



Fact Sheet
Jan. 8, 2009

Fact Sheet on CIMIT'S Inhalation Technology Program, launched through gift from Air Liquide

What it is: The Inhalation Technology Program is a new initiative that will be established at CIMIT and run by CIMIT, through a generous seed funding of \$1.5 million provided by Air Liquide Research and Development Department, a division of Air Liquide, a world leader in research and technology based in France. The program will serve as a world-class platform for research and development related to technologies and techniques for inhalation therapy.

Objective: Establish the world's leading Inhalation Technology Program, based at CIMIT and with all of CIMIT's core strengths becoming part of this program. The CIMIT Inhalation Technology Program will make substantial contributions to the development of technologies for inhalation therapy through leadership, facilitated research and convening.

Significance: This will be a new CIMIT program but the first established with seed funding from a major corporation. CIMIT programs represent a balanced portfolio of multidisciplinary and inter-institutional research projects in every phase of innovation - from idea to adoption into clinical practice. Directing these programs will be clinical champions, each a nationally renowned specialist in an emerging area of medical innovation. Program Leaders form the clinical nucleus of the CIMIT innovation community - a vibrant and powerful network connecting many of the most accomplished scientists, engineers and clinicians in Boston.

Collaboration: CIMIT will work actively to facilitate scientific exchange and find other partners for develop of the platform. CIMIT will seek additional funds from foundations, industries and private sources, excepting the competitors of Air Liquide in the Industrial and Medical Gases market.

Leadership: Co-leaders are Augustine Choi, MD, of Brigham and Women's Hospital, and Jose G. Venegas, PhD, of Massachusetts General Hospital. Associate

leader is Jussi Saukkonen, MD, of Boston Medical Center and the West Roxbury Veterans Administration Medical Center (VAMC).

Dr. Choi will be the point person. He is Chief, Pulmonary and Critical Care Medicine, at Brigham and Women's Hospital. Previously, he was at Presbyterian Hospital, Pittsburgh, Yale University and Johns Hopkins University. His lab has made seminal observations that inhaled CO can confer cytoprotection in preclinical models of lung disease. He will provide outstanding leadership and enthusiasm to this initiative.

Dr. Venegas brings the bioengineering and pulmonary physiology perspectives to the program. He currently is an Associate Professor of Anesthesia (Bioengineering), Harvard Medical School, and at Massachusetts General Hospital in the Department of Anesthesia and Critical Care. His research career has been devoted to studying underlying physiologic mechanisms in ARDS, COPD and asthma and developing imaging methods for quantitative assessment of pulmonary inflammation, ventilation, perfusion, intrapulmonary shunts, gas trapping and aerosol deposition. These capabilities will be critical in assessing effectiveness and optimizing the new technologies developed in the Inhalation Technology Program.

Dr. Saukkonen is the Director of the Pulmonary Clinics at the West Roxbury VAMC with an academic appointment at Boston University. His background includes both basic immunology, and translational and clinical trials research. His experience will help the program when focusing on clinical applications of inhalation technology and in planning of clinical trials.

Facilitated research: CIMIT's aim is to facilitate the expansion and reinforcement of medical technology research related to inhalation therapy. CIMIT will offer Inhalation Technology Fellowships, in addition to managing the program, developing grant submissions and reaching out to philanthropic organizations, non-governmental organizations and potential industrial partners, to augment available funds to support research.

Convening: CIMIT's aim is to develop related educational modules, to be hosted on www.cimit.org, ranging from the latest on clinical problems and technological approaches in inhalation technology and techniques, to tutorials on new development in related medical devices, intellectual property, research partnerships and funding plans.

Quote from CIMIT Executive Director John Parrish, MD: "We are pleased to receive this gift and we value the confidence that comes along with it. I look forward to the development of innovative technology that will help patients who will benefit from advances in inhalation therapy."

Quote from Martha Heitzmann, PhD, vice president, Research and Development for Air Liquide: "Air Liquide is pleased to provide the seed money

for this CIMIT program. We look forward to working with other industrial and academic partners to advance inhalation technologies.”

Quote from Dr. Augustine Choi, team leader: “The ultimate goal is to use innovative inhalation technology to advance treatment of human diseases. The new Inhalation Technology Program will foster interactions and collaborations among investigators at CIMIT sites focused on patient care, education and training and research related to inhalation technology. The program will support strategies to apply inhalation technology in the diagnosis and treatment of both acute and chronic respiratory ailments, including systemic diseases where the respiratory system could be used as a conduit to either deliver therapeutic agents or monitor biomarkers of non-respiratory disease states.”

Short-term goals: Develop Program Leadership Team; nominate high-level Scientific Advisory Council; develop team of Consulting Experts; organize CIMIT Forums on Inhalation Technologies; establish Inhalation Technology Consortium; establish plan for disseminating research findings and training.

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CIMIT is the Center for Integration of Medicine and Innovative Technology. A non-profit consortium of Boston-area teaching hospitals and engineering schools, CIMIT provides innovators with resources to explore, develop and implement novel technological solutions for today’s most urgent healthcare problems.

Consortium institutions include: Beth Israel Deaconess Medical Center, Boston Medical Center, Boston University, Brigham and Women’s Hospital, the Charles Stark Draper Laboratory, Children’s Hospital Boston, Harvard Medical School, Massachusetts General Hospital, Massachusetts Institute of Technology, Newton-Wellesley Hospital, Partners HealthCare and VA Boston Healthcare System.

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With more than 40,000 employees in 75 countries, Air Liquide is a world leader in industrial and medical gases and related services. It offers innovative solutions based on constantly enhanced technologies and produces air gases (oxygen, nitrogen, argon, rare gases) and many other gases including hydrogen.

Air Liquide contributes to the manufacturing of many everyday products: bubbles in sparkling beverages, protective atmosphere for packed foods, oxygen for hospitals and homecare patients, ultra-pure gases for the semiconductor industry, hydrogen to desulfurize fuels and other goods.

Founded in 1902, Air Liquide had sales in 2007 of about \$16 billion, with commerce outside France accounting for almost 80 percent.

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