

# Author's Accepted Manuscript

Zinc Oxide Surface Functionalization and Related Effects on Corrosion Resistance of Titanium Implants

Luciana D. Trino, Leonardo F.G. Dias, Luiz G.S. Albano, Erika S. Bronze-Uhle, Elidiane C. Rangel, Carlos F.O. Graeff, Paulo N. Lisboa-Filho



[www.elsevier.com/locate/ceri](http://www.elsevier.com/locate/ceri)

PII: S0272-8842(17)32664-0  
DOI: <https://doi.org/10.1016/j.ceramint.2017.11.195>  
Reference: CERI16850

To appear in: *Ceramics International*

Received date: 20 September 2017  
Revised date: 20 November 2017  
Accepted date: 27 November 2017

Cite this article as: Luciana D. Trino, Leonardo F.G. Dias, Luiz G.S. Albano, Erika S. Bronze-Uhle, Elidiane C. Rangel, Carlos F.O. Graeff and Paulo N. Lisboa-Filho, Zinc Oxide Surface Functionalization and Related Effects on Corrosion Resistance of Titanium Implants, *Ceramics International*, <https://doi.org/10.1016/j.ceramint.2017.11.195>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# Zinc Oxide Surface Functionalization and Related Effects on Corrosion Resistance of Titanium Implants

*Luciana D. Trino*<sup>1,\*</sup>, *Leonardo F.G. Dias*<sup>1</sup>, *Luiz G.S. Albano*<sup>1</sup>, *Erika S. Bronze-Uhle*<sup>1</sup>, *Elidiane C. Rangel*<sup>2</sup>, *Carlos F.O. Graeff*<sup>1</sup>, *Paulo N. Lisboa-Filho*<sup>1</sup>

<sup>1</sup>São Paulo State University (Unesp), School of Sciences, Bauru, 17033-360, Brazil

<sup>2</sup>São Paulo State University (Unesp), Institute of Science and Technology, Sorocaba, 18087-180,  
Brazil

## Corresponding Author

\*E-mail: [lucianatrino@fc.unesp.br](mailto:lucianatrino@fc.unesp.br) (Luciana D. Trino)

**Keywords:** zinc oxide, biomaterials, surface functionalization, corrosion, functional materials

## Abstract

Important clinical concerns in orthopedics and dental implantology are associated with a significant release of titanium (Ti) metal ions and debris due to the low corrosion resistance of this material. Chemical modifications on Ti surfaces have been performed in order to minimize effects of corrosion. In this contribution, zinc oxide (ZnO) thin films were deposited onto Ti surfaces and functionalized with four different organic bifunctional molecules in order to increase the corrosion resistance. SEM and XPS indicated the formation of nanostructured ZnO

Download English Version:

<https://daneshyari.com/en/article/7888378>

Download Persian Version:

<https://daneshyari.com/article/7888378>

[Daneshyari.com](https://daneshyari.com)