJ, Lockshin RA, Zakeri Z. 2010 International Cell Death Society annual meeting 2009. *Cell Death Differ*. 17:187.
- Ye Y, Tinari A, Malorni W, Lockshin RA, Zakeri Z. Activation of cyclin-dependent kinase 5 is a consequence of cell death. *J Biomed Biotechnol*. 2009;2009:805709.
- Lin L, Penaloza C, Ye Y, Lockshin RA, Zakeri Z. Detection of apoptosis in mammalian development. *Methods Mol Biol*. 2009;559:259-72..
- Penaloza C, Estevez B, Orlanski S, Sikorska M, Walker R, Smith C, Smith B, Lockshin RA, Zakeri Z. Sex of the cell dictates its response: differential gene expression and sensitivity to cell death inducing stress in male and female cells. *FASEB J*. 2009 Jun;23(6):1869-79.
- Lockshin RA. An attempt to understand the multiparametric control of the initiation of apoptosis. *Apoptosis*. 2008 Oct;13(10):1195-7..
- Penaloza C, Lin L, Lockshin RA, Zakeri Z. 2006 Cell death in development: shaping the embryo. *Histochem Cell Biol*. Aug;126(2):149-58. Epub 2006 Jul 1
- Zahra Zakeri, Richard A. Lockshin, Luis Miguel Criado Rodríguez, And Carlos Martínez-A, 2005, A generalized caspase inhibitor disrupts early mammalian development, *Int J Dev Biol*. 2005;49(1):43-7.
- Negrón J.F.\* † and Lockshin, R.A. 2004, Activation of apoptosis and caspase 3 in zebrafish early gastrulae, *Devel. Dynamics* 231: 161-170.