

Brain & Lung Tumor and Air Pollution Foundation

21865 Copley Drive ❖ Diamond Bar CA 91765

Michael D. Antonovich, Chair

Robert Davidson, Vice Chair

Board of Directors Meeting

February 13, 2006 ♦ 12:00 noon

AGENDA

The public may attend at any location listed below or by teleconference by calling 1-800-373-0950 and entering Participant Passcode 620351 followed by # key

Teleconference Locations:

Office of Chairman Spvr. Michael Antonovich 500 W Temple St, Room 869 Los Angeles CA	Office of Vice Chairman Robert Davidson 3360 E Pico Blvd Los Angeles CA
Office of Hal Bernson 11280 Corbin Ave, Suite A Porter Ranch CA	Office of SCAQMD ¹ 21865 Copley Dr - EO Conf Rm Diamond Bar CA
Office of Beatrice LaPisto-Kirtley 4201 Wilshire Blvd, Suite 200 Los Angeles CA	

Staff Member or Director

1.	Approve Minutes of the meetings of: February 22, 2005 (pp. 3-4) July 15, 2005 (pp. 5-6) and Annual Meeting March 4, 2005 (pp. 7-12)	Chery Cooper Foundation Secretary
2.	Annual Meeting of the Brain & Lung Tumor and Air Pollution Foundation A. Report on Current Research Projects Funded by the Foundation B. Future Research Opportunities for the Foundation	Barry Wallerstein< Chief Executive Officer Jean Ospital Health Effects Officer Jean Ospital

¹ South Coast Air Quality Management District

Directors: Hal Bernson, Bea LaPisto-Kirtley, James Silva

7.	<p>Other Business Any member of the Foundation, or its staff, on his or her own initiative or in response to questions posed by the public, may ask a question for clarification, may make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter, or may take action to direct staff to place a matter of business on a future agenda. (Government Code §54954.2)</p>	
8.	<p>Next Meeting Will be scheduled as needed.</p>	
9.	<p>Public Comment Members of the public may address the Foundation’s Board concerning any agenda item before or during consideration of that item (Government Code §54954.3). All agendas for regular meetings are posted at SCAQMD Headquarters, 21865 Copley Drive, Diamond Bar, California, at least 72 hours in advance of a regular meeting. At the end of the regular meeting agenda, an opportunity is also provided for the public to speak on any subject within the Board’s authority.</p>	
	<p>Americans with Disabilities Act The agenda and documents in the agenda packet will be made available, upon request, in appropriate alternative formats to assist persons with a disability (Govt. Code Section 54954.2(a)). Disability-related accommodations will also be made available to allow participation in the meeting. Any accommodations must be requested as soon as practicable. Requests will be accommodated to the extent feasible. Please contact Chery Cooper at 909-396-2745 from 7 a.m. to 5:30 p.m. Tuesday through Friday, or send the request to ccooper@aqmd.gov.</p>	

Brain & Lung Tumor and Air Pollution Foundation

21865 Copley Drive ❖ Diamond Bar CA 91765

Michael D. Antonovich, Chair

Robert Davidson, Vice Chair

Minutes February 22, 2005

Chairman Antonovich called the meeting of the Brain Tumor and Air Pollution Foundation to order at noon. Present by teleconference from the locations indicated were the following Directors (in alphabetical order):

Michael D. Antonovich - 500 W. Temple St., 869 Hall of Administration, Los Angeles CA
Hal Bernson - 11280 Corbin Ace., Suite A, Porter Ranch CA
Robert Davidson - 3360 E Pico Blvd., Los Angeles CA
Beatrice LaPisto-Kirtley, ex officio - 4201 Wilshire Blvd., Suite 200, Los Angeles CA²

Not attending:

James Silva

Also present by teleconference from AQMD Headquarters at 21865 Copley Dr., Diamond Bar CA 91765 were the following individuals (in alphabetical order):

Chery Cooper, Foundation Secretary
Dr. Jean Ospital, SCAQMD Health Effects Officer
Dr. Barry Wallerstein, Foundation Chief Executive Officer
Kurt Wiese, Counsel

1. APPROVE MINUTES OF MARCH 3, 2004 AND MARCH 5, 2004 MEETINGS

Moved (Davidson), seconded (Antonovich) and unanimously approved.

2. ANNUAL MEETING OF THE BRAIN AND LUNG TUMOR AND AIR POLLUTION FOUNDATION, INCLUDING FINANCIAL REPORT, AND RECOMMENDATION THAT AQMD BOARD APPOINT BEATRICE LAPISTO-KIRTLEY TO THE BRAIN AND LUNG TUMOR AND AIR POLLUTION FOUNDATION BOARD OF DIRECTORS

Moved (Davidson), seconded (Antonovich) and unanimously approved.

3. REPORT ON THE CALIFORNIA NON-PROFIT INTEGRITY ACT (SB1262) AND ITS IMPACT ON THE FOUNDATION

Counsel Kurt Wiese reported that this law applies to organizations with revenues exceeding \$2 million. If the Foundation were ever to be in a position to reach that threshold, Counsel would return with further guidance for the Board of Directors.

4. STATUS REPORT ON THE FOUNDATION'S AUTHORITY TO FUND A MEDICAL DEVICE PROPOSAL SUBMITTED BY MICROSURGEON, INC.

Counsel Kurt Wiese reported that the Foundation may not use its funds derived from SCAQMD for purposes that the SCAQMD would be prohibited from doing. An outside legal

² At the SCAQMD Governing Board's meeting on March 4, 2005, Beatrice LaPisto-Kirtley was formally appointed to the Board of the Brain & Lung Tumor and Air Pollution Foundation.

Directors: Hal Bernson, Bea LaPisto-Kirtley, James Silva

opinion was obtained and opines that this investment is prohibited. In granting \$1.5 million to the Foundation, the SCAQMD directed that the name and purpose of the Foundation be changed to include lung tumors and to return to AQMD a percentage of any royalties resulting from research funded by the Foundation. The proposed investment in MicroSurgeon to fund a medical device proposal may have generated royalties, but the issue is moot, given the opinion of outside counsel.

Counsel Kurt Wiese requested that, for purpose of clarity, the Foundation Board re-approve the change of name and purpose to include lung tumors. Moved (Davidson), seconded (Antonovich) and unanimously approved.

4. REPORT ON CURRENT RESEARCH PROJECTS FUNDED BY THE FOUNDATION.

Health Effects Officer Jean Ospital reported on promising results from studies underway pursuant to both grants and recommended that, if additional funding becomes available, the Foundation Board may wish to consider providing additional funding on both grants to continue the work in progress. Moved (Davidson), seconded (Antonovich) and unanimously approved the receipt of this report.

5. FUTURE RESEARCH OPPORTUNITIES FOR THE FOUNDATION

Health Effects Officer Jean Ospital reported on possible future research projects that the Foundation Board might consider. This included follow up studies in laboratory animals at Cedars-Sinai, as well as assessing exposure to air pollutants in the children's brain tumor study at USC. Staff recommended that the Board authorize the Executive Officer to work with the researchers to draft proposals for this research for consideration by the Foundation. The Board concurred with this recommendation.

6. OTHER BUSINESS - None

7. NEXT MEETING - The next meeting will be a joint meeting with the South Coast Air Quality Management District on March 4, 2005.

8. PUBLIC COMMENT - There was no public comment.

There being no further business, the meeting was adjourned.

Dated: February 22, 2005

Chery Cooper, Foundation Secretary

APPROVAL OF MINUTES:

Date: _____

Directors: Hal Bernson, Bea LaPisto-Kirtley, James Silva

Brain & Lung Tumor and Air Pollution Foundation

21865 Copley Drive ❖ Diamond Bar CA 91765

Michael D. Antonovich, Chair

Robert Davidson, Vice Chair

Minutes July 15, 2005

Chairman Antonovich called the meeting of the Brain & Lung Tumor and Air Pollution Foundation to order at noon. Present by teleconference from the locations indicated were the following Directors (in alphabetical order):

Michael D. Antonovich - 500 W. Temple St., 869 Hall of Administration, Los Angeles CA
Hal Bernson - 11280 Corbin Ace., Suite A, Porter Ranch CA
Beatrice LaPisto-Kirtley - 500 W. Temple St., 869 Hall of Administration, Los Angeles CA
James Silva, 16541 Peale Lane, Huntington Beach CA

Not attending: Robert Davidson

Also present by teleconference from AQMD Headquarters at 21865 Copley Dr., Diamond Bar CA 91765 were the following individuals (in alphabetical order):

Shelly Bullard, Assistant to Ms. LaPisto-Kirtley
Chery Cooper, Foundation Secretary
Dr. Jean Ospital, SCAQMD Health Effects Officer
Rick Pearce, Chief Financial Officer
Dr. Barry Wallerstein, Foundation Chief Executive Officer
Kurt Wiese, Counsel

2. APPROVE MINUTES OF FEBRUARY 22, 2005 MEETING

Moved (Antonovich), seconded (Bernson) and unanimously approved.

9. CONSIDER FUNDING OF A RESEARCH PROPOSAL FROM CEDARS-SINAI MEDICAL CENTER

Dr. Ospital reported that the proposal before the Foundation Board was to extend the studies from the initial grant to Cedars-Sinai Medical Center. The initial study results were briefly reviewed which included exposures to two toxics (naphthalene and butadiene) for three months and to ambient particulate matter for two weeks. This proposal is to study exposure to the prior two toxics and two additional ones (benzene and isoprene) for a one-year period, and exposure to ambient particulates including ultra fine particles, PM_{2.5} and PM_{2.5-10} for three months. The recommended grant amount is \$1.5M. The Foundation Board of Directors requested that the investigators evaluate existing research in this area, include a discussion of the correlation between work done and in progress by others, and the work contemplated under this grant, and that interim reports be provided to the Foundation Board at approximately six-month intervals. Moved (Bernson), seconded (LaPisto-Kirtley) and unanimously approved.

Directors: Hal Bernson, Bea LaPisto-Kirtley, James Silva

10. OTHER BUSINESS - None

11. NEXT MEETING - Will be scheduled as needed, no later than approximately Spring of 2006.

12. PUBLIC COMMENT - There was no public comment.

There being no further business, the meeting was adjourned.

Dated: July 15, 2005

Chery Cooper, Foundation Secretary

APPROVAL OF MINUTES:

Date: _____

Directors: Hal Bernson, Bea LaPisto-Kirtley, James Silva

Brain & Lung Tumor and Air Pollution Foundation

21865 Copley Drive ❖ Diamond Bar CA 91765

Michael D. Antonovich, Chair

Robert Davidson, Vice Chair

Minutes

March 4, 2005

The Annual Report of the Brain & Lung Tumor & Air Pollution Foundation (next page) was presented to the South Coast Air Quality Management District Governing Board at its March 4, 2005 meeting and was approved without discussion.

Dated: March 4, 2005

Chery Cooper, Foundation Secretary

APPROVAL OF MINUTES:

Date: _____

BOARD MEETING DATE: March 4, 2005

AGENDA NO. 10

PROPOSAL: Annual Meeting of the Brain Tumor and Air Pollution Foundation

SYNOPSIS: This item is to conduct the annual meeting of the Brain & Lung Tumor and Air Pollution Foundation. The Foundation staff will present an annual report detailing the research supported by the Foundation over the past year, the Foundation's plans for the future, and a financial report.

COMMITTEE: Not Applicable

RECOMMENDED ACTIONS:

1. Receive and file the annual report and ratify the Foundation disbursements described in the annual report; and
2. Appoint Beatrice LaPisto-Kirtley to the Foundation's Board of Directors.

Barry R. Wallerstein, D.Env.
Executive Officer

/ckc

2005 Annual Report

1. Background

In February, 2003, the Board established the Brain Tumor and Air Pollution Foundation. In March, 2004 the Foundation amended its Articles of Incorporation to change its name to Brain & Lung Tumor and Air Pollution Foundation (Foundation) and to specify that its purpose is related to the effects of air pollution on brain tumors and lung cancer. To carry out its purpose, the Foundation has funded research projects investigating the links between air pollution and brain and lung tumors. The dollar amount of the funding provided to date is \$717,590. The projects are described in greater detail below.

The mission of the Foundation is to support research studies on the association between air pollution and brain and lung tumors, as well as research for the development of novel therapeutics for such tumors. Additionally, the Board directed that 10% of the penalty fees collected by the AQMD in FY 2002-03—

approximately \$723,000—be transferred to the Foundation to establish a research program.

2. **Directors and Officers**

The Directors of the Foundation are: Michael D. Antonovich, Chairman
Robert Davidson, Vice Chairman
Hal Bernson
Bea LaPisto-Kirtley, Ex Officio Member
(see also Item 6 below)

The Foundation's staff is: Barry Wallerstein, Chief Executive Officer
Chery Cooper, Secretary
Rick Pearce, Treasurer

3. **Report on the Foundation's Activities and Plans**

Research Projects Funded to Date and Progress

A. Grant BTAP001: "Brain Tumors and Air Pollution"

Principal Investigator: Dr. Keith Black, Cedars Sinai Medical Center

Funding: \$559,250

At the request of the investigators, the grant performance period was extended to June, 30, 2005. Complex negotiations between Cedars Sinai and the University of California on research protocols led to delays in starting the experiments. The investigators collaborated with U.C. Irvine to conduct the exposures for the study.

The purpose of this grant is to investigate the biochemical and pathological changes in brain tissue of laboratory animals exposed to air pollutants, and whether any observed changes may be linked to formation and growth of tumors. The pollutants studied are ambient particulate matter, including coarse, fine, and ultrafine particulates, and toxic air contaminants that may be linked to brain tumor risk. Analyses include gene expression and tissue morphology changes.

Exposures of laboratory animals to concentrated ambient particulate matter for two weeks, as well as exposures of laboratory animals for three months to two toxic air contaminants -benzene and naphthalene - have been completed. These exposures were conducted in collaboration with researchers at the U.C. Irvine Medical School. Tissue samples from these experiments are currently undergoing biochemical and pathological analyses. Current funding will cover the completion of these analyses.

Preliminary findings from the animals exposed to ambient particulates indicate that the activities of some genes are altered in brain cells. One of these genes is related to production of a growth factor. These results, though preliminary, are intriguing and indicate that exposures to particles may be associated with alteration of cell regulation that could theoretically be associated with a pathway to cancer.

Results from studies funded by other agencies are also finding changes in brain tissues after particulate exposures. These include changes in biochemical markers for inflammation, and well as evidence of migration of particles into brain tissue. This migration may occur by particles penetrating the lungs into the bloodstream or by direct migration through nerve cells from the nose and upper airways into the olfactory bulb of the brain. Although additional study is needed to confirm these findings, the initial data indicate that this area may be fruitful in elucidating the toxic effects of particulate matter.

- B. Grant BTAP002: "Brain Tumor and Air Pollution: Studies of Existing Data"
Principal Investigator: Dr. Susan Preston-Martin, USC School of Medicine
Funding: \$158,340

At the request of the investigators, the grant performance period was extended to June 30, 2005. The start of the analytical work was delayed due to negotiations between USC and the state agencies involved in the collection of the data for approval of the research protocols and data confidentiality issues.

The project consists of two parts. One is to analyze existing data on cause of mortality and air pollution levels from a national cohort of individuals that the American Cancer Society (ACS) has been following for over 20 years. Previous analysis of this database revealed that particulate levels were associated with an increased risk for lung cancer. The task for the current grant is to conduct a similar analysis for brain cancer deaths.

The second component of the proposed study is to conduct an epidemiology study of exposure to air pollutants and the incidence of brain tumors in children living in the South Coast Air Basin. There were insufficient funds at the time of the project award to fund the complete proposal. This project received partial funding from the Foundation to cover the collection of data on children's brain tumor incidence in the AQMD's four-county area; and the preparation of this data for possible future study of the correlation of tumor incidence with past air pollution exposures should additional funding become available.

The investigators have been working with statisticians from the ACS and the analysis of data from the ACS cohort on air pollutant levels and brain tumor deaths is nearly complete. The results will be summarized in the form of a manuscript for publication in a scientific journal. The final report is expected within a few months.

The acquisition of data on children's brain tumor incidence in the AQMD's four-county area has been completed. The data available from the past two decades have been purchased, research protocols approved by the state agencies that collect the data, and the final quality assurance checks of the database is nearing completion. The final database is expected within the next few months. The data is being prepared in a format suitable for possible future study of the correlation of tumor incidence with past air pollution exposures. Staff estimates an additional \$450,000 would be needed to complete the exposure analyses described in the original proposal, which would consist of estimating past pollutant levels for particulates, ozone, and toxic air contaminants in the geographic areas where the children lived at the time of diagnosis, as well as pollutant levels at the place and time of birth for those children born in the four county area.

Recent results from research funded by other agencies has found that exposures to air pollutants during pregnancy can alter the chemical composition of genetic material in newborns. While the importance to health of these changes is yet to be determined, there is indication that early life exposures to pollutants can alter genetic material.

These results along with the preliminary findings from the Cedars Sinai study provide a scientific basis support the completion of the children's epidemiology study. Completion of this study would provide the first analyses of a large regional database on the incidence of brain tumors in children with ambient pollution exposures.

Presentations to the Governing Board

At the last annual meeting, the Governing Board requested presentations by the investigators funded by the Foundation. As noted above, the studies are ongoing and will be completed in the next several months. Presentations will be made to the Board at that time.

4. **Financial Report**

As of January 31, 2005, the Foundation had a cash balance of \$3,940. Following is an accounting of the Foundation's operations since its inception (7/23/03):

Revenue from Operations	
Contributions	\$ 722,568
Interest Income	\$ 873
<i>Total Revenue from Operations</i>	\$ 723,440
Operating Expenses	
Grants Awarded	
Cedars-Sinai	\$ 559,250
USC	\$ 158,340
Corporation Filing Costs	\$ 525
Bank charges	\$ 185
Professional fees-audit	\$ 1,200
<i>Total Operating Expenses</i>	\$ 719,500
Cash Balance	\$ 3,940

5. **Plans for Upcoming Year**

The Foundation will continue monitoring the progress of existing research projects. The Foundation will evaluate new projects and provide funding to the extent that additional funds become available.

6. **Appoint Beatrice LaPisto-Kirtley to the Board of Directors**

Under the Foundation's bylaws, the Governing Board appoints directors to the Foundation's Board. It is recommended that the Board appoint Beatrice LaPisto-Kirtley, currently an ex officio member of the Board of Directors.

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