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Information and disease diffusion in dynamic social environments

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In recent years the increasing availability of computer power and informatics tools has enabled the gathering of reliable data quantifying the complexity of socio-technical systems. Data-driven computational models have emerged as appropriate tools to tackle the study of contagion and diffusion processes as diverse as epidemic outbreaks, information spreading and Internet packet routing. These models aim at providing a rationale for understanding the emerging tipping points and nonlinear properties that often underpin the most interesting characteristics of socio-technical systems. Here I review some of the recent progress in modeling contagion and epidemic processes that integrates the complex features and heterogeneities of real-world systems.