

# wiki.audio Project: Enhancing Multilingual Access to Audio and Acoustics Knowledge

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## Introduction

The interactive platform wiki.audio is designed to provide intuitive access to acoustic and audio knowledge. Developed within a Focus project of „Stiftung Innovation in der Hochschullehre – StIL“, it features translations of peer-reviewed academic content into multiple languages, allowing learners to engage with technical concepts and knowledge in their native tongue.

As a case study, this poster highlights an article on compressors, initially written in English and reviewed by experts for technical accuracy. After approval, it was translated into multiple languages, demonstrating the role of wiki.audio in expanding access to verified knowledge. By integrating interactive learning tools with multilingual expert-reviewed content, wiki.audio provides an alternative approach to academic in situ education, supporting greater accessibility and engagement in audio and acoustics.

Its core motivation is to eliminate linguistic barriers, resulting in accelerating the dissemination of research and enhancing cross-linguistic collaboration, ultimately broadening access to scientific knowledge worldwide.

## Translations

wiki.audio employs a structured approach to language representation, ensuring that multilingual content remains accurate and conceptually coherent.

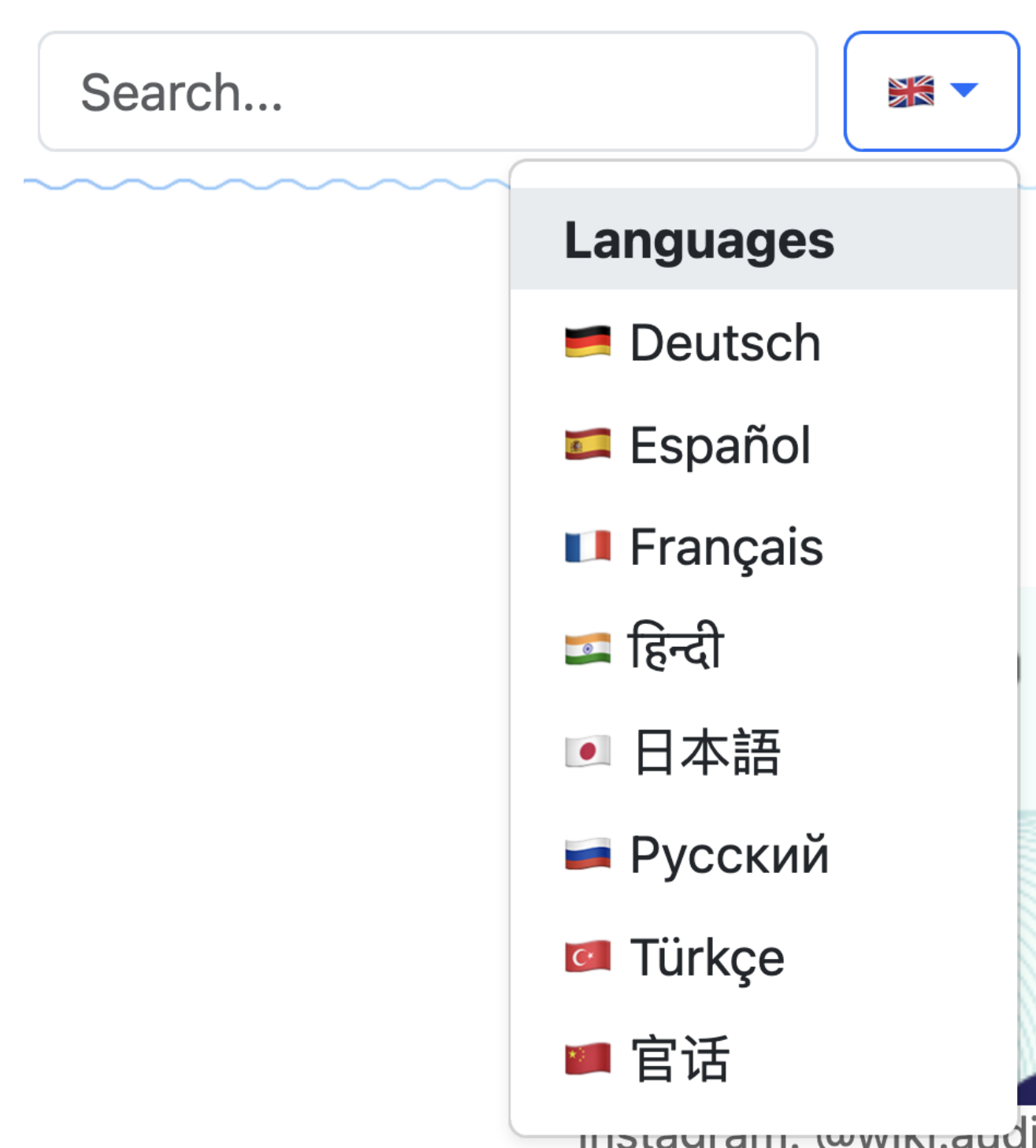


Figure 1: Search box and main language selection options

### Language Versions

No direct translations; each article is structured separately.

### Structured Content

Includes references,  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  formulas, figures, and context-related terminology.

### Interlanguage Linking

Drop-down menu for seamless navigation between available language versions.

## Cross-Language Collaboration

Maintains consistency and improves accessibility.

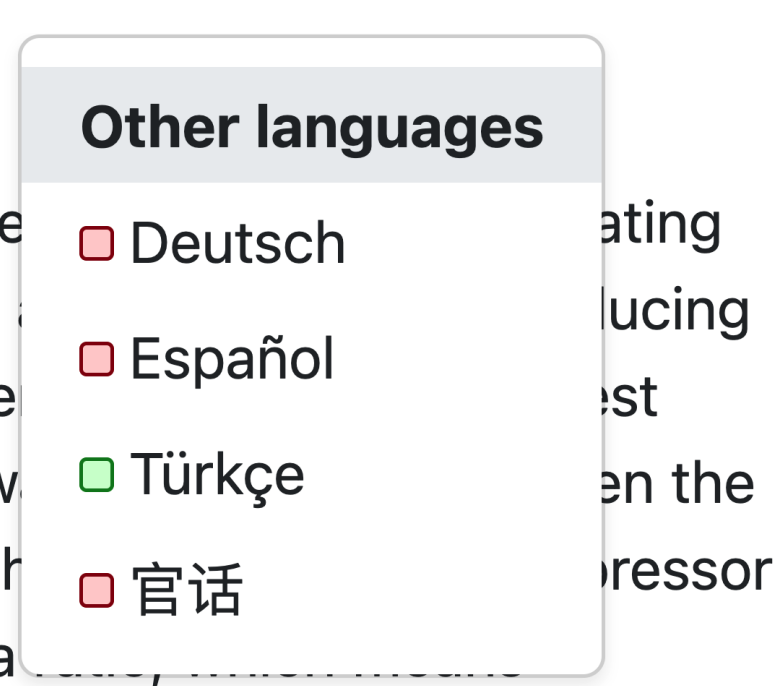
## Community-Driven Translation

Reviewed by experts and native speakers for accuracy.

## Examples

### Compressor

Compressors are essential for reducing the dynamic range of a signal. The difference between the highest and lowest levels. The simplest way to reduce the level is to reduce the signal level exceeds the threshold. This reduces the level by a factor of 2.



### Kompresör

**Kompresörler**, bir ses sinyalinin dinamik aralığını manipüle etmek için kullanılan temel araçlardır; bu işlem, en yüksek ve en düşük seviyeler arasındaki farkı azaltarak gerçekleştirilir. Basitçe açıklamak gerekirse, sinyal seviyesi belirlenen eşik değerini aştığında, kompresör bu seviyeyi bir oranla düşürür;

### Compresor

Los compresores son herramientas esenciales para manipular el rango dinámico de una señal de audio, ya que reducen la diferencia entre los niveles más altos y más bajos. La manera más sencilla de describir su funcionamiento es que, cuando el nivel de la señal supera el umbral, el compresor reduce

Figure 2: A snippet from compressor article in different languages

## Quick Switch between the languages

This keeps users focused on the content

## Interactive Learning

Beyond static text, engaging tools for acoustics.

## Multichannel Audio

Embedded sound samples for direct listening.

## Educational Walkthroughs

Structured, guided learning experiences.

These interactive features not only improve accessibility, but also contribute to a more inclusive and dynamic knowledge sharing environment across languages [Leckschat et al., 2023].

## Acknowledgements

This project has been supported by

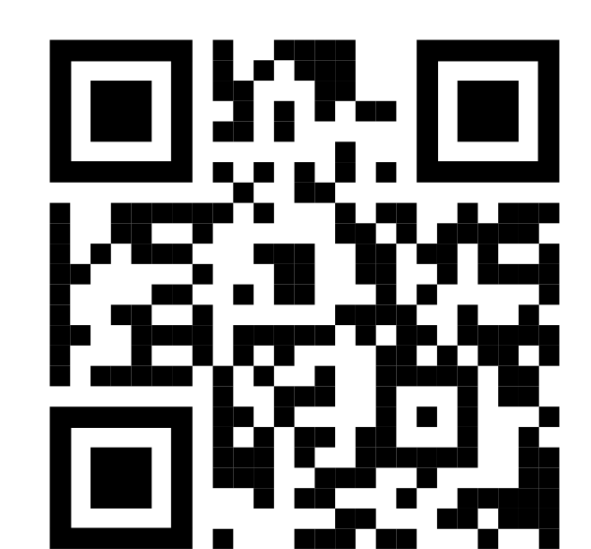
- StIL Focus (Stiftung Innovation in der Hochschullehre)
- DEGA (Deutsche Gesellschaft für Akustik) and
- VDT (Verband Deutscher Tonmeister).

Special thanks to Feiyu Yang for his translations into Chinese.

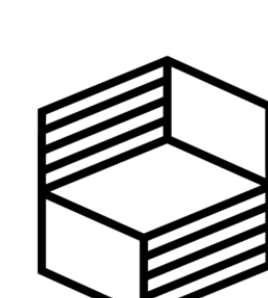
## Links and References

- [www.wiki.audio](http://www.wiki.audio)
- [wiki.audio/En/0073](http://wiki.audio/En/0073) (compressor article)
- Leckschat, D. et al.: wiki.audio: Eine interaktive Enzyklopädie der Akustik und Audiotechnik. Fortschritte der Akustik – DAGA 2023, Hamburg.

WikiAUDIO



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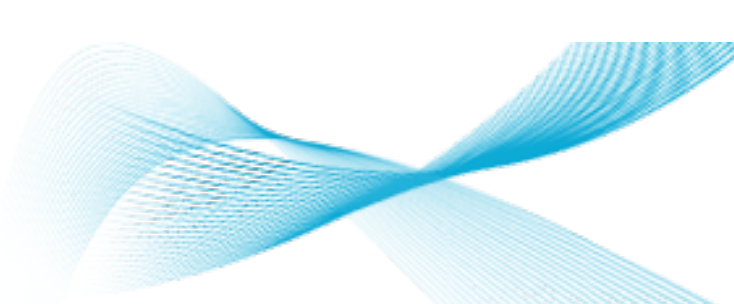
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