



Forum Inżynierii Materiałowej

Materials Engineering Forum

- **The Materials Engineering and Metallurgy Committee of the Polish Academy of Sciences**
- **Polish Materials Science Society**

Whey Protein Isolate: A Versatile Biomaterial for Hydrogel Formation

Timothy E.L. Douglas

School of Engineering, Lancaster University,
United Kingdom

Whey protein isolate (WPI) is an inexpensive by product of the dairy industry and is increasingly used as a high-quality dietary supplement, particularly popular among physically active individuals like bodybuilders.

This paper will present the creation of hydrogels from WPI, which can serve as carriers for both hydrophilic and hydrophobic drugs. Moreover, such hydrogels stimulate adhesion, proliferation, and differentiation of various cell types, making them promising biomaterials for tissue regeneration. The paper will also describe how collaboration with Polish research institutions has played a key role in the development of this research direction.