

# **40 Years of Interdisciplinary Research: Phases, Origins, and Key Turning Points (1981–2020)**

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## Abstract

This study examines the historical evolution of interdisciplinary research (IDR) over a 40-year period, focusing on its dynamic trends, phases, and key turning points. Using time series analysis to identify Critical Years for Interdisciplinary Citations (CYICs), we categorize IDR into three distinct phases: Period I (1981–2002), marked by sporadic and limited interdisciplinary activity; Period II (2003–2016), characterized by the emergence of large-scale IDR led primarily by Medicine, with significant breakthroughs in cloning and medical technology; and Period III (2017–present), where IDR became a widely adopted research paradigm. Our findings indicate that IDR has been predominantly concentrated within the Natural Sciences, with Medicine consistently at the forefront, and highlights increasing contributions from Engineering and Environmental disciplines as a new trend. These insights enhance the understanding of the evolution of IDR, its driving factors, and the shifts in the focus of interdisciplinary collaborations. This is a joint work of Guoyang Rong, Ying Chen, Feicheng Ma, and Thorsten Koch.