

Preface

Different notions of argument historically have played a central role in artificial intelligence, such as proof trees, sets of assumptions, and explanations of probabilistic inference. These notions have been used to model the diagnostic reasoning and decision-making of medical experts. However, it was beyond the scope of that research to address information needs of the lay person. It was assumed that a medical expert, trained to interpret explanations produced by the system, would mediate between system and lay person. The goal of this symposium is to investigate the role of argumentation in future intelligent healthcare systems, focusing on systems designed to interact directly with health-care consumers, or with healthcare workers and caregivers with little training. Topics that are important in this endeavor include AI-based approaches to:

- Persuasive argumentation to change health-related behavior,
- Patient-tailored explanation,
- Lay-oriented explanation of conflicting views in the medical literature,
- Argumentation addressing the needs of low-literacy or low-numeracy audiences,
- Synthetic agents working in cooperation with the healthcare team,
- Negotiation with patients about treatment regimens,
- Providing information to lay persons for informed consent, and
- Healthcare training.

In this symposium we have endeavored to bring together AI researchers in diagnostic reasoning and medical applications; computational models of argumentation; user modeling, trust, and affective computing; intelligent tutoring systems and games on health related topics; natural language generation and multimodal dialogue systems, in addition to researchers in fields providing empirical or theoretical foundations including medicine, risk communication, health literacy, behavioral medicine and public health, discourse of medicine, argumentation, and medical ethics.

Timothy Bickmore and Nancy Green, Cochairs