

University of California, San Francisco

CURRICULUM VITAE

Updated 4/4/18

Name: Matthew Lawrence Springer, Ph.D.

Position: Professor of Medicine
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 School of Medicine

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EDUCATION:

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|------------|---|--------------|------------------------|
| 1981-1985: | UC Berkeley | B.A. | Molecular Biology |
| 1985-1991: | Stanford University (PI: Charles Yanofsky) | Ph.D. | Biological Sciences |
| 1991-1993: | Stanford University (PI: James A. Spudich) | Postdoctoral | Biochemistry |
| 1993-1997: | Stanford University (PI: Helen M. Blau) | Postdoctoral | Molecular Pharmacology |

PRINCIPAL POSITIONS HELD:

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| 1997-1999: | Stanford University | Research Scientist | Molecular Pharmacology |
| 1999-2003: | Stanford University | Senior Research Scientist | Genetic Pharmacology |
| 2003-2008: | UC San Francisco | Assistant Professor | Medicine/Cardiology |
| 2008-2014: | UC San Francisco | Associate Professor | Medicine/Cardiology |
| 2014-now: | UC San Francisco | Professor | Medicine/Cardiology |

CONCURRENT POSITIONS AND AFFILIATIONS:

2003-2008: Director, UCSF Cardiology Division Laboratory of Molecular Cardiology
 2008-now: Investigator, UCSF Cardiovascular Research Institute
 2008-now: Faculty, UCSF Broad Center of Regeneration Medicine and Stem Cell Research
 2008-now: Faculty, UCSF Center for Tobacco Control Research & Education
 2008-now: Faculty, UCSF Biomedical Sciences Graduate Program

2010-now: Member, UCSF Helen Diller Family Comprehensive Cancer Center
2010-now: Faculty, UCSF Developmental and Stem Cell Biology Graduate Program

HONORS AND AWARDS:

1985: Selected graduation speaker, Department of Molecular Biology, UC Berkeley
1985: Graduated with Distinction, UC Berkeley
1987: Exceptional Contributions in Teaching Award, Dept. of Biol. Sciences, Stanford University
2008: Winner 4th Prize, Nikon Small World Competition for microscopy (>2000 entries)
2012: 3rd Annual Vascular Biology Center Student's Choice Speaker, Georgia Health Sciences University

KEYWORDS/AREAS OF INTEREST:

Angiogenesis, VEGF, stem cells, gene therapy, myocardial infarction, cardiovascular disease, vascular injury, endothelial function, nitric oxide, myoblasts, tobacco secondhand smoke, marijuana secondhand smoke

PROFESSIONAL ACTIVITIES

PROFESSIONAL ORGANIZATIONS:

MEMBERSHIPS

1993-now: American Association for the Advancement of Science
1997-now: American Society of Gene & Cell Therapy (formerly Am. Society of Gene Therapy)
2004-now: American Heart Association
2005-now: American Physiological Society

SERVICE TO PROFESSIONAL ORGANIZATIONS:

2005-2008: American Heart Association grant peer reviewer
2005: Session co-chair, American Society of Gene Therapy 8th Annual Meeting
2007-2013: Member, American Society of Gene Therapy, Cardiovascular Gene Therapy Committee
2007: Session organizer and moderator, American Heart Association Scientific Sessions
2008: Session chair, American Society of Gene Therapy 11th Annual Meeting
2009: Session chair, American Society of Gene Therapy 12th Annual Meeting
2009: Ad hoc grant peer reviewer, Association Française contre les Myopathies
2009: Ad hoc grant peer reviewer, American Institute of Biological Sciences
2010-2014: American Heart Association grant peer reviewer
2016-2019: Member, American Society of Gene & Cell Therapy, Cardiovascular Gene & Cell Therapy Committee

SERVICE TO PROFESSIONAL PUBLICATIONS:

1995-1996: Contributors panel for literature review section, *Molecular Medicine Today*
1990-now: Ad hoc referee for *Am. J. Physiol. Heart Circ. Physiol.*, *BioEssays*, *Blood*, *Cancer Gene Therapy*, *Cancer Research*, *Cell*, *Circulation*, *Circ. Cardiovasc. Imaging*, *Circ.*

Res., Development, Differentiation, FASEB J, Gene Therapy, Genetics, Genomics, Int. J. Cardiology, J. Am. Assoc. Lab Animal Med., J. Am. Heart Assoc., J. Cardiac Failure, J. Cell Biol., J. Cell. Mol. Med., J. Gene Med., JoVE, The Lancet, Molecular Therapy, Nature Scientific Reports, PLoS ONE, PNAS, Recent Patents on Regenerative Medicine, Stem Cells and Development, Tissue Engineering, Toxicological Sciences, Toxicology and Applied Pharmacology

2011-2015 Associate Editor-in-Chief, American Journal of Cardiovascular Disease

2015-now Associate Editorial Board member, Tobacco Regulatory Science

INVITED PRESENTATIONS:

INTERNATIONAL

- 1996: International Congress of the Cell Transplant Society, Miami Beach, FL, speaker
- 1997: Interamerican Medical Dental Congress, New York City, NY, plenary speaker
- 1999: International Congress, Medical Students' Council of the Technological Institute of Advanced Studies, Monterrey, Mexico, plenary speaker
- 2001: 1st Annual Congress, Spanish Gene Therapy Society, Valencia, Spain, speaker
- 2002: Seminar, Biomedical Research Centre, Univ. of British Columbia, Vancouver, BC, Canada
- 2002: 11th International meeting, Society for Cancer Gene Therapy, London, UK, plenary speaker
- 2005: Symposium, Swiss Cardiovascular Research and Training Network, Geneva, Switzerland
- 2007: Seminar, National Cheng Kung University, Tainan, Taiwan
- 2009: Seminar, Klinikum Großhadern, Ludwig Maximilian University, Munich, Germany
- 2009: Seminar, Helmholtz Zentrum, Munich, Germany
- 2009: Seminar, Heinrich Heine University, Düsseldorf, Germany
- 2009: Taiwan Society for Stem Cell Research Conference, Tainan, Taiwan, plenary speaker
- 2015: 5th International Conference on Clinical & Experimental Cardiology, Philadelphia, PA, plenary speaker
- 2016: International Summit on Preventive, Personalized and Translational Medicine as the Basis of New Healthcare Model, Moscow, Russia, speaker
- 2018: Invited webinar for Clean Air Coalition of British Columbia, Canada (scheduled 4/24/18)

NATIONAL

- 1995: Keystone Symposium: Gene Therapy and Molecular Medicine, Steamboat Springs, CO, plenary speaker
- 1998: 1st Annual Meeting of the American Society of Gene Therapy, Seattle, WA, oral abstract
- 1998: Annual meeting, American Society for Cell Biology, San Francisco, CA, oral abstract
- 1998: Seminar, Baylor College of Medicine, Houston, TX
- 1999: Seminar, Harvard Medical School, Boston, MA
- 1999: Seminar, Baylor College of Medicine, Houston, TX
- 2000: 3rd Gene Transfer Clinical Research Safety Symposium, NIH, Bethesda, MD, speaker and discussion panelist
- 2000: 3rd Annual Meeting of the American Society of Gene Therapy, Denver, CO, oral abstract
- 2001: Annual meeting, Association of Medical Illustrators (National), Pacific Grove, CA, speaker
- 2002: Seminar, University of Washington, Seattle, WA
- 2006: 9th Annual Meeting of the American Society of Gene Therapy, Baltimore, MD, oral abstract

- 2007: Scientific Sessions, American Heart Association, Orlando, FL, speaker
- 2008: Annual Meeting, Experimental Biology, San Diego, CA, speaker
- 2009: 12th Annual Meeting, American Society of Gene Therapy, San Diego, CA, speaker
- 2012: Seminar, Georgia Health Sciences Univ., Augusta, GA (now Georgia Regents University)
- 2013: 24th Annual Vascular Biology and Hypertension Symposium, University of Alabama at Birmingham, Birmingham, AL, speaker for two talks
- 2016: American Public Health Association 2016 Annual Meeting and Expo, Denver, CO, speaker
- 2017: National Conference on Tobacco or Health, National Network of Public Health Institutes, Austin, TX, speaker/panelist

REGIONAL, OTHER

- 1998: Seminar, Geron Corporation, Menlo Park, CA
- 1999: Seminar, Genentech, South San Francisco, CA
- 1999: Seminar, UCSF, San Francisco, CA
- 2000: Seminar, Stanford University, Stanford, CA
- 2000: Seminar, Systemix, Palo Alto, CA
- 2000: Seminar, NASA Ames Research Center, Moffett Field, CA
- 2001: Seminar, Stanford University, Stanford, CA
- 2002: Seminar, Stanford University, Stanford, CA
- 2002: UC Systemwide Biomedical Engineering Symposium, Berkeley, CA, speaker
- 2002: Seminar, Sangamo Biosciences, Richmond, CA
- 2003: Seminar, SUGEN, South San Francisco, CA
- 2003: Seminar, Guidant Corporation., Santa Clara, CA
- 2003: Seminar, Exelixis, South San Francisco, CA
- 2005: Grand Rounds, Division of Cardiology, UCSF, San Francisco, CA
- 2005: Seminar, Five Prime Therapeutics, South San Francisco, CA
- 2006: Grand Rounds, Division of Cardiology, UCSF, San Francisco, CA
- 2006: Seminar, Surgical Research Laboratory, San Francisco General Hospital, San Francisco, CA
- 2007: Seminar, Department of Surgery, UCSF, San Francisco, CA
- 2007: Grand Rounds, Division of Cardiology, UCSF, San Francisco, CA
- 2007: Seminar, Center for Cerebrovascular Research, San Francisco General Hospital, SF, CA
- 2008: Seminar, Cardiovascular Research Group, San Francisco General Hospital, SF, CA
- 2008: Seminar, Center for Tobacco Control Research and Education, UCSF, San Francisco, CA
- 2008: UCSF Cardiovascular Research Institute annual retreat, Marshall, CA, speaker
- 2009: UCSF Institute of Regeneration Medicine annual retreat, Pacific Grove, CA, speaker
- 2009: Seminar, Buck Institute for Age Research, Novato, CA
- 2009: UCSF BMS Graduate Program annual retreat, Tahoe City, CA, speaker
- 2010: Grand Rounds, Division of Cardiology, UCSF, San Francisco, CA
- 2012: Grand Rounds, Division of Cardiology, UCSF, San Francisco, CA
- 2013: Annual symposium: "It's About a Billion Lives," Center for Tobacco Control Research & Education, UCSF, San Francisco, CA, speaker
- 2013: UCSF BMS Graduate Program annual retreat, Tahoe City, CA, speaker
- 2013: UCSF DSCB Graduate Program annual retreat, Marshall, CA, speaker
- 2014: Seminar, Center for Tobacco Control Research and Education, UCSF, San Francisco, CA
- 2015: Grand Rounds, Division of Cardiology, UCSF, San Francisco, CA
- 2015: Symposium: "Marijuana Regulation - Lessons from Tobacco-Related Research and Tobacco Control," California Tobacco-Related Disease Research Program, Oakland, CA, speaker

- 2015: Seminar, Flight Attendant Medical Research Institute Investigators meeting, UCSF, San Francisco, CA
- 2015: Tobacco Control, Research, and Education conference (multiple California agencies), Sacramento, CA, speaker
- 2016: Symposium: “The Intersection of Tobacco & Marijuana,” California Tobacco Control Program, California Dept. of Public Health, Sacramento, CA, speaker
- 2016: Policy seminar, UC Center Sacramento, Sacramento, CA
- 2016: Workshop on marijuana regulation, Santa Clara County Public Health Dept., San Jose, CA, speaker
- 2016: Silicon Valley Marijuana Awareness Conference (Santa Clara County DA and Behavioral Health Services), Santa Clara, CA, speaker
- 2017: Seminar, Cancer Center Tobacco Control Program, UCSF, San Francisco, CA
- 2017: Workshop on tobacco and marijuana regulation, County of San Mateo Health System, speaker
- 2018: Symposium: “The Buzz on Cannabis: Health & Safety in the Workplace,” UC Berkeley Center for Occupational and Environmental Health, Berkeley, CA, speaker and panelist

GOVERNMENT AND OTHER PROFESSIONAL SERVICE:

- 2000: Speaker, discussion panelist, 3rd Gene Transfer Clinical Research Safety Symposium, NIH
- 2007: Peer reviewer, NIH special review committee for Program Project Grant
- 2009: Ad hoc grant peer reviewer, Virginia Tobacco Settlement Fund grant reviewer
- 2010: Ad hoc grant peer reviewer, Italian Ministry of Health
- 2012: Ad hoc grant peer reviewer, Virginia Foundation for Healthy Youth grant reviewer
- 2013: Ad hoc grant peer reviewer, Italian Ministry of Health
- 2014: Ad hoc grant peer reviewer, NIH Special Emphasis Panel ZRG1 CB-J (55)R (Improvement of Animal Models for Stem Cell-Based Regenerative Medicine)
- 2015: Policy briefing submitted to California’s Blue Ribbon Commission on Marijuana Policy (Springer and Glantz, “Marijuana Use and Heart Disease: Potential Effects of Public Exposure to Smoke”)
- 2015: Ad hoc grant peer reviewer, National Medical Research Council, Singapore
- 2016: Ad hoc grant peer reviewer, NIH Special Emphasis Panel ZRG1 AARR-G (51)R (Chemistry, Toxicology, and Addiction Research on Waterpipe Tobacco)
- 2017: Ad hoc grant peer reviewer, NIH Special Emphasis Panel ZRG1 CB-J (55)R (Improvement of Animal Models for Stem Cell-Based Regenerative Medicine)
- 2017: FDA public comment submitted in reference to Philip Morris International’s Modified Risk Tobacco Product (MRTP) application for iQOS heat-not-burn system (Springer, Nabavizadeh, and Mohammadi, Docket Number FDA-2017-D-3001, November 20, 2017, entitled “The evidence PMI presents in its MRTP application for IQOS is misleading and does not support the conclusion that IQOS will not harm endothelial function; independent research done in a more relevant physiological model shows that IQOS harms endothelial function as much as conventional cigarettes”)
- 2017: Ad hoc grant peer reviewer, NIH Special Emphasis Panel ZRG1 BST-H (55) (Tobacco Regulatory Science)
- 2018: Reviewed and commented on draft of ventilation rules and regulations for cannabis smoking consumption rooms, San Francisco Department of Public Health

UNIVERSITY AND PUBLIC SERVICE

PRE-UCSF UNIVERSITY SERVICE

- 1984-1985: President, Molecular Biology Undergraduate Society, UC Berkeley
- 1986-1987: Graduate Admissions Committee, Dept. of Biological Sciences, Stanford University
- 1988-1989: Graduate student representative, Dept. of Biological Sciences, Stanford University

UC SYSTEM-WIDE SERVICE

- 2006-2007: UC Discovery Grant reviewer
- 2018: Panelist, UC Workshop on Policy and Legal Issues Related to Cannabis Research

UCSF CAMPUS-WIDE SERVICE

- 2004-2008: UCSF Academic Senate Committee on Research
- 2005-2009: UCSF Research Administration Board
- 2006-2012: Emergency floor warden, Medical Sciences Building 11th floor
- 2007-2008: Chair, Research Administration Board task force to create faculty/industry resources website (<http://ctsi.ucsf.edu/research/industry-faq>)
- 2007-now: Recurring lectures to campus community about home earthquake preparedness (87 UCSF talks out of 144 total as of 3/5/17)
- 2010-now: UCSF Research Administration Board (name changed to Research Advisory Board)
- 2012-2015: UCSF Academic Senate Committee on Research
- 2013-2014: UCSF Indirect Cost Recovery Waiver Policy Taskforce, Academic Senate representative

UCSF SCHOOL OF MEDICINE SERVICE

- 2005-2006: Faculty search committee, UCSF Department of Surgery
- 2011-2012: Dean's Communications Advisory Board
- 2016-2017: Faculty search committee, UCSF Division of Cardiology

PUBLIC SERVICE

- 2007-now: San Francisco Fire Department Neighborhood Emergency Response Team (NERT)
- 2008-now: Recurring public lectures about home earthquake preparedness at SF Public Library and other public locations (57 public talks out of 144 total as of 3/5/17)
- 2009-2017: Member, SF South Beach/Rincon/Mission Bay Neighborhood Association
- 2011-2017: Board of Directors, SF South Beach/Rincon/Mission Bay Neighborhood Association
- 2011-now: Quaketips blog about earthquake preparedness (<http://quaketips.blogspot.com>); >300,000 page views

TEACHING AND MENTORING

FORMAL SCHEDULED CLASSES FOR UCSF STUDENTS:

- 2010-2011: BMS 270: Angiogenesis & Vascular Biology (organizer and primary session leader; yearly)

2012-2016: BMS 270 / DSCB 270: Angiogenesis & Vascular Biology (organizer and primary session leader; yearly)

(My course is on hiatus in and will resume in 2019)

OTHER COURSES, WORKSHOPS, AND LECTURE SERIES:

- 1984: Teaching assistant, "Introduction to Molecular Biology," UC Berkeley
 1986: Teaching assistant, "Biology Core Experimental Laboratory," Stanford University
 1986: Teaching assistant, "Biochemistry, Genetics, and Molecular Biol.," Stanford University
 1992-1998: Guest lecturer for graduate and undergraduate classes and to special high school programs, Stanford University and San Francisco State University
 1997: Faculty discussion panelist, Stanford University undergraduate ethics symposium
 1998: Faculty discussion panelist, Stanford University undergraduate ethics symposium
 1999: Lectured to medical students at Technological Institute of Advanced Studies, Monterrey, Mexico, in conjunction with a conference at which I was a speaker
 2005: Lecture to Cardiology fellows for weekly Fellows Session
 2006: Group session leader, UCSF CTST-sponsored NIH Grant Workshop
 2006: Lecture for Cardiology fellows summer session
 2007: Class lecture at National Cheng Kung University, Tainan, Taiwan, with public seminar
 2008: Chaired mock grant peer review panel for Tobacco Center fellows, UCSF
 2009: "Pizza talk" for Biomedical Sciences graduate students, UCSF (1 of 2)
 2009: Mock grant peer review panel for Tobacco Center fellows, UCSF
 2009: Small group facilitator for UCSF Office of Career and Professional Development workshop on oral presentation skills
 2009: "Pizza talk" for Biomedical Sciences graduate students, UCSF (2 of 2)
 2010: Faculty discussion panelist (working with industry), UCSF Faculty Development Day
 2010: Faculty discussion panelist, Future Faculty Seminar course, Stanford University
 2010: Mock grant peer review panel for Tobacco Center fellows, UCSF
 2010: "Pizza talk" for Biomedical Sciences graduate students, UCSF
 2011: Mock grant peer review panel for Tobacco Center fellows, UCSF
 2012: "Pizza talk" for Developmental and Stem Cell Biology graduate students, UCSF
 2013: "Pizza talk" for Developmental and Stem Cell Biology graduate students, UCSF
 2014: "Pizza talk" for Developmental and Stem Cell Biology graduate students, UCSF
 2014: "Pizza talk" for Biomedical Sciences graduate students, UCSF
 2015: Music 6F – Career Development in Music (session about how to continue involvement in music without a music career), Stanford University
 2015: Speaker for Osher Mini Medical School session on emergency preparedness, UCSF
 2015: Mock grant peer review panel for Tobacco Center fellows, UCSF
 2015: "Pizza talk" for Biomedical Sciences graduate students and Developmental and Stem Cell Biology graduate students, UCSF
 2016-2018: Music 6F – Career Development in Music (session about how to continue involvement in music without a music career), Stanford University

RESEARCH AND CREATIVE ACTIVITIES

PEER REVIEWED PUBLICATIONS:

1. **Springer, M.L.** and Yanofsky, C. (1989). A morphological and genetic analysis of conidiophore development in *Neurospora crassa*. *Genes Dev.* **3**:559-571. (cover photo)
2. **Springer, M.L.** (1989). An effective procedure for the preparation of *Neurospora crassa* conidiophores for scanning electron microscopy. *Fungal Genet. Newsl.* **36**:78.
3. **Springer, M.L.** (1991). Tergitol-induced colonial growth without inhibition of conidiation. *Fungal Genet. Newsl.* **38**:92.
4. **Springer, M.L.**, Hager, K.M., Garrett-Engele, C., and Yanofsky, C. (1992). Timing of synthesis and cellular localization of two conidiation-specific proteins of *Neurospora crassa*. *Dev. Biol.* **152**:255-262. (cover photo)
5. **Springer, M.L.** and Yanofsky, C. (1992). Expression of *con* genes along the three sporulation pathways of *Neurospora crassa*. *Genes Dev.* **6**:1052-1057.
6. **Springer, M.L.** (1993). Genetic control of fungal differentiation: The three sporulation pathways of *Neurospora crassa*. *BioEssays* **15**:365-374. (Review, peer-reviewed) (cover photo)
7. **Springer, M.L.**, Patterson, B., and Spudich, J.A. (1994). Stage-specific requirement for myosin II during *Dictyostelium* development. *Development* **120**:2651-2660.
8. Blau, H.M. and **Springer, M.L.** (1995). Gene therapy—A novel form of drug delivery. *N. Engl. J. Med.* **333**:1204-1207. (Review, peer-reviewed)
9. Blau, H.M. and **Springer, M.L.** (1995). Muscle-mediated gene therapy. *N. Engl. J. Med.* **333**:1554-1556. (Review, peer-reviewed)
10. **Springer, M.L.** and Blau, H.M. (1997). High-efficiency retroviral infection of primary myoblasts. *Som. Cell Mol. Genet.* **23**:203-209.
11. Kang, S.-M., Hofmann, A., Le, D.L., **Springer, M.L.**, Stock, P.G., and Blau, H.M. (1997). Immune response and myoblasts that express Fas ligand. *Science* **278**:1322-1324.
12. **Springer, M.L.**, Kraft, P.E., and Blau, H.M. (1998). Inhibition of solid tumor growth by Fas ligand-expressing myoblasts. *Som. Cell Mol. Genet.* **24**:281-289.
13. **Springer, M.L.**, Chen, A.S., Kraft, P.E., Bednarski, M., and Blau, H.M. (1998). VEGF gene delivery to muscle: Potential role for vasculogenesis. *Mol. Cell* **2**:549-558. (cover photo)
14. Abendroth, A., Slobedman, B., **Springer, M.L.**, Blau, H.M., and Arvin, A.M. (1999). Analysis of immune responses to varicella zoster viral proteins induced by DNA vaccination. *Antiviral Res.* **44**: 179-192.
15. **Springer, M.L.**, Ip, T.K., and Blau, H.M. (2000). Angiogenesis monitored by perfusion with a space-filling microbead suspension. *Mol. Therapy* **1**: 82-87.
16. **Springer, M.L.**, Hortelano, G., Bouley, D., Wong, J., Kraft, P.E., and Blau, H.M. (2000). Induction of angiogenesis by implantation of encapsulated primary myoblasts expressing vascular endothelial growth factor. *J. Gene Med.* **2**:279-288.
17. Lee, R.J., **Springer, M.L.**, Blanco-Bose, W.E., Shaw, R., Ursell, P.C., and Blau, H.M. (2000). VEGF gene delivery to myocardium: Deleterious effects of unregulated expression. *Circulation* **102**:898-901. (Commentary in *Nature Med.* **6**:1102-1103) (cover photo)
18. **Springer, M.L.**, Ozawa, C.R., and Blau, H.M. (2002). Transient production of α -smooth muscle actin by skeletal myoblasts during differentiation in culture and following intramuscular implantation. *Cell Motil. Cytoskeleton* **51**:177-186.

19. Munz, B., Hildt, E., **Springer, M.L.**, and Blau, H.M. (2002). RIP2, a checkpoint in myogenic differentiation. *Mol. Cell Biol.* **22**:5879-5886.
20. **Springer, M.L.**, Ozawa, C.R., Banfi, A., Kraft, P.E., Ip, T.K., Brazelton, T.R., and Blau, H.M. (2003). Localized arteriole formation adjacent to sites of implantation of myoblasts expressing VEGF. *Mol. Ther.*, **7**:441-449. (Commentary in *ibid.*, **7**:428)
21. Ozawa, C.R., Banfi, A., Glazer, N., Thurston, G., **Springer, M.L.**, Kraft, P.E., McDonald, D.M., and Blau, H.M. (2004). Microenvironmental VEGF concentration, not total dose, determines a threshold between normal and aberrant angiogenesis. *J. Clin. Invest.* **113**: 516-527. (Commentary in *ibid.*, **113**:493)
22. **Springer, M.L. [corresponding author]**, Sievers, R.E., Viswanathan, M.N., Yee, M.S., Foster, E., Grossman, W., and Yeghiazarians, Y. (2005). Closed-chest cell injections into mouse myocardium guided by high-resolution echocardiography. *Amer. J. Physiol. Heart Circ. Physiol.*, **289**:H1307-H1314.
23. Kamba, T., Tam, B.Y.Y., Hashizume, H., Haskell, A., Sennino, B., Mancuso, M.R., Norberg, S.M., O'Brien, S.M., Davis, R.B., Thurston, G., Joho, S., **Springer, M.L.**, Kuo, C.J., and McDonald, D.M. (2006). VEGF-dependent plasticity of fenestrated capillaries in the normal adult microvasculature. *Amer. J. Physiol. Heart Circ. Physiol.* **290**:H560-H576. (Commentary in *ibid.*, **290**:H509)
24. **Springer, M.L.** (2006). A Balancing Act: Therapeutic Approaches to the Modulation of Angiogenesis. *Current Opinion in Investigational Drugs* **7**:243-250. (Review, peer-reviewed)
25. von Degenfeld, G., Banfi, A., **Springer, M.L.**, Jacobi, J., Ozawa, C.R., Merchant, M.J., Cooke, J.P., and Blau, H.M. (2006). Microenvironmental concentration of VEGF is critical to stable and functional vessel growth in ischemia. *FASEB J.* **20**:2657-2659.
26. Zhang, Y., Takagawa, J., Sievers, R.E., Khan, M.F., Viswanathan, M.N., **Springer, M.L.**, Foster, E., and Yeghiazarians, Y. (2007) Validation of the wall motion score and myocardial performance indices as novel techniques to assess left ventricular function in mice post myocardial infarction. *Amer. J. Physiol. Heart Circ. Physiol.* **292**:H1187-H1192.
27. Takagawa, J., Zhang, Y., Sievers, R.E., Kapasi, N.K., Wong, M.L., Wang, Y., Yeghiazarians, Y., Lee, R.J., Grossman, W., and **Springer, M.L.** (2007) Myocardial infarct size measurement in the mouse chronic infarction model: Comparison of area- and length-based approaches. *J. Appl. Physiol.* **102**:2104-2111.
28. **Springer, M.L. [corresponding author]**, Banfi, A., Ye, J., von Degenfeld, G., Kraft, P.E., Saini, S.A., Kapasi, N.K., and Blau, H.M. (2007). Localization of vascular response to VEGF is not dependent on heparin binding. *FASEB J.* **21**:2074-2085.
29. Heiss, C., Sievers, R.E., Amabile, N., Momma, T.Y., Chen, Q., Natarajan, S., Yeghiazarians, Y., and **Springer, M.L.** (2008). *In vivo* measurement of flow-mediated vasodilation in living rats using high resolution ultrasound. *Amer. J. Physiol. Heart Circ. Physiol.* **294**:H1086-H1093.
30. Heiss, C., Wong, M.L., Block, V.I., Lao, D., Real, W.M., Yeghiazarians, Y., Lee, R.J., and **Springer, M.L.** (2008). Pleiotrophin induces nitric oxide dependent migration of endothelial progenitor cells. *J. Cell. Physiol.* **215**:366-373.
31. Heiss, C., Amabile, N., Lee, A.C., Real, W.M., Schick, S., Lao, D., Wong, M.L., Jahn, S., Angeli, F.S., Minasi, P., **Springer, M.L.**, Hammond, S.K., Glantz, S.A., Grossman, W., Balmes, J.R., and Yeghiazarians, Y. (2008). Brief secondhand smoke exposure depresses endothelial

- progenitor cells activity and endothelial function: sustained vascular injury and blunted nitric oxide production. *J. Am. Coll. Cardiol.* **51**:1760-1771. (*Commentary in ibid.*, 51:1772)
32. Li, X., Tjwa, M., Van Hove, I., Enholm, B., Neven E., Paavonen, K., Jeltsch, M., Diez Juan, T., Sievers, R.E., Chorianopoulos, E., Wada, H., Vanwildemeersch, M., Noel, A., Foidart, J.-M., **Springer, M.L.**, von Degenfeld, G., Dewerchin, M., Blau, H.M., Alitalo, K., Eriksson, U., Carmeliet, P. and Moons, L. (2008). Re-evaluation of the role of VEGF-B suggests a restricted role in the revascularization of the ischemic myocardium. *Arterioscler. Thromb. Vasc. Biol.* **28**:1614-1620. (*Commentary in ibid.*, 28:1575-1576)
 33. Yeghiazarians, Y., Zhang, Y., Prasad, M., Shih, H., Saini, S.A., Takagawa, J., Sievers, R.E., Wong, M.L., Kapasi, N.K., Mirsky, R., Koskenvuo, J., Minasi, P., Ye, J., Viswanathan, M.N., Angeli, F.S., Boyle A.J., **Springer, M.L.**, and Grossman, W. (2009). Injection of bone marrow cell extract into infarcted hearts results in functional improvement comparable to intact cell therapy. *Mol. Ther.* **17**:1250-1256. (*Commentary in ibid.*, 17:1120) (Cover photo)
 34. Heiss, C., Jahn, S., Taylor, M., Real, W.M., Angeli, F., Wong, M.L., Amabile, N., Prasad, M., Rassaf, T., Ottaviani, J.I., Mihardja, S., Keen, C.L., **Springer, M.L.**, Boyle, A., Grossman, W., Glantz, S.A., Schroeter, H., and Yeghiazarians, Y. (2010). Improvement of endothelial function with dietary flavanols is associated with mobilization of circulating angiogenic cells in patients with coronary artery disease. *J. Am. Coll. Cardiol.* **56**:218-224.
 35. Heiss, C., Schanz, A., Amabile, N., Jahn, S., Chen, Q., Wong, M.L., Rassaf, T., Heinen, Y., Cortese-Krott, M., Grossman, W., Yeghiazarians, Y., and **Springer, M.L.** (2010). Nitric oxide synthase expression and functional response to nitric oxide are both important modulators of circulating angiogenic cell response to angiogenic stimuli. *Arterioscler. Thromb. Vasc. Biol.* **30**:2212-2218.
 36. Kharait, S., Haddad, D.J., and **Springer, M.L.** (2011). Nitric oxide counters the inhibitory effects of uremic toxin indoxyl sulfate on endothelial cells by governing ERK MAP kinase and myosin light chain activation. *Biochem. Biophys. Res. Commun.* **409**:758-763.
 37. Zhang, Y., Sievers, R.E., Prasad, M., Mirsky, R., Shih, H., Wong, M.L., Angeli, F.S., Ye, J., Takagawa, J., Koskenvuo, J.W., **Springer, M.L.**, Grossman, W., Boyle, A.J., and Yeghiazarians, Y. (2011). Timing of bone marrow cell therapy is more important than repeated injections after myocardial infarction. *Cardiovasc. Pathol.* **20**:204-212.
 38. Wang, X., Takagawa, J., Lam, V.C., Haddad, D.J., Tobler, D.L., Mok, P.Y., Zhang, Y., Clifford, B.T., Pinnamaneni, K., Saini, S.A., Su, R., Bartel, M.J., Sievers, R.E., Carbone, L., Kogan, S., Yeghiazarians, Y., Hermiston, M.L., and **Springer, M.L.** (2011). Donor myocardial infarction impairs the therapeutic potential of bone marrow cells by an interleukin-1-mediated inflammatory response. *Sci. Transl. Med.* **3**:100ra90. (*Commentary in Science online, ScienceNOW, Sept 14, 2011; and in Nature, 477:373*)
 39. Wang, X., Takagawa, J., Haddad, D.J., Pinnamaneni, K., Zhang, Y., Sievers, R.E., Grossman, W., Yeghiazarians, Y., and **Springer, M.L.** (2011). Advanced donor age impairs bone marrow cell therapeutic efficacy for cardiac disease. *J. Tissue Sci. Eng.* **S3**:002.
 40. Aschbacher, K. *, Chen, Q. *, Varga, M., Haddad, D.J., Yeghiazarians, Y., Epel, E., Wolkowitz, O.M., and **Springer, M.L.** (2012). Higher fasting glucose levels are associated with reduced circulating angiogenic cell migratory capacity among healthy individuals. *Am. J. Cardiovasc. Dis.* **2**:12-19. (*co-first authors)

41. Lin, Y.D., Luo, C.Y., Hu, Y.N., Yeh, M.L., Hsueh, Y.C., Chang, M.Y., Tsai, D.C., Wang, J.N., Tang, M.J., Wei, E.I., **Springer, M.L.**, and Hsieh, P.C.H. (2012). Instructive nanofiber scaffolds with VEGF creates a microenvironment for arteriogenesis and cardiac repair. *Sci. Transl. Med.* **4**:146ra109. (Commentary in *ibid.*, *4*:146fs26; coverage in the *Wall Street Journal and Nature*, 488:257)
42. Chen, Q., Sievers, R.E., Varga, M., Kharait, S., Haddad, D.J., Patton, A.K., Delany, C.S., Mutka, S.C., Blonder, J.P., Dubé, G.P., Rosenthal, J.G., and **Springer, M.L.** (2013). Pharmacological inhibition of S-nitrosoglutathione reductase improves endothelial vasodilatory function in rats *in vivo*. *J. Appl. Physiol.* **114**:752-760.
43. Fang, Q., Mok, P.Y., Thomas, A.E., Haddad, D.J., Saini, S.A., Clifford, B.T., Kapasi, N.K., Danforth, O.M., Usui, M., Ye, W., Luu, E., Sharma, R., Bartel, M.J., Pathmanabhan, J.A., Ang, A.A.S., Sievers, R.E., Lee, R.J.*, and **Springer, M.L.*** (2013). Pleiotrophin gene therapy for peripheral ischemia: evaluation of full-length and truncated gene variants. *PLoS ONE* **8**:e61413. (*co-corresponding authors)
44. Rafikov, R., Kumar, S., Aggarwal, S., Pardo, D., Fonseca, F.V., Ransom, J., Rafikova, O., Chen, Q., **Springer, M.L.**, and Black, S.M. (2014). Protein engineering to develop a redox insensitive endothelial nitric oxide synthase. *Redox Biol.* **2**:156-164.
45. Horn, P., Amabile, N., Angeli, F.S., Kelm, M., **Springer, M.L.**, Yeghiazarians, Y., Schroeter, H., and Heiss, C. (2014). Dietary flavanol intervention decreases endothelial microparticles in CAD patients: Improvement of endothelial integrity. *Brit. J. Nutr.* **111**:1245-1252.
46. Pinnamaneni, K., Sievers, R.E., Sharma, R., Selchau, A.M., Gutierrez, G., Nordsieck, E.J., Su, R., An, S., Chen, Q., Wang, X., Derakhshandeh, R., Aschbacher, K., Heiss, C., Glantz, S.A., Schick, S.F., and **Springer, M.L.** (2014). Brief exposure to secondhand smoke reversibly impairs endothelial vasodilatory function. *Nicotine Tob. Res.* **16**:584-590. (Coverage on *KGO 810 radio Morning Show*, 12/10/13, and in the *San Francisco Chronicle*, 12/11/13)
47. Liu, J., Wang, X., Narayan, S., Glantz, S.A., Schick, S.F., and **Springer, M.L.** (2016). Impairment of endothelial function by little cigar secondhand smoke. *Tob. Regul. Sci.* **2**:56-63.
48. Chen, Q., Varga, M., Wang, X., Haddad, D.J., An, S., Medzikovic, L., Derakhshandeh, R., Kostyushev, D.S., Zhang, Y., Clifford, B.T., Luu, E., Danforth, O.M., Rafikov, R., Gong, W., Black, S.M., Suchkov, S.V., Fineman, J.R., Heiss, C., Aschbacher, K., Yeghiazarians, Y., and **Springer, M.L.** (2016) Overexpression of nitric oxide synthase restores circulating angiogenic cell function in patients with coronary artery disease: Implications for autologous cell therapy for myocardial infarction. *J. Am. Heart Assoc.* **5**:e002257.
49. Aschbacher, K., Derakhshandeh, R., Flores, A.J., Narayan, S., Mendes, W.B., and **Springer, M.L.** (2016). Circulating angiogenic cell function is inhibited by cortisol in vitro and associated with psychological stress and cortisol in vivo. *Psychoneuroendocrinology* **67**:216-223.
50. Wang, X., Derakhshandeh, R., Liu, J., Narayan, S., Nabavizadeh, P., Le, S., Danforth, O.M., Pinnamaneni, K., Rodriguez, H.J., Luu, E., Sievers, R.E., Schick, S.F., Glantz, S.A., and **Springer, M.L.** (2016). One minute of marijuana secondhand smoke exposure substantially impairs vascular endothelial function. *J Am Heart Assoc* **5**:e003858. (Editorial in *ibid.*, *5*: e004004) (coverage including *KCBS radio interview 8/1/16*, *Berkeley Wellness Letter online*, *CBS News*, *Fox News*, *Forbes*, *US News & World Report*, *UCSF News*, and inclusion in *UC System weekly top news*)

51. Gotts, J.E., Chun, L.F., Abbott, J., Fang, X., Takasaki, N., Nishimura, S.L., **Springer, M.L.**, Schick, S.F., Calfee, C.S., and Matthay, M.A. (2018). Cigarette smoke exposure worsens acute lung injury in antibiotic-treated bacterial pneumonia in mice. *Am. J. Physiol. Lung Cell. Mol. Physiol.*, Epub ahead of print: doi:10.1152/ajplung.00405.2017.

NON-PEER REVIEWED PUBLICATIONS:

Review Articles

1. von Degenfeld, G., Banfi, A., **Springer, M.L.**, and Blau, H.M. (2003). Myoblast-mediated gene transfer for therapeutic angiogenesis and arteriogenesis. *British J. Pharmacol.* 140:620-626.

Books and Chapters

1. **Springer, M.L.**, Rando, T., and Blau, H.M. (1997; revised 2002). Gene delivery to muscle. In *Current Protocols in Human Genetics*, A.L. Boyle, ed. John Wiley & Sons, N.Y., Unit 13.4.
2. Ozawa, C.R., **Springer, M.L.**, and Blau, H.M. (2000). A novel means of drug delivery: Myoblast-mediated gene therapy and regulatable retroviral vectors. *Annu. Rev. Pharmacol. Toxicol.* 40: 295–317.
3. Ozawa, C.R., **Springer, M.L.**, and Blau, H.M. (2000). Ex vivo gene therapy using myoblasts and regulatable retroviral vectors. In *Gene Therapy: Therapeutic Mechanisms and Strategies*. N.S. Templeton and D.D. Lasic, ed. Marcel Dekker, Inc., New York, pp. 61-80.
4. Banfi, A., **Springer, M.L.**, and Blau, H.M. (2002). Myoblast-mediated gene transfer for therapeutic angiogenesis. *Methods Enzymol.* 346:145-157.
5. **Springer, M.L.** (2010). Assessment of myocardial angiogenesis and vascularity in small animal models. In *Methods in Molecular Biology, vol 660: Stem Cells for Myocardial Regeneration: Methods and Protocols*. R.J. Lee, ed. Humana Press, Inc., Totowa, N.J., pp. 149-167.
6. **Springer, M.L.** (2013). Gene therapy and angiogenesis. In *Cardiology: An Illustrated Textbook*. K. Chatterjee *et al.*, eds. Jaypee Brothers Medical Publishers (P) Ltd., Maryland Heights, M.O., pp. 2013-2029.

Other Publications

1. **Springer, M.L.** (1995). Gene therapy for restenosis: retinoblastoma to the rescue. *Molec. Med. Today* 1:57. (Commentary)
2. **Springer, M.L.** (1995). Cell implantation treatment for MPS VII. *Molec. Med. Today* 1:111. (Commentary)
3. **Springer, M.L.** (1996). Towards a treatment for Tay-Sachs disease. *Molec. Med. Today* 2:232. (Commentary)
4. **Springer, M.L.**, Brazelton, T.R., and Blau, H.M. (2001). Not the usual suspects: The unexpected sources of tissue regeneration. *J. Clin. Invest.* 107:1355-1356. (Invited commentary)
5. **Springer, M.L.** (2002). VEGF therapy in heart disease: For better or for worse? *Drug Discovery Today.* 7:209-211. (Invited editorial)

6. **Springer, M.L.** (2008). Living both music and medicine: Where the two practices intersect. (One of several sections.) *San Francisco Medicine* **81(2)**:38-39. (Invited commentary)
7. Roberts, W.C., **Springer, M.L.**, Wang, X., and Wang, D. (2011). The launch of American Journal of Cardiovascular Disease. *Am. J. Cardiovasc. Dis.* **1**:i-ii. (Invited editorial)
8. **Springer, M.L.** and Wang, X. (2011). Blunting half of the double-edged sword: Potential use of interleukin-10 to protect bone marrow-derived cells after myocardial infarction. *Circ. Res.* **109**:1196-1198. (Invited editorial)
9. **Springer, M.L.** (2012). Earthquake safety at work: An important topic to review with patients. *San Francisco Medicine* **85(9)**:12-13. (Invited article)
10. **Springer, M.L.** (2016). CANNABIS: Clearing some smoke? *San Francisco Medicine* **89(2)**:26. (Invited editorial)
11. Glantz, S.A., Halpern-Felsher, B., and **Springer, M.L.** (2018). Marijuana, Secondhand Smoke, and Social Acceptability. *JAMA Intern. Med.* **178**:13-14. (Invited editorial)

NON-SCIENCE ARTICLES:

1. **Springer, M.L.** (2006). No guts, no glory: Digging into ‘Chanukah, Oh Chanukah.’ *Strings* **144**:42-45.
2. **Springer, M.L.** (2007). Half a world away: Exploring celebratory music from China. *Strings* **145**:26-29.

PATENTS ISSUED OR PENDING

1. New U.S. Provisional Application No. 62/372,704 (pending), for: METHODS AND COMPOSITIONS FOR PREVENTING AND TREATING DAMAGE TO THE HEART, John, Gaur, Springer, Wang inventors

MEDIA COVERAGE, ADVOCACY, AND OTHER CREATIVE ACTIVITIES:

- 2005: Online video, lecture about ultrasound-guided injection into mouse myocardium, Swiss Cardiovascular Research and Training Network, Geneva, Switzerland (still viewable at http://www.visualsonics.com/imaging/online_workshops.php)
- 2006: Springer Laboratory website (<http://cardiolab.ucsf.edu/molcardiolab/>), including lab information, technical resources, and protocols
- 2007: Website as an information resource for UCSF faculty to learn about dealing with industry: through the Research Administration Board, I co-authored the content and coordinated the project (<http://ctsi.ucsf.edu/research/industry-faq>)
- 2008: Home earthquake preparedness website as a campus and public resource (moved in 2010 to <http://earthquake.matthewspringer.com>)
- 2009: Interviewed for two KSFO radio news stories about earthquake safety (10/10/09)

- 2010: News interview for UCSF Today about earthquake safety, 2/1/10 (<http://www.ucsf.edu/news/2010/02/3181/professor-conduct-earthquake-preparedness-seminars>)
- 2010: Home earthquake preparedness lecture broadcast on UCTV national cable network (multiple broadcasts from 4/10-7/10), and available for online streaming on demand by UCTV (>200,000 online hits/views; <http://www.uctv.tv/search-details.aspx?showID=18193> and via YouTube at <http://www.youtube.com/watch?v=0Qa7gVrzFlk>)
- 2010: Interviewed for “Tech News” about microscopy contests, *Biotechniques*, 2010, 49:783-787
- 2011: First page coverage of earthquake safety talks in UCSF Synapse newspaper (3/10/11)
- 2011: Created Quaketips blog about earthquake preparedness (<http://quaketips.blogspot.com>); >300,000 page views
- 2011: News interview for UCSF Today regarding our research article about cardiac cell therapy (<http://www.ucsf.edu/news/2011/09/10649/ucsf-study-identifies-weakness-heart-attack-therapy>)
- 2011: Cardiac cell therapy research covered as a news item by *Science* online (ScienceNOW, Sept 14) and *Nature* (477:373 - Research Highlights)
- 2011: Interviewed about cardiac cell therapy research for German news radio broadcast (12/8/16): <http://www.dradio.de/dlf/sendungen/forschak/1623854/>
- 2013: Letter to the Editor, San Francisco Chronicle, 7/12/13 (“The other danger of e-cigarettes”) in response to editorial opposing limits on e-cigarette public use: <http://www.sfgate.com/opinion/letterstoeditor/article/Letters-to-the-editor-July-12-4660991.php>
- 2013: Quoted in material for Berkeley City Council hearing about proposed restrictions on e-cigarette sales and use: http://www.ci.berkeley.ca.us/Clerk/City_Council/2013/09Sep/Documents/2013-09-10_Item_36_Refer_Electronic_Cigarette_Sale.aspx
- 2013: Interviewed for two KGO radio news stories about our secondhand smoke research, aired 12/10/13; mp3 clips available at http://cardiolab.ucsf.edu/molcardiolab/news_coverage/KGO_NTR_12-10-13_clips.html
- 2013: Secondhand smoke research covered in the San Francisco Chronicle, 12/11/13: <http://www.sfgate.com/health/article/Questions-about-exercise-help-patients-shed-pounds-5052910.php> (one of several features; weight loss reference in URL refers to first feature)
- 2014: Letter to the Editor, Denver Post, 5/6/14 (“Colorado Symphony Orchestra shouldn’t cater to pot users”) expressing concern about potential smoke exposure resulting from the Colorado Symphony’s cannabis-themed concert series: <http://blogs.denverpost.com/eletters/2014/05/05/colorado-symphony-orchestra-shouldnt-cater-pot-users/30499/>
- 2014: Our cardiac cell therapy research mentioned in a news article in *Science*, 7/18/14: <http://www.sciencemag.org/content/345/6194/252.full?sid=8fdf8b96-e641-4d60-95bc-74c6ceff28be>

- 2014: Interviewed for San Francisco Examiner article about Napa earthquake:
<http://www.sfexaminer.com/sanfrancisco/sf-escapes-largest-quake-in-decades-with-no-major-disturbances/Content?oid=2883955>
- 2014: Article in UCSF Synapse Newspaper orientation issue, 9/25/14 ("UCSF IS MOVING: Advice to new and old students alike about earthquake preparedness"):
<http://synapse.ucsf.edu/articles/2014/09/25/ucsf-moving-advice-new-and-old-students-alike-about-earthquake-preparedness>
- 2014: Extensive media coverage of abstract about marijuana secondhand smoke presented at the American Heart Association (AHA) Scientific Sessions, November 2014. Interviews included live KCBS radio phone interview and phone interview for news clips on KGO radio; separate video interviews for the AHA pressroom, HCPLive.com, and Medpage Today; and print/web coverage included Fox News, CBS, MSN Money, San Francisco Chronicle, San Francisco Examiner, WebMD, Cardiovascular Business, HealthDay, and Healthline.com, with commentary in the Washington Post. **Representative links:**
KCBS radio interview audio available at
http://cardiolab.ucsf.edu/molcardiolab/news_coverage/KCBS_2ndhand_pot.html
Video interview: <http://www.hcplive.com/conferences/aha-2014/Looking-at-Marijuana-Secondhand-Smoke-and-Vascular-Health>
<http://www.cbsnews.com/news/hazards-of-secondhand-marijuana-smoke/>
<http://www.foxnews.com/health/2014/11/17/secondhand-marijuana-smoke-may-harm-blood-vessel-function-as-much-as-cigarette/>
- 2014: Request for information about our marijuana secondhand smoke research from Alameda County Board of Supervisors.
- 2015: Front page coverage in Napa Valley Register's St. Helena Star newspaper of earthquake preparedness presentation for community of St. Helena, CA (near epicenter of 2014 South Napa earthquake), 1/6/15: http://napavalleyregister.com/star/news/local/ucsf-professor-shares-quake-preparedness-tips/article_06c214ea-2a0a-5ebd-9537-b7b78977c6f3.html
- 2015: Policy briefing submitted to California's Blue Ribbon Commission on Marijuana Policy (Springer and Glantz, "Marijuana Use and Heart Disease: Potential Effects of Public Exposure to Smoke"): <https://www.tobacco.ucsf.edu/marijuana-use-and-heart-disease-potential-effects-public-exposure-smoke>
- 2015: Interviewed for RadioMD about marijuana secondhand smoke: <http://radiomd.com/show/er-101/item/29615-medical-marijuana-and-secondhand-smoke>
- 2016: Letter to the Editor, Washington Post, 2/3/16 ("Secondhand marijuana smoke is harmful, just like tobacco smoke") commenting on controversy in Washington, DC about appropriate limitations on public smoking of tobacco and marijuana:
https://www.washingtonpost.com/opinions/secondhand-marijuana-smoke-is-harmful-just-like-tobacco-smoke/2016/02/03/c454a080-c915-11e5-b9ab-26591104bb19_story.html
- 2016: Letter to the Editor, Toronto Star, 3/21/16 ("Vaping's effects still uncertain") in support of Ontario's proposed strict prohibitions on smoking and vaping medicinal marijuana in enclosed public places:
https://www.thestar.com/opinion/letters_to_the_editors/2016/03/21/vapings-effects-still-uncertain.html

- 2016: Marijuana secondhand smoke research covered in the Sacramento Bee, 4/21/16:
<http://www.sacbee.com/news/state/california/california-weed/article73208902.html>
- 2016: Interviewed for several news articles after our findings were cited as influencing proposal of California State Assembly bill AB2300 (allowing landlords who prohibit smoking of tobacco in rental units to prohibit smoking marijuana) was unanimously approved by the Assembly Judiciary Committee, including the Los Angeles Times (5/6/16:
<http://www.latimes.com/politics/la-pol-sac-essential-poli-assembly-votes-to-allow-landlords-to-prohibit-tena-1462468568-htmlstory.html>) with more information in the Santa Rosa Press Democrat (5/4/16: <http://www.pressdemocrat.com/news/5564669-181/bill-by-assemblyman-jim-wood?artslide=0>)
- 2016: Extensive media coverage of our marijuana secondhand smoke paper after publication. Interviews included live KCBS radio phone interview with subsequent news clip; print/web coverage included Berkeley Wellness Letter (online), Fox News, CBS, Forbes, US News & World Report, Reuters Health, and medicalresearch.com. **Representative links:**
(Radio interview) <http://sanfrancisco.cbslocal.com/2016/08/01/secondhand-marijuana-smoke-worse-for-your-health-than-tobacco-study-finds/>
<http://www.cbsnews.com/news/smoking-heart-health-pot-or-tobacco/>
<http://www.foxnews.com/health/2016/07/28/secondhand-marijuana-smoke-may-be-more-harmful-than-that-from-tobacco.html>
<http://www.berkeleywellness.com/self-care/preventive-care/article/risks-secondhand-marijuana-smoke>
<http://www.ucsf.edu/news/2016/07/403721/one-minute-second-hand-marijuana-smoke-impairs-cardiovascular-function>
- 2016: Featured in an “Expert Q&A” article for the Berkeley Wellness Letter online:
<http://www.berkeleywellness.com/healthy-community/environmental-health/article/do-researchers-have-right-marijuana>
- 2017: Coverage of earthquake preparedness advocacy efforts, Digital Journal 1/6/16:
(<http://www.digitaljournal.com/life/lifestyle/op-ed-earthquake-preparedness-is-ever-present-especially-for-sf-bay/article/483109>)
- 2017: Interviewed for comments about another researcher's conference report regarding cardiovascular effects of marijuana use, San Jose Mercury News print edition 3/16/17: (online article links to third party site) <http://www.thecannifornian.com/cannabis-health/study-marijuana-stroke-heart-failure/>
- 2017: Featured in UCSF Magazine Summer 2017 issue, pp 12-17:
<https://issuu.com/ucsfmagazine/docs/ucsf-magazine-summer-2017> (excerpt subsequently appeared as a feature on the UCSF Campaign website:
<https://campaign.ucsf.edu/stories/mustering-evidence-against-secondhand-marijuana-smoke>)
- 2017: Interviewed for HealthDay (11/14/17) and MedPage Today (11/16/17) about research into health effects of iQOS heat-not-burn system:
<https://consumer.healthday.com/cancer-information-5/cigarette-smoking-tobacco-health-news-665/new-heat-not-burn-cigarettes-harm-blood-vessels-study-728445.html>

- <https://www.medpagetoday.com/meetingcoverage/aha/69338>
- 2017: Interviewed for San Francisco Chronicle story on marijuana health policy, 11/26/17: <http://www.sfchronicle.com/bayarea/article/SF-report-weighs-health-risks-raised-by-legal-pot-12383530.php>
- 2018: Featured in KALW Public Radio news story about secondhand marijuana smoke, 1/10/18: <http://kalw.org/post/secondhand-cannabis-smoke-bad-you#stream/0>
- 2018: Featured in NPR's The California Report (2/20/18) and then NPR's national Morning Edition (3/19/18) about secondhand marijuana smoke:
<https://ww2.kqed.org/stateofhealth/2018/02/20/now-that-pot-is-legal-should-you-worry-about-secondhand-smoke-california-scientist-says-yes/>
<https://www.npr.org/sections/health-shots/2018/03/19/592873218/are-there-risks-from-secondhand-marijuana-smoke-early-science-says-yes>
- 2018: Continued media coverage of secondhand marijuana smoke research. Interviews included live KSRO radio (Santa Rosa) phone interview, and phone interviews for KFBK radio (Sacramento) and the Daily Mail (UK); additional print/web coverage included US News & World Report, Washington Post, Kaiser Health News, and the Drudge Report.
Representative links:
KSRO live phone interview (2/27/18): <http://www.ksro.com/2018/02/27/interview-the-dangers-of-secondhand-marijuana-smoke/>
KFBK radio interview (3/20/18) audio clips available at:
http://cardiolab.ucsf.edu/molcardiolab/news_coverage/KFBK_3-20-18_clips.html
<https://www.usnews.com/news/health-care-news/articles/2018-03-20/study-marijuana-smoke-3-times-worse-for-you-than-tobacco-smoke>
<http://www.dailymail.co.uk/health/article-5531929/Second-hand-weed-smoke-effect-arteries-cigarettes.html>
- 2018: "NowThis News" video about our secondhand marijuana smoke research, 3/20/18 (>255,000 views in 2 days on Facebook): <https://nowthisnews.com/videos/weed/there-might-be-risks-to-secondhand-weed-smoke>

CONSULTING:

- 2000-2003: Consultant, Lockheed Martin Engineering and Sciences Company for research at NASA Ames Research Center, involving development of cell culture research unit for the International Space Station.

MISCELLANEOUS:

Journal covers and textbook covers using Springer photomicrographs:

- 1989: *Genes Dev.* vol. 3, no. 4
1990: *BioEssays* vol. 12, no. 2
1992: *Dev. Biol.* vol. 152, no. 2

- 1993: *BioEssays* vol. 15, no. 6
 1998: *Mol. Cell* vol. 2, no. 5
 1998: *Fungal Gen. Biol.* vol. 25, no. 3
 2000: *Neurospora, Contributions of a Model Organism*, by R. Davis
 2000: *The Neurospora Compendium: Chromosomal Loci*, by D.D. Perkins *et al.*

Textbooks, news articles, reviews, and exhibits using Springer photomicrographs (partial list):

- 1990: N.L. Glass and C. Staben, *Sem. Dev. Biol.* 1:177-184, Fig. 2
 1992: *Development: The Molecular Genetic Approach*, V.E.A. Russo *et al.* eds., pp 91-93
 1994: *Biology: Concepts and Connections*, by N. Campbell *et al.*, p 333 (also Spanish, Italian translations)
 1996: *The World of the Cell*, 3rd edition, by W. Becker *et al.*, p 752
 1999: R. Maheshwari, *Fungal Gen. Biol.* 26:1-18, Fig. 6
 2000: *Neurospora, Contributions of a Model Organism*, by R. Davis, various pages
 2000: *The Neurospora Compendium: Chromosomal Loci*, by D.D. Perkins *et al.*, various pages
 2000: *Nature* 404:805 News Feature
 2000: The Oregonian (newspaper), Nov. 22, pp 1M-2M
 2001: Johnson Space Center, Houston, TX, educational CD-ROM
 2002: R.H. Davis and D.D. Perkins, *Nature Reviews Genetics*, 3:7-13
 2004: *Chronobiology: Biological Timekeeping*, J.C. Dunlap *et al.* eds., plate 2
 2004: *Genomics & Proteomics*, June online issue <http://www.genpromag.com>
 2004: *Biology*, 7th Edition, by N. Campbell and J. Reece, p 616 (also French translation)
 2004: *Arti VMBO-Praktijkboek Handenarbeid 2* (“Arts & Crafts Workbook”; The Netherlands), by C. van Sabben, p 19
 2005: *Circadian Physiology*, 2nd Edition, by R. Refinetti, p 230
 2005: *Genetik* (Germany), by W. Janning and E. Knust, p 102
 2005: *Introduction to Microbiology* (Online textbook) by T. Paustian and G. Roberts, Fig. 1.2
 2005: *Concepts of Genetics*, 8th Edition, by W.S. Klug *et al.*, p 12
 2005: *Storia Della Scienza* (“History of Science”; Italy), Vol. IX, Parisi *et al.*, eds., p 122
 2006: *Microbiology*, 2nd Edition, by R.W. Bauman, p 359
 2006: R. Allshire and E. Selker, in Chapter 6, *Epigenetics*, C.D. Allis *et al.*, eds., p 114
 2007: *Biologia*, 7th Edition (Argentina), by H. Curtis *et al.*, p 192
 2008: *Principles of Modern Microbiology*, by M. Wheelis, p 349
 2008: *Biology – Concepts & Investigations*, by M. Hoefnagels, p 437
 2008: Nikon Small World microscopy competition 4th prize: February in Nikon 2009 calendar plus online coverage in New York Times, National Geographic, Scientific American, New Scientist, MSNBC
 2009: *DNATrium* interactive exhibit of genetics and genomics, Broad Institute, Cambridge, MA
 2009: N. Raju, *J. Biosci.* 34:139-159, Fig. 3B
 2010: D. Ebbole, in *Cellular and Molecular Biology of Filamentous Fungi*, K. Borkovich and D. Ebbole, eds.
 2011: *Biologie heute SII, Gesamtband* (Germany), by J. Braun *et al.*, p 130
 2011: *Concepts of Genetics*, 10th Edition, by W.S. Klug *et al.*, figure as in 8th Edition above plus additional figure
 2011: *Fungi: Experimental Methods in Biology*, 2nd Edition, by R. Maheshwari
 2012: *Molecular Biology: Principles and Practice*, 1st Edition, by M. Cox *et al.* page A-11
 2013: *Fundamentals of Biochemistry: Life at the Molecular Level*, 4th Edition, by D. Voet *et al.*

- 2013: E. Selker, in *Brenner's Online Encyclopedia of Genetics*, S. Maloy and K. Hughes, eds.
2015: *Livets Koder* ("Codes of Life"; Denmark), by P.H. Jakobsen, p 60
TBA: Freeman's *Biological Science*, 6th Edition, by L. Allison *et al.*