



## GRAND(ER) ROUNDS: Expanding the universe of topics and speakers in a pathology department seminar series



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### ABSTRACT

This article reports on a unique pathology department seminar series that included talks on social science and humanities topics in addition to traditional biomedical subjects. The goals, achievements, and potential of such a series are addressed via review of selected speakers and topics.

### Question and answer

What do the following persons have in common?: Suzanne Hanser, chair of the Music Therapy Department at Berklee College of Music, Boston; C. Everett Koop, former Surgeon General of the United States; Rabbi Edward Boraz and The Reverend Richard Crocker; Cheryl A. Smith, plant health specialist; John Rassias, foreign language teacher; and Lorenzo Torresani, computer scientist. The answer is that all were speakers in an academic pathology department's seminar series. That series is the subject of this report.

### 1. Introduction

Under various rubrics, such as “Grand Rounds,” pathology departments commonly run lecture series in which speakers address topics relevant to daily patient care work or to biomedical research. “Insights from Molecular Pathology into the Pathogenesis of Lung Cancer” and “The New WHO Classification System for Tumors of the Central Nervous System” are readily recognizable as “traditional” and “valid” topics for such a series. While the Department of Pathology and Laboratory Medicine at Dartmouth-Hitchcock Medical Center/Dartmouth (Geisel) Medical School has indeed sponsored talks on these sorts of subjects, some years ago we modified our series so that both traditional and less traditional topics, including those related to humanities and social sciences, were included. Often these “nontraditional” talks were given by faculty with appointments in departments of a university's “College of Arts and Sciences”, rather than its medical school. Goals of the innovation were to: 1) promote interdisciplinary awareness and relationships; 2) bridge the geographic and disciplinary divides between the academic medical center and the “main” Dartmouth College campus that houses “arts and sciences” as well as schools of business and engineering; and 3) establish interinstitutional and intergenerational relationships. This paper reports on our department's experience with a seminar series that included some “less conventional” topics and speakers. Representative speakers and subjects are highlighted, and the potential unique benefits of including them, with respect to the goals of the series, are discussed.

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### 2. The Dartmouth Institute for Health Policy

Dartmouth College includes The Dartmouth Institute for Health Policy and Clinical Practice (“TDI”), publisher of the influential Dartmouth Atlas of Health Care and a leader in health services research. Health care costs are approaching 20% of GDP (gross domestic product), and pathologists, as practicing physicians and as patients, have a vested interest in the health care system; given these facts, TDI faculty were asked to present in the seminar series. Speakers included: economist Jonathan S. Skinner (“Comparative Effectiveness and the Future of US Health Care”); Glyn Elwyn (“Roadblocks to the Adoption of Patient Decision Support and Shared Decision Making”); and Elliott S. Fisher, who spoke on the relationship between spending and health care quality, in a presentation titled “The Paradox of Plenty”. These talks also had appeal to a variety of medical center employees outside of the pathology department, fulfilling a series goal of facilitating communication among a range of health professionals.

### 3. Computer science

Dartmouth's Department of Computer Science, part of “Arts and Sciences”, was another source of innovative scholars for the series. Tanzeem Choudhury, previously at Dartmouth and currently at Cornell, in 2009 spoke on mobile sensing systems and wearable devices, fully 6 years before Fitbit's IPO (initial public offering). Bruce Donald, also from computer science (and now at Duke), gave a talk on the use of computers to model molecules. A world renowned authority on the subject, Hany Farid spoke on digital image forensics. As with those on health policy, the “computer talks” appealed both to pathologists and extradepartmental physicians: Donald's talk was of interest to basic scientists and clinical oncologists who prescribe innovative drug therapies, and Choudhury's presentation presaged the movement to employ wearable devices in an effort to improve health care and cut costs.

Farid's talk on digital tampering with images was deemed likely to be of interest not only to pathologists but also to another class of “image-rich” medical specialists, radiologists. Accordingly, the

radiology department was invited to his seminar. Recognizing the importance and relevance of the topic, the chairman of the Department of Radiology subsequently invited Farid to present at a major radiology conference. This anecdote exemplifies the potential for sharing information between medical center departments as well as between a teaching hospital and the “arts and sciences” campus at which Professor Farid is based.

#### 4. Chimes

Attendees entered the lecture room to the sound of chimes played, before the start of her talk, by Professor Suzanne Hanser of the Berklee College of Music. “How did you feel when you walked in?” she asked the audience. “Relaxed,” my colleague Alan Schned, volunteered; “Calm,” said another audience member. Hanser spoke on “Music Therapy Research in Integrative Medicine”. In addition to explicitly linking the humanities/arts to biomedicine, thereby promoting interdisciplinary awareness, the talk prompted attendees to consider the potential positive effects of music in their own lives as well as those of their patients. Given present concerns about, and initiatives to address, physician “burnout” as well as the focus on the “patient experience,” both considerations are topical.

#### 5. The anesthesia cart, pathology, and patient safety: making connections

When speakers or topics are arguably “outside the box,” such as a music therapist speaking to pathologists about music therapy, their inclusion can prompt resistance from attendees who fail to see relevance to a lecture series sponsored by a pathology department.

For example, George Blike, an anesthesiologist and then medical director of the Office of Patient Safety at our medical center, gave a talk on “Anesthesia Patient Safety: Past Lessons, Future Direction”. Part of his talk focused on the organization of patient medications and anesthetic agents on or in an anesthesia cart, so as to minimize the risk of medical error and harm to patients. Detractors - and the series had a few - could challenge the relevance to pathology of Blike's presentation since, bluntly, a pathologist is not an anesthesiologist, and pathologists do not employ anesthesia carts. But pathologists need to organize tens of thousands of vials, jars, tubes, and other containers that hold the often irreplaceable anatomic pathology and laboratory medicine specimens that enter a pathology department each year. Mix ups of these specimens, as with mix ups of anesthesia agents, can have dire consequences for the patients for whom we care. Thus, lecture topics that might seem “outside the box” are more relevant than some might at first realize. As a corollary, for the potential benefits of an eclectic seminar series to be realized, audiences must have open minds and be willing to look for and make connections between subjects that superficially appear disparate.

#### 6. The surgeon general does not speak out against tobacco

C. Everett Koop, former Surgeon General of the United States and at the time a Dartmouth professor, spoke in the series in 2007. Famous for advising the nation on how to deal with AIDS (“Find someone who is worthy of your respect and your love ... give that person both ... and stay faithful to him or her”) [1], Koop later focused on the dangers of cigarette smoking. Given his background, it was generally expected that Dr. Koop's talk would be on a public health issue, likely tobacco. Instead, referring to an index card with notes for mere seconds once every 10 or so minutes, at a few weeks shy of age 91, he gave a largely extemporaneous talk not on cigarettes, but on his personal encounters with pathologists over the years (Koop was a prominent pediatric surgeon before assuming his position in Washington), perfectly targeting the presentation to the pathology department. Indeed and ironically, a presentation based on a surgeon's reminiscences about pathologists was

among the most unique talks in the series even as it was exquisitely on target.

#### 7. A different kind of pathologist and a foreign language professor

Cheryl A. Smith spoke on diseases caused by fungi, a seemingly “traditional” clinical pathology topic - but the targets of the fungi that she discussed are plants, as Dr. Smith is a plant pathologist at the University of New Hampshire College of Life Sciences and Agriculture. The late John Rassias, Professor of French and Italian at Dartmouth College, who, like Dr. Koop, was *sui generis*, gave a talk on the innovative, drill-based method of teaching foreign languages that he developed and which has been employed world-wide [2]. Animated discussion about the feasibility of teaching medical vocabulary to first year medical students via verbal drills, à la Rassias, was a byproduct of his presentation.

#### 8. The reverend and the rabbi: Bikur Cholim

Bikur Cholim refers to the commandment in the Jewish religion to visit and comfort the sick. Patients of various religious beliefs request and receive pastoral care from chaplains during hospitalizations. In a joint seminar, The Reverend Richard Crocker and Rabbi Edward Boraz, local clergy, provided Christian and Jewish perspectives on pastoral visits. Notwithstanding the Judeo-Christian traditions and focus of the clergymen, pathologists and clinicians were prompted to consider the potential salutary effects of faith on hospitalized patients belonging to a wide range of religious groups. The inclusion of such a presentation in the series reframes the pathologist as a humanistic physician with interest in the physical, emotional, and spiritual health of the patient - and not simply an objective diagnostician. In effect, it gives the lie to a stereotype.

#### 9. Miscellaneous issues

We also sought to make, or maintain, connections among people, including our own departmental faculty, via the series. For example, Daniel Longnecker, then 72 years old and then, as now at age 86, an active emeritus professor with expertise in the pathology of the pancreas, was invited to present. While Dr. Longnecker's topic, “Premalignant Lesions in Pancreatic Ducts” was “traditional,” his age and emeritus status are noteworthy. His inclusion in the series sent a message that emeritus and retired faculty are valued and welcome at the seminars. Indeed, a subset of such faculty has attended regularly to engage in “continuing education.”

While many departmental faculty embraced the eclectic nature of the series, expressions of dissatisfaction were not unheard of: “Why can't we have more neuropathology speakers?” “More basic scientists (should speak).” “Not sufficiently focused on pathology”. Complaints and suggestions were seriously considered, and accommodations were made to reasonable requests, e.g., if a specific and accomplished neuropathologist or basic scientist was “recommended” as a speaker, more likely than not the person would be invited to present. Still, a focus on widening the universe of “valid” topics and speakers was generally maintained, reflecting an attempt to use the series as a means of expanding the perspectives of pathologists, forging academic relationships, and other goals mentioned in the introduction.

Countering complaints, the series had fans and engendered excitement prior to scheduled talks. Dr. Koop, the iconic Surgeon General, and Dr. Farid, the digital forensics expert who has been widely profiled in the media [3], as well as other speakers had national renown, creating “buzz” both surrounding their presentations and the series in general.

## 10. Conclusion: apotheosis/proof of principle

One year ago, the Journal of Pathology Informatics published the article, “Deep Learning for Classification of Colorectal Polyps on Whole-slide Images” [4]. The paper, per the title, reports on pioneering research with implications for the future practice of anatomic pathology and is relevant to the present discussion.

In 2013, a professor of computer science in Dartmouth's College of Arts and Sciences, Lorenzo Torresani, spoke on “Search by Visual Content in Gigantic Image Collections” in our pathology seminar series. Informal discussions ensued between Torresani and a pathology department faculty member about the potential applicability to pathology of the former's research on computer vision and deep learning. Their chats ultimately led to a major research collaboration, culminating in the “deep learning polyp classification” publication mentioned above. Coauthors of the paper included 3 pathology residents, a Dartmouth undergraduate majoring in computer science, and a local high school honors student. Thus, the article - addressing subject matter also under study by technology giants such as Google - exemplifies innovative research that is at once interinstitutional, interdisciplinary, and even intergenerational. The paper's genesis in a pathology department seminar demonstrates the potential benefits of expanding the universe of “legitimate” topics and speakers for Grand Rounds.

Hamlet famously advised Horatio, “There are more things in heaven and earth ... than are dreamt of in your philosophy”. So, too, innovations and insights are more likely to flow via an eclectic lecture series with a goal of fostering connections across the sciences, social science, and the humanities than from one with a philosophically narrow,

pathology-centric focus.

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