

## **An Oral History of Information Theory**

### **Goals, recommendations, practical options, and estimated costs<sup>1</sup>**

This proposed project was conceived by Prof. Gerhard Kramer of the Technische Universität München (TUM); practical considerations have been investigated by TUM International Communications Officer Patrick Regan (acting in a private capacity), with guidance from Dr. Sheldon Hochheiser of the IEEE History Society.

The basic project goal is to assemble a unique resource documenting the rise of information theory, arguably one of the most influential developments in the history of science and technology, by drawing on the personal memories of individual participants. This means, at a minimum, recording interviews with major contributors, preparing accurate transcripts, and preserving the recordings and the transcripts in such a way that they will be both available and useful to historians, students, journalists, and others for many years to come. The goal is not to create an authoritative historical or scientific text, but to generate new primary documents based on the way principal actors in this history, principal contributors to this field of science, recall their experience. The special contribution of this oral history of information theory will be enabling individuals who shaped the future to speak to the future, by the most direct means available to us today.<sup>2</sup>

More specific goals depend on decisions regarding the scope and constraints of the project. The historical scope could be broad and even open-ended, covering major developments from the 1940s onward, or it could focus on the earlier decades only. The scientific scope could be broad enough to embrace quantum information theory as well as (now) traditional communications and computer engineering, or it could be more narrowly focused. The spectrum of options for recording runs from audio-only to high-definition video; options for archiving and publishing run from downloadable mp3 files and pdf transcripts to Web-based text-searchable video.

We recommend the following:

- Define a pilot effort to record between four and six interviews, each 90 to 120 minutes long, during ISIT 2012 in Cambridge.
- Focus initially on former Shannon Lecturers who have not previously recorded oral histories.
- Record in professional-quality video format, in a news or documentary style, to keep open the possibility that the material could be used later by filmmakers as well as by authors.
- Arrange for archival preservation of recordings and transcripts by the IEEE History Center, with transcripts available on the Web and recordings, initially, by request.
- Do not commit (yet) to making the whole series available via Web-based text-searchable video, but on the other hand do not make any technical decisions at this stage that would close off that option for the future.
- Complete the pilot series by November 2012 so that the experience, results, and costs can be evaluated as the basis for planning a more comprehensive project for 2013.

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<sup>1</sup> Prepared by Patrick Regan, IEEE Senior Member, for IEEE ITS; Munich, May 2012.

<sup>2</sup> Attached ppt document outlines the goals, techniques, and limitations of oral history.

## **Practical options for the pilot project**

The main components of the project can be defined as separate tasks:

1. Planning and coordinating the end-to-end series of activities.
2. Doing pre-interview research (according to the IEEE History Center, this typically requires around one work week per interview).
3. Conducting the interviews.
4. Recording the interviews.
5. Transcribing the interviews.
6. Verifying and editing the transcripts.
7. Securing legal releases and negotiating reviews.
8. Editing raw video into final versions for archiving and release.
9. Preserving final versions of recordings and transcripts.
10. Making recordings and transcripts available to scholars, journalists, and the public.

### **Bare bones option**

One person (such as science journalist Patrick Regan or a historian) would take responsibility for tasks 1 through 8, using high-end consumer or low-end professional digital audio or video recording equipment and editing software. IEEE History Center would take responsibility for steps 9 and 10, with the understanding that costs beyond its normal operations would be covered by ITS (or potentially a donor/sponsor).

### **Intermediate option**

One person (such as Patrick Regan<sup>3</sup>) would take responsibility for tasks 1, 2, 3, 6, and 7. Recording and editing (tasks 4 and 8) would be handled by a freelance videographer (such as Frank Foley, long-time video photographer and editor for NJN News). Interviews would be recorded "on location" at the conference hotel. A transcription service would be engaged for task 5. IEEE History Center would take responsibility for steps 9 and 10, with the understanding that costs beyond its normal operations would be covered by ITS (or potentially a donor/sponsor).

### **Higher-end option**

One person (Patrick Regan) would take responsibility for tasks 1, 2, 3, 6, and 7. Recording and editing, tasks 4 and 8, would be handled by a local Boston-area video company (such as the MIT-based AMPS). Interviews could be recorded either on location (for the convenience of the interviewees) or in the video company's studio (for technically better recording conditions and lower cost). This arrangement could make it easier to prepare the oral histories for eventual release via Web-based text-searchable video. A higher-cost transcription service would be engaged for task 5. IEEE History Center would take responsibility for steps 9 and 10, with the understanding that costs beyond its normal operations would be covered by ITS (or potentially a donor/sponsor).

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<sup>3</sup> See attached professional profile.

## **Estimated costs (excluding hotel)**

### **Higher-end option (est. ≥ \$16,920 for 4 interviews, \$22,280 for 6)**

Video service (MIT AMPS<sup>4</sup>), est. ≥ \$2080 per interview; thus up to \$12,480 for 6

- Est. fee to shoot in studio, \$1330 per interview (in hotel could be more expensive)
- Est. fee for editing, \$750 per interview
- [for future reference, Coding for 3Play (for text-searchable video), would cost an est. \$250-300 per interview]

Coordinator / interviewer (Patrick Regan), est. total \$6200 (excluding hotel)

- Professional services, package price, \$5000
- Travel (excluding hotel) ~ \$1200

Transcription, est. \$600 per interview

- "Higher-quality" service costs \$300 per hour of interview audio; "lower-quality" services cost only \$155 to \$195 per hour of interview audio but are not recommended.<sup>5</sup>

### **Intermediate option (est. ~ \$11,925 for 4 interviews, \$13,125 for 6)**

Videographer (Frank Foley<sup>6</sup>), est. total \$3325 (plus hotel)

- \$500 daily fee x 5 days (3 shooting in Boston, 2 editing in home studio) = \$2500
- Additional equipment rental \$300
- Travel expenses (excluding hotel) \$345
- 6 memory cards = \$180

Coordinator / interviewer (Patrick Regan), est. total \$6200 (excluding hotel)

- Professional services, package price, \$5000
- Travel (excluding hotel) ~ \$1200

Transcription, est. \$600 per interview

- "Higher-quality" service costs \$300 per hour of interview audio; "lower-quality" services cost only \$155 to \$195 per hour of interview audio but are not recommended.<sup>7</sup>

### **Bare-bones option (est. \$8,900)**

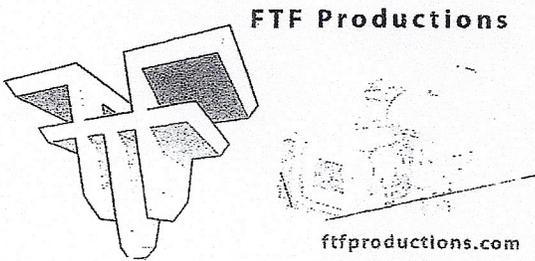
- ITS might be able to borrow a camera and tripod (for example, from the History Center); in that case, the main cost would be for memory media (est. \$200).
- Patrick Regan might be able to get permission from TUM to use its video editing software.
- Regan could then cover all tasks from 1 through 8, but would be investing roughly twice as much time (as well as raising the risk of failure somewhere along the line).
- Professional services fee could be "contained" at \$7500.
- Travel (excluding hotel) ~ \$1200.

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<sup>4</sup> See attached quote.

<sup>5</sup> Information on transcription services and rates was provided by IEEE History Center.

<sup>6</sup> See attached quote.



FRANK T FOLEY  
36 DEER RUN ROAD  
TUCKERTON, NJ 08087  
609 489-9080  
[ftfoley@comcast.net](mailto:ftfoley@comcast.net)

April 12, 2012

Patrick Regan  
[psregan@gmail.com](mailto:psregan@gmail.com)

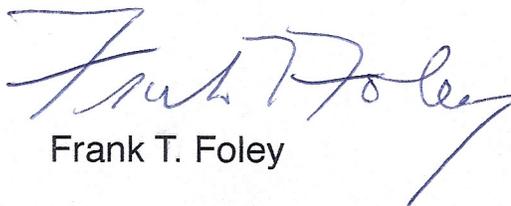
Dear Patrick:

Proposed offer for Videographer services for the Oral History Project for the IEEE Information Theory Society, in Boston, MA. June 30 - July 6, 2012.

Videography Services including all equipment HD 1080i Video Camera Panasonic HMC 80, tripods, microphones, wireless, shotgun and hand held mics, lighting equipment and editing. This includes transfer the video to a hard drive and DVD'S.

Rate for Videography Services	\$500.00	per day
Travel Expense to Boston and back.	\$345.00	
SD Cards 32GB 6 @ \$30.00	\$180.00	
Rental for any extra equipment	\$300.00	

Sincerely



Frank T. Foley

**Estimate Work Order 2148**

Project Date 7/2/2012

**Billing Contact** Regan, Patrick**Project Type** Studio Shoot**Account #****Category****Billing Addr** TUM Institute for Advanced Study,  
Lichtenbergstr. 2 a, , Garching,  
Germany 85748**Location** 24-042**Time** 10:00 am-10:30 am**Billing Type****Billing Phone****Billing Email** Regan@zv.tum.de**Other Info****Description:**

Provide single camera package in HD studio to record one interview for IEEE ITS Oral History Pilot Project. Preright limbo lighting (black) set in studio and provide microphones. Footage to be sent for transcription services and editing. Estimate is based on the available information supplied to us at this time. The invoice will be based on the actual events that take place for your production.

**EQUIPMENT USED**

Date	Type of Equipment	Hours	Rate	Charge
7/2/2012	Single camera pkg in HD studio	1.00	800.00	\$800.00
				<b>\$800.00</b>

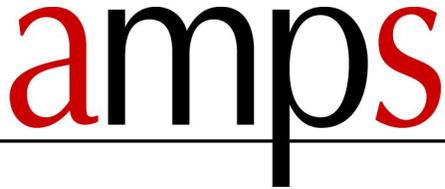
**LABOR**

Date	Role and Name	Reg	Off Hours	Start Time	End Time	Charge
7/2/2012	Videographer	4.00		8:30 AM	12:30 PM	\$220.00
7/2/2012	Producer	4.00		8:30 AM	12:30 PM	\$240.00
						<b>\$460.00</b>

**TAPES**

Date	Type (B=Beta SP, T=VHS)	Qty	Rate	Charge
7/2/2012	XDCAM HD 23gb	2.00	35.00	\$70.00
				<b>\$70.00</b>

**Total Charges** **\$1330.00**



INVOICE

To: Patrick Regan  
Technical University of Munich  
TUM Institute for Advanced Study  
Lichtenbergstr. 2 a, , Garching, Germany 85748

Invoice No. 10382  
MIT Federal Tax I.D. #E042-103594

Subject: Video Production Invoice

Date: 4/26/2012

Project Title: (POST-PRO ESTIMATE) IEEE ITS Oral History Pilot Project

Project Date: 7/2/2012

Project Description: Edit one IEEE ITS Oral History Pilot Project. Capture and encode source video files, execute "clean up" edit, taking out false starts, re-takes, etc. Encode file and upload to 3Play for transcription services. Estimate also includes fee for 3Play transcription.

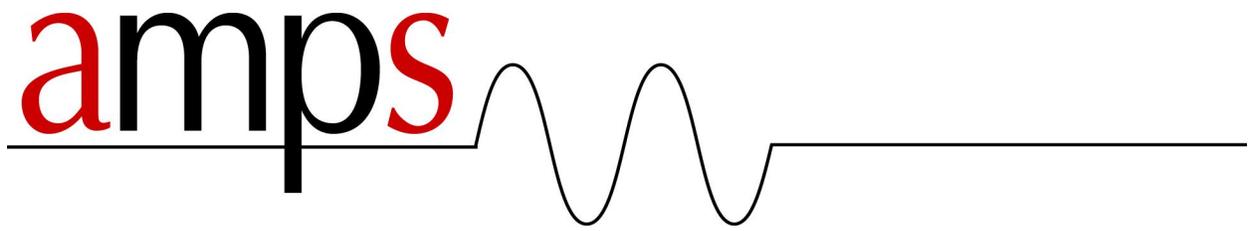
## BREAKDOWN OF CHARGES

### Equipment Used

<u>Date</u>	<u>Type of Equipment</u>	<u>Hours</u>	<u>Rate</u>	<u>Charge</u>
7/2/2012	Capture	2.00	75.00	\$150.00
7/2/2012	Output Video and DVD Files	1.00	100.00	\$100.00
7/2/2012	Edit Suite	4.00	125.00	\$500.00
				<hr/> <b>\$750.00</b>

### Additional Charges

<u>Date</u>	<u>Description</u>	<u>Charge</u>
7/2/2012	3Play transcription (\$250-\$300)	<hr/>



**Total Charges**           \$750.00

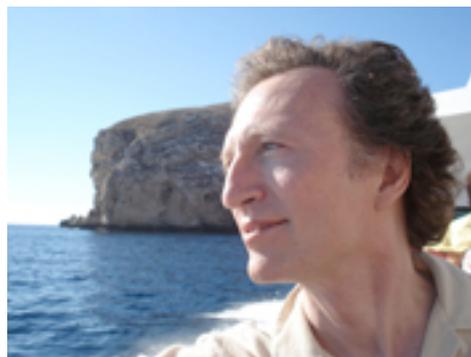
MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
Academic Media Production Services  
77 Massachusetts Avenue, Building NE48-308, Cambridge, MA 02139  
If you have any questions concerning this invoice, call: 617-253-7603  
THANK YOU FOR YOUR BUSINESS

# Patrick S. Regan

## Science and technology journalist

Danklstrasse 10, Rückgebäude  
81371 Munich, Germany

+49 15 77 330 5115  
patrick.regan@ieee.org



### **Since July 2009: International Science Communications, Technische Universität München (TUM)**

Responsible for press releases and video reports on research news, and for publications of the TUM Institute for Advanced Study (Annual Report and *Primary Sources: Essays in Technology and Science*). One of Europe's top schools, TUM has the broadest research portfolio of any German technical university.

### **2001-2009: Senior Correspondent for Science and Technology, New Jersey Public TV and Radio**

Twice a week on the evening news, reported on scientific research, technological innovation, and efforts to improve math and science education. Hosted interview series "Inside Science" (TV) and "Sounds of Science" (radio). Covered a wide spectrum of topics in fields such as astronomy and astrophysics, geology, paleontology, oceanography, global climate, local ecology, nuclear fusion, neuroscience, molecular biology, biochemistry, medical research, computing, communications, nanotechnology, and robotics, as well as entrepreneurial ventures ranging from organic electronics to vaccine production.

### **1993-2001: Writer, editor, and spokesperson for Bell Labs (AT&T / Lucent Technologies)**

Wrote articles on scientific research and technological developments for internal and external publications; created, wrote, and edited the magazine *Bell Labs Technology: Trends & Developments*; served as ghost writer for technical executives, and as media relations manager and spokesperson for Bell Labs Research. Covered all aspects of communications technology as well as underlying physical, mathematical, and information sciences. Wrote and defended the Bell Labs section of the Lucent Technologies IPO prospectus.

### **1985-1993: Writer, editor, and executive staff at Bell Communications Research (Bellcore)**

With *Bellcore Exchange* magazine, made technological developments and applied research accessible to non-technical people in business, stakeholder, and regulatory communities as well as to scientists and engineers in other fields. Wrote all text for a mini-museum of communications science and technology. Wrote and ghost-wrote material as needed by the president and technical executives.

### **Professional activities and honors**

Senior Member, IEEE

Workshop leader, speaker, on communicating science to/with the public

Finalist for National Academies Communication Award, 2004

Finalist for AGU's Perlman Award for Excellence in Science Journalism, 2005

Nominated for Emmy Awards in New York and Mid-Atlantic regions

### **Education, training, professional development**

B.A. with honors in American literature, Middlebury College

M.A. in English, University of Pennsylvania

Employer-provided and IEEE classes on advanced technologies

Santa Fe Science Writing Workshop (with Tim Ferris, George Johnson)

New York Times Professional Fellowship (neuroscience seminar, Columbia University)

### **Outside activities**

Songwriter, singer, multi-instrumentalist (guitars, bass, drums, piano, fiddle, sax, flutes, etc.)

Canoe and kayak paddler (contributed to *Exploring the Little Rivers of New Jersey*, 4th edition)