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Editorial

Promoting research training in tertiary education

In addition to teaching undergraduate programs, tertiary education also provides keen students who want to further their knowledge in a discipline or explore the new boundary of an emerging area beyond the undergraduate study with an opportunity to meet such needs through research training. Research training is also known as research higher degree (RHD) studies, usually comprised of Master by Research and Doctor of Philosophy (PhD) degrees in most universities around the world.

Driven by the rapid development in and swift adoption of information and communication technologies in both the traditional and emerging fields in the 21st century, research institutes, universities, industries, and businesses all over the world demand more well trained RHD graduates to sustain continuity and advancement through research and development (R&D). Universities need to attract more quality research students into RHD studies and nurture the young PhD graduates (also known as postdoctoral researchers) towards maturity through continued mentoring. Experienced supervisors and postdoctoral researchers can invite targeted senior undergraduate students to participate in a current RHD project or postdoctoral research project to channel the young talents to potential RHD studies.

This issue of STEM Education features five articles resulting from current or recent RHD projects from Germany, Finland, Australia, New Zealand, and China. "Exploring preschoolers' conceptions about the viscosity of honey" authored by Feser & Mangal is from a postdoctoral researcher with an undergraduate student. "How power distance affect motivation in cross-cultural environment: findings from Chinese companies in Europe" authored by Wang & Fränti is the first part of a recent PhD study written jointly by a PhD graduate in social science who knows the Eastern culture well and an experienced supervisor in computer and data sciences who fully understands the Western culture. "Fast non-uniform Fourier transform based regularization for sparse-view large-size CT reconstruction" is modified from a recent PhD study by Wang who has matured as a research fellow since the completion of his PhD. "Predicting how a disrupted semester during the COVID-19 pandemic impacted student learning" is from a current PhD research project written jointly by Riegel & Evans, the RHD student and the supervisor. "Personalized exercise recommendation method based on causal deep learning: Experiments and implications" is from a research project conducted by a team of six members, including one research master's student, two undergraduate students, and three experienced supervisors.

One of the focuses for STEM Education is on “research higher degree studies and supervision”. STEME not only advocates for it but also delivers it.

STEME Editorial Team