## Accepted Manuscript

Title: Novel Method for the Detection of the Facial Nerve Using Electrical Impedance Spectroscopy during Otologic Surgery

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PII: S0925-4005(18)30173-4

DOI: https://doi.org/10.1016/j.snb.2018.01.157

Reference: SNB 24006

To appear in: Sensors and Actuators B

Received date: 25-9-2017 Revised date: 2-1-2018 Accepted date: 19-1-2018



Please cite this article as: Joho Yun, Jinhwan Kim, Sungsu Lee, Hyong-Ho Cho, Jong-Hyun Lee, Novel Method for the Detection of the Facial Nerve Using Electrical Impedance Spectroscopy during Otologic Surgery, Sensors and Actuators B: Chemical https://doi.org/10.1016/j.snb.2018.01.157

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### ACCEPTED MANUSCRIPT

## Novel Method for the Detection of the Facial Nerve Using Electrical Impedance Spectroscopy during Otologic Surgery

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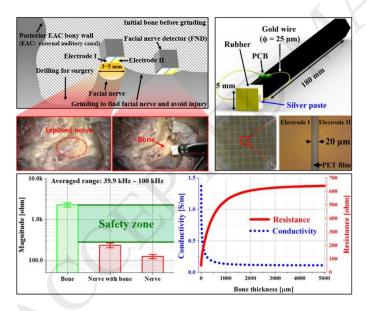
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228-7743 and E-mail: jonghyun@gist.ac.kr; Tel.: +82-62-715-2395; Fax: +82-62-715-2384.

#### **Graphical Abstract**



#### Highlights

- To avoid iatrogenic facial nerve injuries during otologic surgery.
- Electrical impedances of bone and facial nerve of a cadaver were investigated.
- Safe ranges in electrical impedance were suggested at the optimal frequencies.
- Resistance and conductivity changes were investigated according to bone thickness.

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