## عنوان مقاله:

Synthesis of ZIF-8@TiO2 nanocomposite powder via an in-situ method for hexavalent chromium (Cr(VI)) photo-reduction

## محل انتشار:

نهمین کنفرانس و نمایشگاه بین المللی مهندسی مواد و متالورژی ایران و چهاردهمین همایش ملی مشترک انجمن مهندسی متالورژی و مواد ایران و انجمن ریخته گری ایران (سال: 1399)

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## خلاصه مقاله:

Recently, the presence of heavy metal ions, including hexavalent chromium Cr(VI), in aqueous environments has attracted a huge amount of attention. These ions are highly toxic and can endanger the human's health. Therefore, it is of the principal significance to find an efficient and environmentally friendly approach to remove or reduce these ions concentration in water sources. In this work, the use of a Metal-Organic Frameworks@Semiconductor (MOF@Semiconductor) structure as an efficient photocatalytic material is considered for this purpose. The structures of as prepared specimens (ZIF-8@TiO2 NPs) were characterized by X-ray diffraction pattern, FT-IR spectra, and FE-SEM images. The UV-Vis spectroscopy data analysis was also performed to determine the amount of Cr(VI) in the tested water.

## کلمات کلیدی:

Photocatalytic material, Zeolite imidazolate framework-8 (ZIF-8), TiO2 NPs, Cr(VI) photo-reduction