OMB No. 0925-0001 and 0925-0002 (Rev. 10/2021 Approved Through 09/30/2024)

BIOGRAPHICAL SKETCH

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NAME: Boffetta, Paolo

eRA COMMONS USER NAME (credential, e.g., agency login): PAOLO.BOFFETTA

POSITION TITLE: Professor and Associate Director for Population Sciences at the Cancer Center at Stony Brook University.

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Univ. of Turin Faculty of Medicine	MD	1985	Medicine
Univ. of Turin Faculty of Medicine	Residency	1997	Medicine
Columbia Univ. School of Publ. Health, New York	MPH	1988	Public Health
Univ. of Turin School of Specialization in Hygiene	Diploma	1988	Hygiene & Prev.Med.

A. Personal Statement

I have a long-term experience in cancer prevention research coupled with mentorship of post-doctoral fellows and junior faculty. Specifically, former postdoctoral fellows of mine hold senior faculty positions at institutions such as the American Cancer Society, University of Utah, University of Toronto, and the World Health Organization. One of the main research areas is risk of cancer incidence and mortality among World Trade Center rescue and recovery workers. In addition, I am the founder/coordinator of a number of international consortia of molecular and genetic cancer epidemiology, including lung cancer (ILCCO), head and neck cancer (INHANCE), and stomach cancer (StoP). I was co-director of a T32 program in cancer prevention at Icahn School of Medicine at Mount Sinai. In the framework of that program, I was responsible for developing and overseeing the formal education plan of trainees, formal didactic training and selection of course work, actively sought opportunities for trainees to use data and participated in the international collaborations, and I was responsible for helping graduates securing academic positions upon completing the program. I am currently mentoring postdoctoral fellows and residents at Stony Brook University, at Icahn School of Medicine at Mount Sinai and University of Bologna.

I am thrilled to be part of the LINCATS team and to lead the Resources and Services Module (RSM). I am uniquely positioned to lead this Module to facilitate trainees and researchers' access to needed services and resources to ensure their success in solving chokepoints in Clinical and Translational Science. My extensive experience in research and mentoring will help in fulfilling this role and fulfilling the goals of our proposal.

B. Positions, Scientific Appointments, and Honors

Positions and Employment

2020 - Associate Director for Population Sciences at the Cancer Center at Stony Brook University
2016 - Visiting Professor, University of Turin, Italy
2014 - Adjunct Professor, Catholic University, Rome, Italy

2010 - Bluhdorn Professor of International Community Medicine at Mount Sinai School of Medicine
2010 - 2015 Director, Institute for Translational Epidemiology, Department of Oncological Sciences, Icahn School of Medicine at Mount Sinai, New York, NY, USA
2009 - Adjunct Professor, Department of Epidemiology, Harvard School of Public Health, Boston, MA, USA
2009 - 2020 Associate Director for Population Sciences, The Tisch Cancer Institute, and Vice-Chair, Department of Oncological Sciences, Icahn School of Medicine at Mount Sinai, New York, NY, USA
2005 - 2009 Head of the Fellowship Program, IARC, Lyon, France
2004 - 2009 Coordinator of the Genetics and Epidemiology Cluster, IARC, Lyon, France
2003 - Adjunct Professor of Medicine, Vanderbilt University, Nashville TN, USA
2003 – 2004 Professor and Division Chief, German Cancer Research, Heidelberg, Germany.
2000 - 2009 Head of the Courses Program, IARC, Lyon, France
2000 - 2006 Foreign Adjunct Professor at the Department of Medical Epidemiology and at the Microbiology and Tumour Biology Centre, Karolinska Institute, Stockholm, Sweden
1998 - 1999 Visiting Scientist, Division of Cancer Epidemiology and Genetics, NCI, Washington
1995 - 2004 Chief of the Unit of Environmental Cancer Epidemiology, IARC, Lyon, France
1990 - 1994 Medical Officer in the Unit of Analytical Epidemiology, International Agency for Research on Cancer (IARC), Lyon, France

Other Experience and Professional Memberships

2015 - Fellow of the New York Academy of Medicine
2013 - Fellow of the European Academy of Cancer Sciences
2013 Chair of the 44th International Symposium of the Princess Takamatsu Cancer Research Fund (Tokyo, Japan, October 2013)
2010 - Member, ad-hoc member and chair of several NCI Study Sections
2010 Chair of the AACR Special Conference “The Future of Molecular Epidemiology: New Tools, Biomarkers, and Opportunities” (Miami, FL, June 2010)
2008 - 2012 Member of the NIH Study Section on Cancer Epidemiology
2008 - 2009 Chair of the Molecular Epidemiology Group of the American Association for Cancer Research

Editor, Frontiers in Oncology (Molecular Epidemiology); Associate Editor, Biomarkers; Eur J Clin Invest, Ann Oncol
Included in the Reuter Thomson List of 2015 World's Most Highly Cited Researchers

C. Contributions to Science

1. Identification of environmental causes of cancer: I have designed and conducted multicenter studies aimed at clarifying the association between environmental exposures and various types of cancer. These studies have contributed to clarify, among others, the role of second-hand tobacco smoke and other sources of indoor air pollution as cause of lung cancer, non-occupational exposure to asbestos and risk of lung cancer and mesothelioma, and the role of exposure to animals and animal products in esophageal and lung cancer. Selected publications include:

a. Dar NA, Islami F, Bhat GA, Shah IA, Makhdoomi MA, Iqbal B, Rafiq R, Lone MM, **Boffetta P**. Contact with animals and risk of oesophageal squamous cell carcinoma: outcome of a case-control study from Kashmir, a high-risk region. Occup Environ Med 2014;71:208-14. PMID: 24406322
b. Peluso ME, Munnia A, Srivatanakul P, Jedpiyawongse A, Sangrajrang S, Ceppi M, Godschalk RW, van Schooten FJ, **Boffetta P**. DNA adducts and combinations of multiple lung cancer at-risk alleles in environmentally exposed and smoking subjects. Environ Mol Mutagen 2013;54:375-83. PMID: 23797975
c. McCormack V, Peto J, Byrnes G, Straif K, **Boffetta P**. Estimating the asbestos-related lung cancer burden from mesothelioma mortality. Br J Cancer 2012;106:575-84. PMID: 22233924. Erratum: Br J Cancer 2014;111:2381.

d. Sisti J, **Boffetta P**. What proportion of lung cancer in never-smokers can be attributed to known risk factors? Int J Cancer 2012;131:265-75. PMID: 22322343

2. Characterization of the role of tobacco and alcohol and human carcinogens: I have conducted a number of studies on (i) the shape of the dose-response relationship between cancer risk and tobacco and alcohol use, in particular at low doses [refs], (ii) the interaction between alcohol drinking and tobacco smoking in determining risk of head and neck cancer, (iii) the identification of genetic variants associated with tobacco- and alcohol-related cancer risk, (iv) the quantification of the burden of tobacco- and alcohol-related cancer. I have published more than 200 publications on the role of tobacco and alcohol as human carcinogens, including the following:

a. Bagnardi V, Rota M, Botteri E, Tramacere I, Islami F, Fedirko V, Scotti L, Jenab M, Turati F, Pasquali E, Pelucchi C, Galeone C, Bellocco R, Negri E, Corrao G, **Boffetta P**, La Vecchia C. Alcohol consumption and site-specific cancer risk: a comprehensive dose-response meta-analysis. Br J Cancer 2014;112:580-93. PMID: 25422909
b. Zheng W, McLerran DF, Rolland BA, Fu Z, **Boffetta P**, He J, Gupta PC, Ramadas K, Tsugane S, Irie F, Tamakoshi A, Gao YT, Koh WP, Shu XO, Ozasa K, Nishino Y, Tsuji I, Tanaka H, Chen CJ, Yuan JM, Ahn YO, Yoo KY, Ahsan H, Pan WH, Qiao YL, Gu D, Pednekar MS, Sauvaget C, Sawada N, Sairenchi T, Yang G, Wang R, Xiang YB, Ohishi W, Kakizaki M, Watanabe T, Oze I, You SL, Sugawara Y, Butler LM, Kim DH, Park SK, Parvez F, Chuang SY, Fan JH, Shen CY, Chen Y, Grant EJ, Lee JE, Sinha R, Matsuo K, Thornquist M, Inoue M, Feng Z, Kang D, Potter JD. Burden of total and cause-specific mortality related to tobacco smoking among adults aged ≥ 45 years in Asia: a pooled analysis of 21 cohorts. PLoS Med 2014;11:e1001631. PMID: 24756146; PMCID: PMC3995657
c. **Boffetta P**, Hecht S, Gray N, Gupta P, Straif K. Smokeless tobacco and cancer. Lancet Oncol 2008;9:667-75. PMID:18598931
d. Hashibe M, Brennan P, Benhamou S, Castellsague X, Chen C, Curado MP, Dal Maso L, Daudt AW, Fabianova E, Wünsch-Filho V, Franceschi S, Hayes RB, Herrero R, Koifman S, La Vecchia C, Lazarus P, Levi F, Mates D, Matos E, Menezes A, Muscat J, Eluf-Neto J, Olshan AF, Rudnai P, Schwartz SM, Smith E, Sturgis EM, Szeszenia-Dabrowska N, Talamini R, Wei Q, Winn DM, Zaridze D, Zatonski W, Zhang ZF, Berthiller J, **Boffetta P**. Alcohol drinking in never users of tobacco, cigarette smoking in never drinkers, and the risk of head and neck cancer: pooled analysis in the International Head and Neck Cancer Epidemiology Consortium. J Natl Cancer Inst 2007;99:777-89. PMID:17505073

3. Identification and quantification of occupational causes of cancer: I have contributed to the study of occupational causes of cancer in three ways. First, I have conducted a series of studies on suspected occupational carcinogens, including synthetic vitreous fibers, titanium dioxide, mercury, sulfur compounds, Second, I have conducted studies on known occupational carcinogens, including asbestos, crystalline silica, vinyl chloride, heavy metals such as chromium and nickel, wood dust, benzene: in general, these studies aimed as (i) clarifying the shape of the dose-response relationship, in particular at low doses, (ii) identifying additional target organs, (iii) assessing the effectiveness of prevention policies in reducing risk. Third, I have authored a large number of systematic reviews and meta-analysis; this work has included the editing of the main textbook on occupational cancer. Among the cancer sites I have studies with respect to occupational cancer are lung, bladder, sinonasal, liver, kidney, head and neck, stomach, esophagus, mesothelioma, leukemia, non-Hodgkin lymphoma. Overall, I published more than 200 articles on occupational causes of cancer, including the following examples:

a. Anttila S, **Boffetta P**, eds. Occupational Cancers. Springer, New York, 2014.
b. Solan S, Wallenstein S, Shapiro M, Teitelbaum SL, Stevenson L, Kochman A, Kaplan J, Dellenbaugh C, Kahn A, Biro FN, Crane M, Crowley L, Gabrilove J, Gonsalves L, Harrison D, Herbert R, Luft B, Markowitz SB, Moline J, Niu X, Sacks H, Shukla G, Udasin I, Lucchini RG, **Boffetta P**, Landrigan PJ. Cancer incidence in World Trade Center rescue and recovery workers, 2001-2008. Environ Health Perspect 2013;121:699-704. PMID: 23613120; PMCID: PMC3672914
c. Cocco P, Satta G, D'Andrea I, Nonne T, Udas G, Zucca M, Mannetje AT, Becker N, de Sanjosé S, Foretova L, Staines A, Maynadié M, Nieters A, Brennan P, Ennas MG, **Boffetta P.** Lymphoma risk in livestock farmers: Results of the Epilymph study. Int J Cancer. 2013;132:2613-8. PMID: 23065666.
d. La Vecchia C, **Boffetta P**. Role of stopping exposure and recent exposure to asbestos in the risk of mesothelioma. Eur J Cancer Prev 2012;21:227-30. PMID: 22314851

4. Global cancer epidemiology: I have established and conducted a number of case-control and cohort studies, as well as systematic reviews on risk factors of cancer in countries in social and economic transitions. These

studies have investigated risk factors which are population-specific (e.g., tea drinking in Central and Western Asia), and also assessed the contribution of established risk factors which are become more prevalent in countries in transition. Selected examples are listed below:

a. Soliman A, Schottenfeld D, **Boffetta P**, eds. Cancer Epidemiology: Low- and Middle-Income Countries and Special Populations. Oxford University Press, New York, 2013.
b. Dar NA, Bhat GA, Shah IA, Iqbal B, Rafiq R, Nabi S, Lone MM, Islami F, **Boffetta P**. Salt tea consumption and esophageal cancer, a possible role of alkaline beverages in esophageal carcinogenesis. Int J Cancer 2015;136:E704-10. PMID: 25209106
c. Zheng W, McLerran DF, Rolland B, Zhang X, Inoue M, Matsuo K, He J, Gupta PC, Ramadas K, Tsugane S, Irie F, Tamakoshi A, Gao YT, Wang R, Shu XO, Tsuji I, Kuriyama S, Tanaka H, Satoh H, Chen CJ, Yuan JM, Yoo KY, Ahsan H, Pan WH, Gu D, Pednekar MS, Sauvaget C, Sasazuki S, Sairenchi T, Yang G, Xiang YB, Nagai M, Suzuki T, Nishino Y, You SL, Koh WP, Park SK, Chen Y, Shen CY, Thornquist M, Feng Z, Kang D, **Boffetta P**, Potter JD. Association between body-mass index and risk of death in more than 1 million Asians. N Engl J Med 2011;364:719-29. PMID: 21345101; PMCID: PMC4008249
d. Islami F, Pourshams A, Nasrollahzadeh D, Kamangar F, Fahimi S, Shakeri R, Abedi- Ardekani B, Merat S, Vahedi H, Semnani S, Abnet CC, Brennan P, Møller H, Saidi F, Dawsey SM, Malekzadeh R, **Boffetta P**. Tea drinking habits and oesophageal cancer in a high risk area in northern Iran: population based case-control study. BMJ 2009;338:b929. PMID:19325180

5. Development of molecular epidemiology: I have contributed to the development of the field of molecular epidemiology by conducting some of the early studies on gene-environment interactions and editing two of the first textbooks on this topic (as well as editing a third more recent textbook and a chairing special conferences organized by the AACR and the Princess Takamatsu Cancer Research Fund). My own studies have included the identification of candidate genes in head and neck and lung cancer, the first genomewide association studies conducted on these two types of cancer, the first studies applying a number of exposure and early effect markers to a range of cancers (e.g., serological markers of SV40 infection in mesothelioma; nicotine metabolites and lung cancer; markers of inflammation and digestive cancers; chromosomal aberrations and several cancers). Selected examples are listed below:

a. Rothman N, Hainaut P, Schulte P, Smith M, **Boffetta P**, Perera F, eds. Molecular Epidemiology: Principles and Practices (IARC Scientific Publications No. 163), IARC, Lyon, 2012.
b. **Boffetta P**, Islami F, Vedanthan R, Pourshams A, Kamangar F, Khademi H, Etemadi A, Salahi R, Semnani S, Emadi A, Abnet CC, Brennan P, Pharoah PD, Dawsey SM, Malekzadeh R. A U-shaped relationship between haematocrit and mortality in a large prospective cohort study. Int J Epidemiol 2013;42:601-615. PMID: 23569195; PMCID: PMC3619954
c. **Boffetta P**, Islami F. The contribution of molecular epidemiology to the identification of human carcinogens: current status and future perspectives. Ann Oncol 2013;24:901-8. PMID: 23136234
d. **Boffetta P**, Clark S, Shen M, Gislefoss R, Peto R, Andersen A. Serum cotinine level as predictor of lung cancer risk. Cancer Epidemiol Biomarkers Prev 2006;15:1184-8. PMID:16775179

Reference list
http://www.ncbi.nlm.nih.gov/sites/myncbi/1PwK4loX66y/bibliography/41062671/public/?sort=date&direction=ascending