

AMIA POI-WG Sponsored Panel

Studying Those Who Study Us: Diana Forsythe and the Importance of Interpretive Research in Informatics

Panelists

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Moderator

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Abstract

Diana Forsythe was a pioneering anthropologist who raised innovative and unsettling questions about the role of information technology in life and work, and differences in perspective between designers and users of technology. Diana was known for her tenacious defense of the integrity of ethnographic research, and for her enthusiastic examination of the “culture of no culture”^{1,2} that is American science and biomedicine. We examine Diana’s ongoing influence and relevance from the varied perspectives of four distinguished informatics researchers.

Introduction

Diana Forsythe was a pioneering anthropologist of science, technology and work. Her research focused on artificial intelligence (AI) and biomedical informatics, and as an early member of AMIA, she worked closely with many investigators who remain active in biomedical informatics today. Diana was a strong-minded, rigorously methodical anthropologist, approaching her work among medical informaticists and AI researchers with the same ethnographic stance that she, in previous work, used in a more geographically and culturally remote society. She provided numerous important contributions to research that continue to be relevant today. This panel will explore the impact of Diana’s work on her generation of medical informatics research, and the continued relevance her insights have for current and future generations of investigators. The panelists include three distinguished AMIA members:

- **Dr. Jos Aarts**, a senior research scientist in the Institute of Health Policy and Management at Erasmus University, Rotterdam, where he conducts ethnographic research and teaches qualitative methods in a European tradition that has been highly influenced by Diana’s work.
- **Dr. Paul Gorman**, a physician informaticist and friend of Diana’s who teaches and conducts interpretive ethnographic research at Oregon Health & Sciences University.
- **Dr. Madhu Reddy**, a computer and information scientist and co-author of two papers that received the Diana Forsythe Award in 2002 and 2010, has been active in the computer science and design communities that have been most influenced by Diana’s work, including the field of Computer Supported Cooperative Work (CSCW).

The panel will also include a perspective from the world beyond AMIA, where Diana’s work has influenced design research in health informatics and other areas:

- **Dr. Geraldine Fitzpatrick**, a distinguished researcher, designer and teacher in Human-Computer Interaction (HCI) and CSCW who specializes in qualitative methods; co-author with Gunnar Ellingsen of “A Review of 25 Years of CSCW Research in Healthcare: Contributions, Challenges and Future Agenda”.

The panel will be moderated by **Dr. Laurie Novak**, a health systems anthropologist and co-chair of the Diana Forsythe Award committee for AMIA 2013.

Brief Description of Panelist Presentations

Jos Aarts

The 2011 IOM 'Health IT and Patient Safety' states that patient safety is an emergent property of a sociotechnical system³. A sociotechnical system takes into account context of use. Sociotechnical thinking developed in Europe to address changing workplace conditions as a result of introducing new technologies, to stimulate workers to take control of these conditions and emancipate them vis-à-vis new technologies. Though not named as such, ethnographic studies were considered essential to understand the interaction between worker and technology. Different strands emerged, including the Scandinavian approach of Computer Supported Collaborative Work (CSCW) to involve users in the co-design and implementation of information technology and the interpretive approach of Science and Technology Studies (STS).^{4,5} Diana Forsythe positioned her studies firmly in these traditions. It is not surprising that the Diana Forsythe Award was won in majority by European health information technology researchers, Carl May (2001), Rebecca Randell (2004), Carsten Østerlund (2005), Davide Nicolini (2007), Gianluca Miscione (2008), Nelly Oudshoorn (2009), Maja Korica (2011) and Eivor Oborn (2012). A decade ago the concept of a sociotechnical system was virtually unknown in American health informatics, now a proper understanding of success of HIT is almost impossible without referring to this concept. Dr. Jos Aarts will outline how this line of thinking gradually percolated American health informatics and its importance to evaluating the impact of the HIT stimulus program and Meaningful Use provisions of the HITECH act.

Geraldine Fitzpatrick

Diana Forsythe's work reached well beyond the Medical Informatics community. I recall in particular her huge influence on my own work. "*Brilliant paper; parallels of work building expert systems and work building workflow/process support systems. Issues of decontextualising work, deleting the social.*" This is a note I wrote sometime in the mid 90s, attached to my bibliography entry for her 1993 paper "*The Construction of Work in Artificial Intelligence*", in which she drew attention to the "*systematic deletions in practitioners' representations of their own work*" and "*the system builder's own tacit assumptions*" in the design of a medical expert system.

Forsythe also drew attention to researchers themselves in her widely cited 1998 CSCW Journal article "*It's Just a Matter of Common Sense: Ethnography as Invisible Work*", leading me to add a qualifying note in my 1998 thesis about my "*more pragmatic use of ethnographic approaches for the purposes of design [...] in recognition of the depth of skills, knowledge and experience required to be a 'pure' ethnographer within a social science discipline (Forsythe, 1998)*"

In these and all her papers, there is a fundamental call for reflexivity in one's own practices. This call is even more relevant today as we deal with the tensions arising from increasing computerisation of healthcare and the associated problems with adoption and outcomes often reported in literature. To properly address these tensions moving forward, I will argue for a Forsythe-like reflexive lens for three different groups: designers/system builders, on their continued tacit assumptions and prioritization of different agendas in design; on researchers, the methods they use and, in particular thinking of Forsythe's 1991 paper "*Broadening Our Approach to Evaluating Medical Information Systems*", how their evaluation studies can better contextualize work and technology adoption, and make the social visible; and on practitioners and clinicians themselves, to be more reflexive about their own invisible and tacit work practices so that they can more pro-actively contribute to the co-design of work and systems.

Paul Gorman

Without question, our field of biomedical informatics would not be the same today were it not for the work of Diana Forsythe. The imprint she left is far reaching and continues to grow, reflected in the increasing numbers of qualitative researchers in our field, reflected in the excellent papers we deliberate over each year when we struggle to choose the recipient of the annual Diana Forsythe Award, and reflected in the fact that the use of ethnographic and qualitative methods which in the past were the exception, are now perfectly routine and expected to be included in biomedical informatics research and development. In the spirit of the best science, Diana urged us to question our assumptions, insisted that we be rigorous in our methods, and invited us to view the world from alternate perspectives. For patients, and for clinicians, this has been a very good thing, ensuring that an authentic and genuine account of the experiences of patients, nurses, doctors and others be a part of the story in designing, developing, and evaluating information systems in health care.

Madhu Reddy

Diana Forsythe's work has influenced a large number of new researchers in the biomedical informatics community who wanted to utilize interpretative research techniques to understand informatics-related issues with the same rigor and insight that she had. I view myself as one of those researchers. In my presentation, I will describe three ways that Diana's work has influenced my research.

First, Diana argued for the **importance** of interpretative research techniques in the biomedical informatics community. She had been a strong advocate of applying these research techniques to a variety of informatics problems. In particular, she argued that interpretative research will give insight into problems that may difficult to gather using other research methods. An example of this is in workflow research. The use of interpretative research methods have provided valuable understanding of the relationships between the use of HIT and workflow.^{6,7}

Second, Diana argued for **rigor** in applying these research techniques. She well-understood that many biomedical informatics researchers were not familiar with interpretative research and consequently would evaluate the value of those methods by the methods they were familiar with. Therefore, Diana's work reflected the rigor of careful data collection, analysis, and interpretation.

Finally, Diana's work highlighted the importance of **collaboration**. Interpretative research requires researchers working closely with the domain specialists. In some cases, these individuals' may be the same. However, in many cases, this is not the case. In my particular situation, I have been very lucky to work with clinicians who understand and value the role that interpretative research can play in helping them understand the role of HIT in their work.

Diana's trailblazing work along with researchers such as Nancy Lorenzi, Bonnie Kaplan, and others has paved a way for a generation of researchers to apply interpretive research methods among other research techniques in addressing research problems in the biomedical informatics community.

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