

S&N-S Light: An anthropic noise control device to reduce the noise level in densely occupied spaces encouraging personal control of voice

*Original*

S&N-S Light: An anthropic noise control device to reduce the noise level in densely occupied spaces encouraging personal control of voice / DI BLASIO, Sonja; Calosso, G.; Puglisi, GIUSEPPINA EMMA; Vannelli, Giuseppe; Corbellini, Simone; Shtrepi, Louena; Masoero, Marco Carlo; Astolfi, Arianna. - In: THE JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA. - ISSN 0001-4966. - ELETTRONICO. - 141:(2017), pp. 3663-3663. ( Acoustics '17 Boston - 3rd Joint Meeting of the Acoustical Society of America and the European Acoustics Association Boston (Massachusetts) - United States of America 25-29 June 2017) [10.1121/1.4987934].

*Availability:*

This version is available at: 11583/2677765 since: 2020-01-30T11:32:36Z

*Publisher:*

Acoustic Society of America

*Published*

DOI:10.1121/1.4987934

*Terms of use:*

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

*Publisher copyright*

(Article begins on next page)

**ABSTRACT FINAL ID:** 3aAAb1

**TITLE:** S&N-S Light: An anthropic noise control device to reduce the noise level in densely occupied spaces encouraging personal control of voice

**AUTHORS (FIRST NAME INITIAL LAST NAME):** S. Di Blasio<sup>1</sup>, G. Calosso<sup>1</sup>, G. E. Puglisi<sup>1</sup>, G. Vannelli<sup>1</sup>, S. Corbellini<sup>2</sup>, L. Shtrepi<sup>1</sup>, M. C. Masoero<sup>1</sup>, A. Astolfi<sup>1</sup>

**INSTITUTIONS (ALL):** 1. Department of Energy , Politecnico di Torino , Torino , Italy.  
2. Department of Electronics and Telecommunications, Politecnico di Torino , Torino , Italy.

**ABSTRACT BODY:**

**Abstract (200 words):** Recently, in many fields related to environmental quality, such as thermal and visual quality, the tendency is to customize the comfort according to the user's needs. A tailored comfort zone is planned in public spaces, in which occupants can set their own comfort level with passive or active systems. In this context, the reduction of noise due to anthropic sources can be seen as a priority.

In densely occupied spaces, such as classrooms, workplaces, restaurants and outdoor spaces, the noise due to users chatting has a detrimental effect upon performance, health and environmental quality. This study reports applications of S&N-S Light, Speech & Noise Stop-Light, a patented smart phonometric device with a warning light activation of exceeding of predetermined anthropic sound levels limits, which encourages personal voice control through visual feedback. The light activation, with green, yellow and red colour, is based on an adaptive algorithm that accounts for pre-defined statistical noise levels; therefore accidental noise levels can be filtered. The device has been used in classrooms, restaurants and urban squares. Results indicate a decrease of noise levels with S&N-S Light, especially when the occupants received training about the device benefits.

**PRESENTER:** Sonja Di Blasio

**AUTHORS (ADDRESS & EMAIL):**

**Name:** Sonja Di Blasio  
**Address 1:** Corso Duca degli Abruzzi, 24  
**Address 2:** (none)  
**City:** Torino  
**State:**  
**Postal Code/Zip:** 10129  
**Country:** Italy  
**E-mail:** sonja.diblasio@polito.it

\*\*\*\*\*

**Name:** Giulia Calosso  
**Address 1:** (none)  
**Address 2:** (none)  
**City:** Torino  
**State:** (none)  
**Postal Code/Zip:** (none)  
**Country:** Italy  
**E-mail:** giulia.calosso@polito.it

\*\*\*\*\*

**Name:** Giuseppina E. Puglisi  
**Address 1:** (none)  
**Address 2:** (none)  
**City:** Torino  
**State:** (none)  
**Postal Code/Zip:** (none)  
**Country:** Italy  
**E-mail:** giuseppina.puglisi@polito.it

\*\*\*\*\*

**Name:** Giuseppe Vannelli  
**Address 1:** (none)  
**Address 2:** (none)  
**City:** Torino  
**State:** (none)  
**Postal Code/Zip:** (none)  
**Country:** Italy  
**E-mail:** giuseppe.vannelli@polito.it

\*\*\*\*\*

**Name:** Simone Corbellini  
**Address 1:** (none)  
**Address 2:** (none)  
**City:** Turin  
**State:** (none)  
**Postal Code/Zip:** (none)  
**Country:** Italy  
**E-mail:** simone.corbellini@polito.it

\*\*\*\*\*

**Name:** Louena Shtrepi  
**Address 1:** C.so Duca Degli Abruzzi 24  
**Address 2:** (none)  
**City:** Torino  
**State:** (none)  
**Postal Code/Zip:** 10129  
**Country:** Italy  
**E-mail:** louena.shtrepi@polito.it

\*\*\*\*\*

**Name:** Marco C. Masoero  
**Address 1:** (none)  
**Address 2:** (none)  
**City:** Torino  
**State:** (none)  
**Postal Code/Zip:** (none)  
**Country:** Italy  
**E-mail:** marco.masoero@polito.it

\*\*\*\*\*

**Name:** Arianna Astolfi  
**Address 1:** Corso Duca degli Abruzzi, 24  
**Address 2:** (none)  
**City:** Turin  
**State:**  
**Postal Code/Zip:** 10124  
**Country:** Italy  
**E-mail:** arianna.astolfi@polito.it