

EDUCATION AND EMPLOYMENT

2015 - Founder, Lerna Consulting, LLC
2018 - 2020 Co-founder and CSO, Scite, Inc.
2017 - 2018 Co-founder and CEO, Verum Analytics, LLC (reincorporated as Scite, Inc in 2018)
2013 - 2014 Associate Research Scientist, Yale University
2003- 2012 Professor, Cold Spring Harbor Laboratory
1998-03 Associate Professor, Cold Spring Harbor Laboratory
1994-98 Assistant Professor, Cold Spring Harbor Laboratory
1991-94 Postdoctoral Fellow, Johns Hopkins University
1991 UNESCO Human Genome Program Fellow, Centre d'Etudes Nucleaire, France
1986-91 Research Associate, Institute of Cytology, the Russian Academy of Sciences, St. Petersburg, Russia
1986 Ph.D. in Biochemistry, St. Petersburg State University, Russia
1981 M.S. in Biology and Education, St. Petersburg State University, Russia

PUBLICATIONS

Lazebnik, Y. On the Consequences of Cell Fusion in COVID-19 Patients. *Preprints* 2021060125. (2021) <https://www.doi.org/10.20944/preprints202106.0125.v1>

Patkar, S., K. Heselmeyer-Haddad, N. Auslander, D. Hirsch, J. Camps, D. Bronder, M. Brown, W.-D. Chen, R. Lokanga, D. Wangsa, D. Wangsa, Y. Hu, A. Lischka, R. Braun, G. Emons, B.M. Ghadimi, J. Gaedcke, M. Grade, C. Montagna, Y. Lazebnik, M.J. Difilippantonio, J.K. Habermann, G. Auer, E. Ruppig, and T. Ried. 2021. Hard wiring of normal tissue-specific chromosome-wide gene expression levels is an additional factor driving cancer type-specific aneuploidies. *Genome Med.* 13:93. (2021)
<https://genomemedicine.biomedcentral.com/track/pdf/10.1186/s13073-021-00905-y.pdf>

Benveniste, H., P. Vaska, D. Franceschi, M. Salerno, S. Rizwan, H. Lee, J. Logan, D. Rothman, Y. Lazebnik, N.D. Volkow, and T.V. Bilfinger. Peculiar cases of a “sleeping” brain in alert cancer patients. *bioRxiv.* 732230. (2019) <https://www.biorxiv.org/content/10.1101/732230v1>

Auslander, N., K. Heselmeyer-Haddad, S. Patkar, D. Hirsch, J. Camps, M. Brown, D. Bronder, W.-D. Chen, R. Lokanga, D. Wangsa, D. Wangsa, Y. Hu, A. Lischka, R. Braun, G. Emons, B.M. Ghadimi, J. Gaedcke, M. Grade, C. Montagna, Y. Lazebnik, M.J. Difilippantonio, J.K. Habermann, G. Auer, E. Ruppig, and Thomas Ried. Cancer-type specific aneuploidies hard-wire chromosome-wide gene expression patterns of their tissue of origin. *bioRxiv.* 563858. (2019)
<https://www.biorxiv.org/content/10.1101/563858v2>

Lazebnik, Y.. Gestational tumors as a model to probe reticulate evolution in human neoplasia. *Oncotarget* 10, 259–262. (2018) <https://doi.org/10.18632/oncotarget.26510>

Lazebnik, Y. Who is Dr. Frankenstein? Or, what Professor Hayek and his friends have done to science. *Organisms.* 2, 9–42. (2018) https://doi.org/10.13133/2532-5876_4_ahead1

Grabitz, P., Y. Lazebnik, J. Nicholson and S. Rife (2017). "Science with no fiction: measuring the veracity of scientific reports by citation analysis." *bioRxiv* 172940. <https://doi.org/10.1101/172940>

Benveniste, H., Lazebnik, Y., Volkow, N. Seeing how we smell. *J Clin Invest.* <http://www.jci.org/articles/view/91305/pdf> (2017).

Lazebnik, Y. Are scientists a workforce? – Or, how Dr. Frankenstein made biomedical research sick. *EMBO Reports* 16: 1592-1600 (2015).
<http://onlinelibrary.wiley.com/doi/10.15252/embr.201541266/abstract>

Lazebnik, Y and Parris, G. Human-to-human cancer transmission as a laboratory safety concern. *British Journal of Cancer* 112: 1976-7 (2015).
<http://www.nature.com/bjc/journal/v112/n12/full/bjc2014656a.html>

Lazebnik, Y. The shock of being united and syphiliosis: Another lesson from plants? *Cell Cycle* 13, 2323–2329 (2014). <https://doi.org/10.4161/cc.29704>

Nicholson, J. & Lazebnik, Y. The R-Factor: A Measure of Scientific Veracity. *The Winnower*.
<https://thewinnower.com/papers/the-r-factor-a-measure-of-scientific-veracity> (2014)

Koulakov, A., Lazebnik, Y. The problem of colliding networks and its relation to cell fusion and cancer. *Biophysical J.* 103(9) 2011–2020 (2012). <https://doi.org/10.1016/j.bpj.2012.08.062>

Gottesman, A, Milazzo, J., Lazebnik, Y. V-fusion: a convenient, nontoxic method for cell fusion. *Biotechniques*. 49: 747-749 (2010).

Lazebnik, Y. What are the hallmarks of cancer? *Nat Rev Cancer*. 10:232-233 (2010).

Duelli, D., and Y. Lazebnik. Cell-to-cell fusion as a link between viruses and cancer. *Nat Rev Cancer*. 7:968-76 (2007).

Yuneva, M., N. Zamboni, P. Oefner, R. Sachidanandam, and Y. Lazebnik. Deficiency in glutamine but not glucose induces MYC-dependent apoptosis in human cells. *J Cell Biol* 178:93-105 (2007).

Duelli, D.M., H.M. Padilla-Nash, D. Berman, K.M. Murphy, T. Ried, and Y. Lazebnik A virus causes cancer by inducing massive chromosomal instability through cell fusion. *Curr Biol*. 17:431-7 (2007).

Matapurkar, A., and Y. Lazebnik Requirement of cytochrome c for apoptosis in human cells. *Cell Death Differ*. 13:2062-7 (2006).

Duelli, D.M., Hearn, S, Myers, M.P., and Lazebnik, Y. A primate virus generates transformed human cells by fusion. *J. Cell Biol.* 171: 493-503 (2005).

Dorstyn, L., Mills, K., Lazebnik, Y., and Kumar, S. The two cytochrome c species, DC3 and DC4, are not required for caspase activation and apoptosis in *Drosophila* cells. *J. Cell Biol.* 167, 405-410 (2004).

Belov, G. A., Romanova, L. I., Tolskaya, E. A., Kolesnikova, M. S., Lazebnik, Y. A., and Agol, V. I. (2003). The major apoptotic pathway activated and suppressed by poliovirus. *J. Virol.* 77, 45-56.

Duelli, D., and Lazebnik, Y. (2003). Cell fusion: A hidden enemy? *Cancer Cell* 3, 445-448.

Lazebnik, Y.A. Can a biologist fix a radio?-Or what I learned while studying apoptosis. *Cancer Cell*, 2:179-182, 2002. [http://dx.doi.org/10.1016/S1535-6108\(02\)00133-2](http://dx.doi.org/10.1016/S1535-6108(02)00133-2)

Nahle, Z., Polakoff, J., Davuluri, R. V., McCurrach, M. E., Jacobson, M. D., Narita, M., Zhang, M. Q., Lazebnik, Y., Bar-Sagi, D., and Lowe, S. W. (2002). Direct coupling of the cell cycle and cell death machinery by E2F. *Nat Cell Biol.* 4:859-64.

Lassus, P., Opitz-Araya, X., Lazebnik, Y. Requirement for caspase-2 in stress-induced apoptosis prior to mitochondrial permeabilization (2002). *Science*, 297:1352-4.

Lassus, P., Rodriguez, J., Lazebnik, Y. Confirming specificity of RNAi in mammalian cells (2002). *Science's STKE*, <<http://stke.sciencemag.org/cgi/content/full/sigtrans;2002/147/pl13>>.

Pistritto G, Jost M, Srinivasula SM, Baffa R, Poyet JL, Kari C, Lazebnik Y, Rodeck U, Alnemri ES. Expression and transcriptional regulation of caspase-14 in simple and complex epithelia (2002). *Cell Death Differ*. 9:995-1006.

Hegde, R, Srinivasula SM, Zhang Z, Wassell R, Mukattash R, Cilenti L, DuBois G, Lazebnik Y, Zervos AS, Fernandes-Alnemri T, Alnemri ES: Identification of Omi/HtrA2 as a mitochondrial apoptotic serine protease that disrupts IAP-caspase interaction (2002). *J Biol Chem* 277:432-8.

Soengas, M. S., Capodici, P., Polsky, D., Mora, J., Esteller, M., Optiz-Araya, X., McCombie, R., Herman, J. G., Gerald, W. L., Lazebnik, Y. A., Cordon-Cardó C. & Lowe S. W.. Inactivation of the apoptosis effector *Apaf-1* in malignant melanoma (2001). *Nature*, 409: 207-211.

Lazebnik, Y. Why do regulators of apoptosis look like bacterial toxins? *Current Biology*, 11: R767-R768, 2001.

Faleiro, L. & Lazebnik, Y.. Caspases disrupt the nuclear-cytoplasmic barrier (2000). *J. Cell Biology*. 151:1-9.

Zheng, T. S., Hunot, S., Kuida, K., Momoi, T., Srinivasan, A., Nicholson, D., Lazebnik, Y., and Flavell, R.. Compensatory activation of caspases (2000). *Nature Medicine*, 6: 1241-1247.

Svingen, P.S., Karp, J.E., Krajevski, S., Mesner, P. W., Gore, S., Burke, P.J., Reed, J., Lazebnik, Y., Kaufmann, S.. Evaluation of APAF-1 and procaspases 2, 3, 7, 8, and 9 as potential prognostic markers in acute leukemia (2000). *Blood*, 96: 3922-3931.

Duelli, D. & Lazebnik, Y.. Primary cells inhibit oncogene-dependent apoptosis (2000). *Nature Cell Biology*, 2:859-862.

Bellows, D.S., Chau, B.N., Lee, P., Lazebnik, Y., Burns, W.H., and Hardwick, J.M.. Antiapoptotic herpesvirus bcl-2 homologs escape caspase-mediated conversion to proapoptotic proteins (2000). *J Virol* 74: 5024-5031.

Rodriguez, J., Chen, H., Lin, S., Lazebnik, Y.. Caspase phosphorylation, cell death, and species variability (2000). *Science*, 287: 1363a.

Rodriguez, J. & Lazebnik, Y.. APAF-1 and caspase-9 form a holoenzyme (1999). *Genes & Development*, 13: 3179-3184.

Vaughn, D., Rodriguez, J., Lazebnik, Y., Joshua-Tor, L.. Crystal Structure of Apaf-1 Caspase Recruitment Domain: An alpha-helical Greek Key Fold for Apoptotic Signaling (1999). *J. Mol. Biol.* 293 (3), 439-447.

Kirsch, D. G., Doseff, A., Chau, B. N., Lim, D-S., de Souza-Pinto, N. C., Hansford, R., Kastan, M.B., Lazebnik, Y., and Hardwick, J. M.. Caspase-3-dependent Cleavage of Bcl-2 Promotes Release of Cytochrome c (1999). *J. Biol Chem*, 274: 21155-21161.

Srinivasula, S. M., Ahmad, M., Guo, Y., Zhan, Y., Lazebnik, Y., Fernandes-Alnemri, T., Alnemri, E. S.. Identification of an endogenous dominant-negative short isoform of caspase-9 that can regulate apoptosis (1999). *Cancer Research* 59 999-1002.

Fearnhead, H., Rodriguez, J., Govek, E., Guo, W., Kobayashi, R., Hannon, G., Lazebnik, Y.. Oncogene-dependent apoptosis is mediated by caspase-9 (1998). *Proc. Natl. Acad. Sci. USA*, 95: 13664-13669.

Thornberry, N. A & Lazebnik, Y.A.. Caspases: Enemies within. *Science* 281, 1312-6, 1998

Fearnhead, H., McCurrach, M., O'Neill, J., Zhang, K., Lowe, S., Lazebnik, Y. Oncogene-dependent apoptosis in extracts from drug-resistant cells (1997). *Genes & Development*, 11: 1266 – 1276.

Faleiro, L., Kobayashi, R., Fearnhead, H., and Lazebnik, Y. Multiple species of CPP32 and Mch2 are the major active caspases present in apoptotic cells (1997). *EMBO J.*, 9: 2271-2281.

Takahashi, A., Alnemri, E. S., Lazebnik, Y. A., Fernandes-Alnemri, T., Litwack, G., Moir, R. D., Goldman, R. D., Poirier, G. G., Kaufmann, S. H., Earnshaw, W. C.. Cleavage of lamin A by Mch2 alpha but not CPP32: Multiple interleukin 1 beta-converting enzyme-related proteases with distinct substrate recognition properties are active in apoptosis (1996). *Proc Natl Acad Sci USA* , 93: 8395-8400.

Lazebnik, Y.A., Takahashi, A., Moir, R., Goldman, R., Kaufmann, S.H., Poirier, G.G., Earnshaw, W. C. Studies of the lamin proteinase reveal multiple parallel biochemical pathways during apoptotic execution (1995). *Proc. Natl. Acad. Sci.*, 92: 9042-9046.

Nicholson, D. W., Ali, A., Thornberry, N., Vaillancourt, J. P., Ding, C., Gallant, M., Gareau, Y., Griffin, R., Labelle, M., Lazebnik, Y., Munday, N., Raju, S., Smulson, M., Yamin, T., Yu, V., Miller, D.. Identification of the ICE/CED-3 protease responsible for inactivation of poly (ADP-ribose) polymerase during apoptosis (1995) *Nature*, 367: 37-43.

Lazebnik, Y. A., Takahashi, A., Poirier, G., Kaufmann, S., and Earnshaw, W., 1995. Characterization of the execution phase of apoptosis *in vitro* using extracts from condemned-phase cells. *J. Cell Sci.* Supplement 19, 41-49

Lazebnik, Y.A., Kaufmann, S.H., Desnoyers, S., Poirier, G.G., Earnshaw, W. C.. Cleavage of poly(ADP-ribose) polymerase by a proteinase with properties like ICE (1994). *Nature*, 371:346-347.

Lazebnik, Y.A., Cole, S., Cooke, C., Nelson, W.G., Earnshaw, W.C.. Nuclear events of apoptosis *in vitro* in cell-free mitotic extracts: A model system for analysis of the active phase of apoptosis (1993). *J. Cell Biol.*, 123:7-22.

Lazebnik, Y.A., Poletaev, A.I., Zenin, V.V. Drop-delay measurement using enzyme-coated particles (1992) *Cytometry*, 13: 649-652.

Lazebnik, Y.A., Medvedeva, N.D., Zenin, V.V.. Reversible G2-arrest in the cell cycle of Ehrlich ascites carcinoma cells (1991). *Exp. Cell Res.*, 195: 247-254.

Sorkin, A., Krolenko, S., Kudrjavitseva, N., Lazebnik, Y., Teslenko, L., Soderquist, A., Nikolsky, N.. Recycling of epidermal growth factor-receptor complexes in A431 cells: Identification of dual pathways (1991). *J. Cell Biol.*, 112: 55-63.

Lazebnik, Y. A., Medvedeva, N. D., Zenin, V. V.. The *in vivo* arrest of Ehrlich ascites carcinoma cells in the G2 phase of the cell cycle (1991). *Tsitologiya* (Cytology), 33: 60-66, in Russian.

Lazebnik, Y. A., Neskromny, A. G., Konicheva, T. L.. Changes in the level of cyclic nucleotides of Ehrlich ascites carcinoma cells during progression of the tumor *in vivo* (1985). *Vestnik Leningradskogo Universiteta* (Proceedings of Leningrad University), 10: 115-117, in Russian

HONORS AND AWARDS

- | | |
|------|---|
| 1995 | The Pew Scholarship in the Biomedical Sciences |
| 1994 | The 1994 Walter J. Johnson Annual Award |
| 1994 | The 1994 Johns Hopkins University Postdoctoral First Prize |
| 1991 | A UNESCO Human Genome Program Fellowship |
| 1987 | The Annual Young Researcher Prize, Institute of Cytology of the Russian Academy of Sciences |
| 1983 | The St. Petersburg State University Prize for Invention Activities |

PATENTS

Fearnhead, H., McCurrach, M., Lowe, S., Lazebnik, Y. Oncogene-dependent apoptosis in drug-resistant cells. U.S. Patent 6,555,330 B1, issued April 29, 2003.

Kashkin, P.A., Aak, A.O., Konev, Y.E., Korchagina, N.G., Lazebnik, Y.A., Demin, V.G., Galactionov, K.I.. A bacterial strain that produces a biotin-binding protein, Russian patent # 1643610, issued December 22, 1990.

Lazebnik, Y.A., Zenin, V.V.. A method for R-phycoerythrin purification, Russian patent #1531493, issued August 22, 1989.

Vassiliev, V.Y., Lazebnik, Y.A., Mishenko, V.M., Severin, E.S., Mishin, V.N.. A kit for the measurement of cyclic adenosine-3',5'-monophosphate (cyclic AMP), Russian patent #1226311, issued December 22, 1985.

REVIEWING

Journals: *Acta Biotheoretica*, *American J. Pathology*, *Biochimica and Biophysica Acta*, *BioSystems*, *Blood*, *BMC Cancer*, *British Journal of Cancer*, *Cancer Cell*, *Cancer Cell International*, *cancer Investigation*, *Cancer Letters*, *Cancer Research*, *Cell*, *Cell Death and Differentiation*, *Cell Reports*, *Cellular Oncology*, *Clinical Cancer Research*, *Current Biology*, *Cytometry*, *Developmental Cell*, *eLife*, *the EMBO Journal*, *Experimental Cell Research*, *Expert Opinion on Biological Therapy*, *the FASEB Journal*, *FEBS Letters*, *Genes & Development*, *Hepatology*, *Journal of Biological Chemistry*, *Journal of Cell Biology*, *Journal of Cell Science*, *Journal of Cellular Biochemistry*, *the Journal of Clinical Investigation*, *Journal of Experimental Medicine*, *Journal of Immunological Methods*, *Journal of Neuroscience*, *Journal of Neurochemistry*, *Journal of Structural Biology*, *Journal of Virological Methods*, *Journal of Virology*, *International Journal of Cancer*, *Laboratory Investigation*, *Molecular Biology and Evolution*, *Molecular Cancer*, *Molecular Cancer Research*, *Molecular and Cell Biology*, *Nature*, *Nature Biotechnology*, *Nature Cell Biology*, *Nature Chemical Biology*, *Nature Immunology*, *Nature Medicine*, *Nature Review Cancer*, *Nature Review Molecular Biology*, *Oncogene*, *Photochemistry and Photobiology*, *PLOS Biology*, *PLoS One*, *PNAS*, *Science*, *Scientific Reports*, *Trends in Biological Chemistry*, *Trends in Cell Biology*.

Books: Oxford University Press, Elsevier Press

Funding Agencies: North Carolina Biotechnology Center, reviewer, 1996. NIH Molecular Cytology Study Section, Ad hoc, 1996. NIH Human Embryology and Development-2 study section, ad hoc, 1998. National Heart, Liver and Blood Institute Board of Scientific Counselors, 1998, ad hoc. United States Army Prostate Cancer Research Program, 1999, Scientist Reviewer. An NCI program project site visit team, member, 2000. Department of Veterans Affairs, external reviewer, 2000. NIH Cell Development and Function-5 Study Section, Ad hoc member, 2000. National Cancer Institute of Canada, a member of program project site teams in 2000, 2004, and 2005. Italian Association of Cancer Research (AICR), reviewer, 2001. The Department of Defense, U.S. Army Medical Research, and Materiel Command Congressionally Directed Medical Research Program (CDMRP), reviewer since 2001. American Cancer Society, reviewer since 2001. NIH CAMP study section, 2003-2006. NIH MBPP study section, 2003-2005. Pilot and Feasibility Program, Yale University School of Medicine, 2012. U.S.-Israel Binational Science Foundation (BSF), 2012, 2014, the NSF 2019.

Editorial Boards: *Cell Death and Differentiation* (1997-2001); *Genes to Cells* (1998-2003); *the Journal of Biological Chemistry* (2000 - 2002), *Cancer Biology and Therapy* (since 2002), *the Journal of Cell Biology* (2003-2008), *Organisms* (2018 – present)

MEETINGS AND COURSES ORGANIZED

- 1996 and 1998 – Cold Spring Harbor Laboratory Meetings on Biology of Proteolysis. Organizer with Charles Craik, Susan Gottesman, and Mark Hochstrasser
- 2000 – 2004 A course on apoptosis at the Gulbenkian Graduate Program in Biology and Medicine (Portugal). Organizer, and co-instructor with Michael Hengartner, Scott Kaufmann, David Vaux
- 2003 Banbury Meeting (CSHL) on Formal Languages for Biological Processes. Organizer with Drew Endy and Andrew Finney
- 2004 Keystone Symposium on Biochemistry of Apoptosis. Co-organizer with Yigong Shi
- 2007 Cold Spring Harbor Laboratory Meeting on Computational Cell Biology, session chair

2007 Gordon Conference on Cell-Cell Fusion, discussion leader

TEACHING EXPERIENCE

- 1995 – 2012 Adjunct Faculty, Molecular and Cell Biology Graduate Program, Stony Brook University
- 1999 – 2012 Faculty, Watson School of Biological Sciences, CSHL
- 1999 – 2009 Director, Partners for the Future Program (PFF), which provides outstanding high school students with an opportunity to do mentored research at CSHL.
- 2000 – 2004 Organizer and instructor of a course on apoptosis, The Gulbenkian Graduate Program in Biology and Medicine (Portugal).
- 2004 – 2005 Instructor for the course “Scientific Ethics and Exposition” (SEE), Watson School of Biological Sciences, CSHL
- 2004 Instructor for the course “Molecular Pathways in Cancer”, the Danish Research School for Molecular Cancer Research, Copenhagen (Denmark).
- 2005 Lecturer, Moscow State University and the Institute of Molecular Biology of the Russian Academy of Sciences.
- 2006, 2008 Lecturer, The International School for Young Scientists, Zvenigorod, Russia.

INVITED LECTURES AND SEMINARS: 187