

# **Collegiate Inventors Competition®**

## **Sample Advisor Letter**



Department of Oral and Maxillofacial Surgery

*Please reply to the undersigned at:*

Brian L. Schmidt, DDS, MD, PhD, FACS  
Associate Professor  
Residency Program Director  
Oncology Fellowship Director  
521 PARNASSUS AVENUE, C-522  
SAN FRANCISCO, CA 94143-0440  
TEL: (415) 502-3297 FAX: (415) 476-6305  
Email: brian.schmidt@ucsf.edu

June 13, 2007

To the Collegiate Inventors Competition Selection Committee:

I have yet to work with a medical or graduate student for whom I could write a stronger endorsement. I am a surgeon and clinician scientist at UC San Francisco. My clinical practice is focused on the surgical management of head and neck cancer. I have a long-standing interest in the neurological basis of head and neck cancer pain. In 2003 I lectured to 40 graduate students and presented the formidable challenges that researchers encounter in measuring oral and facial dysfunction secondary to pain. John quickly gained a keen sense of the difficulties we face in measuring pain in the oral cavity of animals. While he completed his D.D.S., John began testing his own ideas about how this task might be accomplished. After working on the problem for more than 2 years without pay, John came to me with an invention that would objectively measure oral function in an animal model and that would index chronic pain. His instrument exploits a gnawing escape instinct in rodents that he learned about from a Japanese research article. I had not read the obscure article because it didn't pertain to pain. My role in this project was to present the problem and provide the laboratory resources. John has provided the only tenable solution for *the* critical problem in head and neck pain research.

The single greatest obstacle in understanding chronic oral and facial pain has been an objective measure of pain in an animal model. Without an instrument to measure pain in the head and neck, it is impossible to measure the therapeutic effects of an intervention such as a drug or to test theories about its cause. John's device isolates the instinctual behavior of rodents and removes the influence of an observer. The data is objective and reproducible. The core brilliance of the invention is that it measures oral dysfunction in rodents that precisely parallels human dysfunction during states of disease. To accomplish this, John interviewed my patients with head and neck cancer and jaw joint problems to better understand their restriction of function.

John and I wrote an NIH grant application focused entirely on validating and employing his invention. The scientific review panel consisted of the nation's leading neurobiologists in the area of pain. The grant received the highest score of all applications proposing novel research methods and instruments with which to better understand head and neck pain. Federal funding will commence July 1, 2007.

John spent approximately 1,000 hours designing, constructing and testing his invention. He purchased a drill press with his own funds and built three generations of prototypes in his living room. Four nights a week between 10 pm and 2 am, John can be found in the animal facility running 5 of the devices in animal trials. John is a natural problem solver and a scientist with tenacious resolve to help understand the basis of human disease. This invention is a product of his ingenuity, curiosity, and empathy.

Sincerely,

Brian L. Schmidt, DDS, MD, PhD, FACS  
Associate Professor