



LA MUSIQUE AMPLIFIÉE

Données expérimentales et cliniques

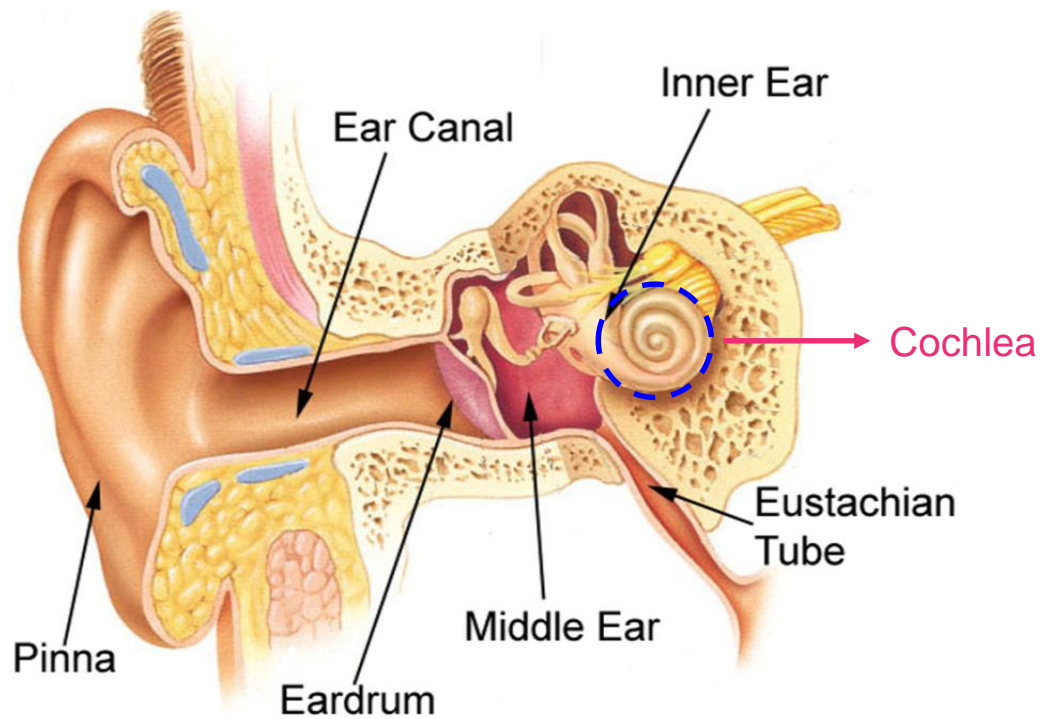
Jean-Luc PUEL

Inserm U1051-Université de
Montpellier



Physiologie de l'audition



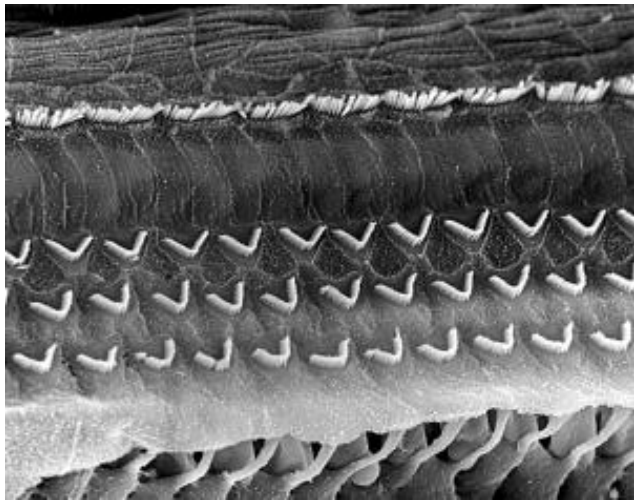
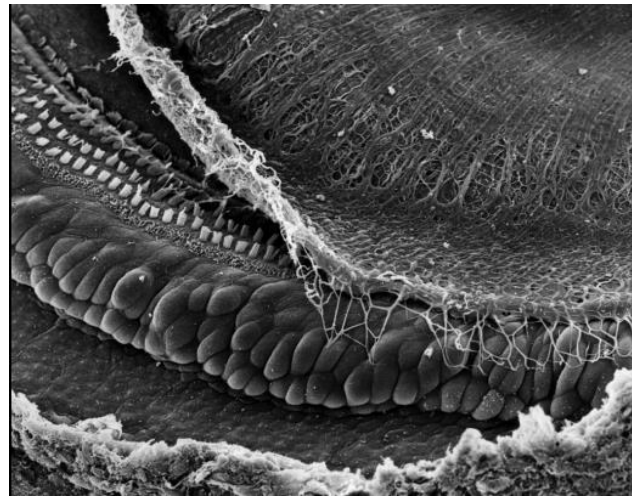


5 DÉCEMBRE 2018

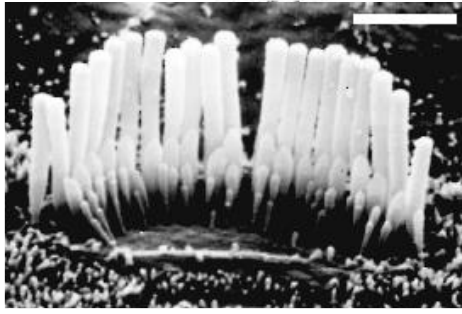
**SONS AMPLIFIÉS : LA NOUVELLE
RÉGLEMENTATION ENTRE EN SCÈNE !**

CidB
Centre d'information
sur le Bruit

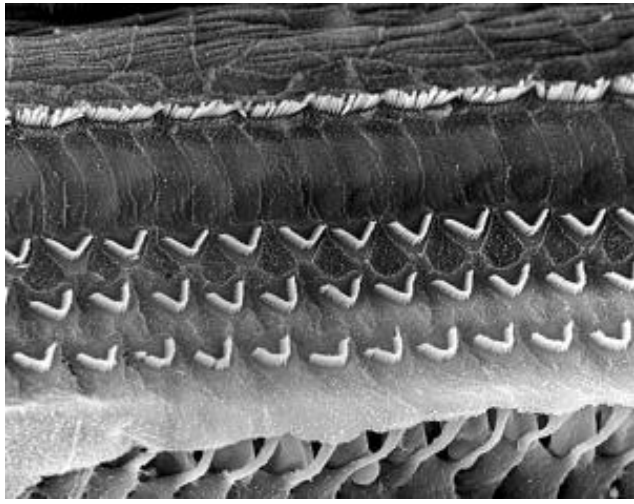
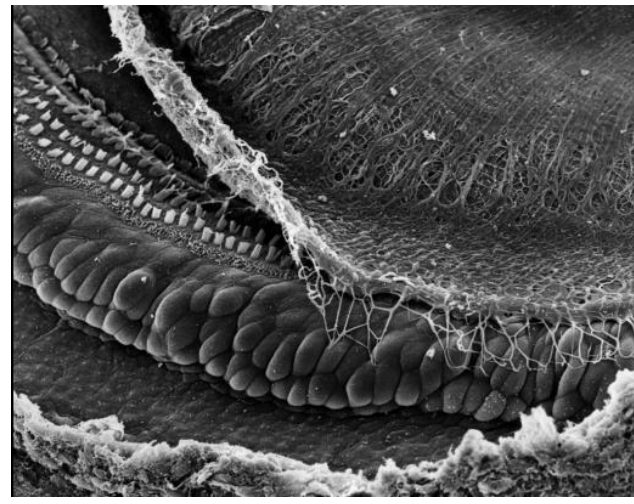
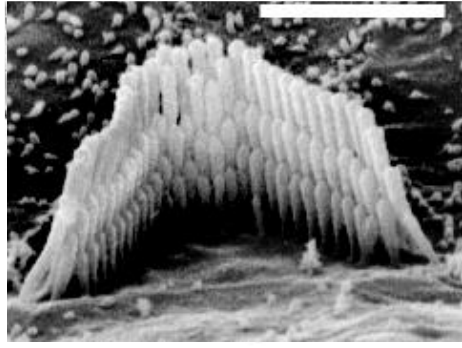

RÉPUBLIQUE FRANÇAISE
MINISTÈRE DE LA TRANSITION
ÉCOLOGIQUE ET SOLIDARITÉ
LE TERRITOIRE
MINISTÈRE DE LA CULTURE



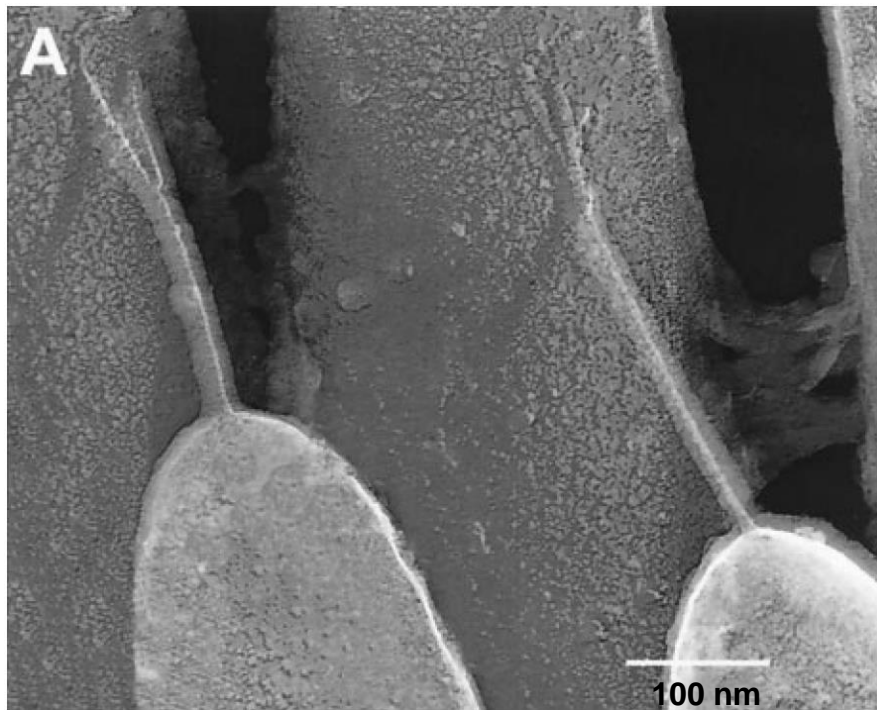
3000 IHCs

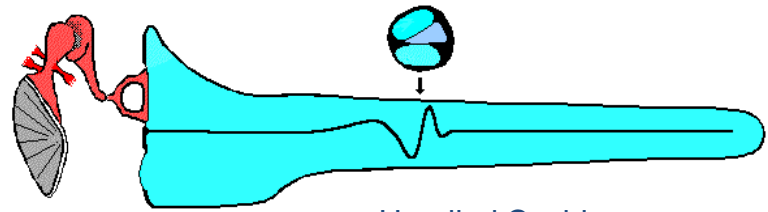
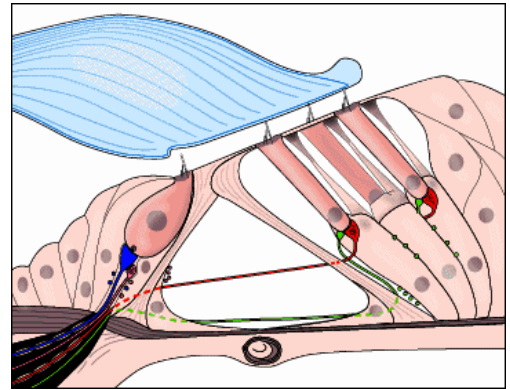
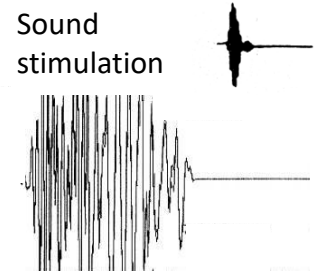
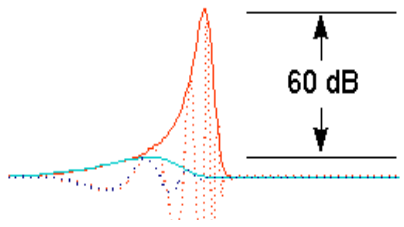
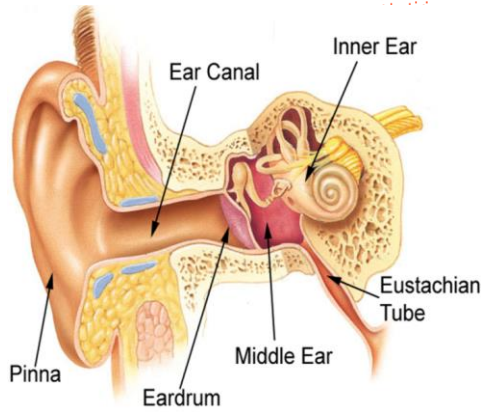


12000 OHCs

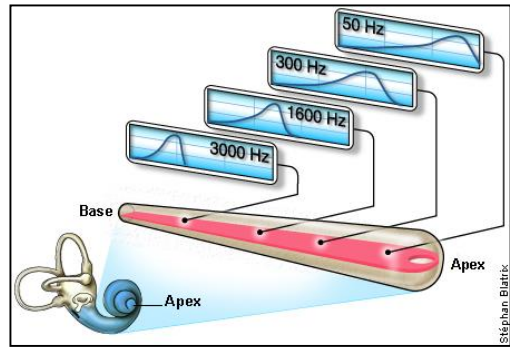


15 000 sensory hair cells ...





Unrolled Cochlea



Stéphan Blatrix

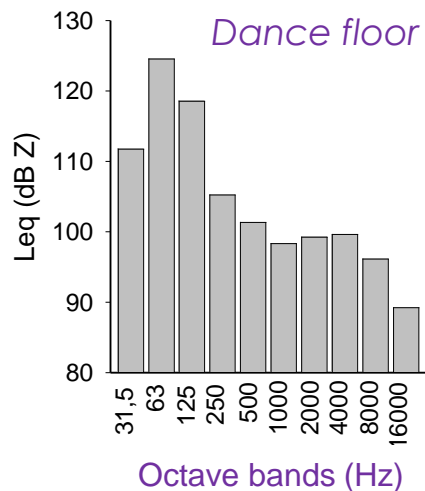
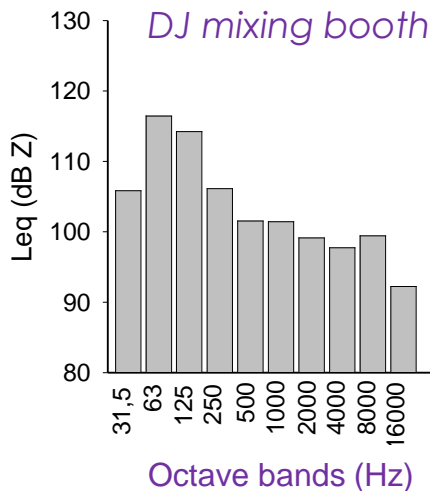


La musique amplifiée

Données chez l'homme



Level equivalent Leq (A) between **92.3 to 102.1 dB(A)**,
Average sound level of **98.7 dB(A)**.



Amplified Music too Loud?



The risks for disc-jockeys

Level equivalent $Leq (A)$ between **92.3 to 102.1 dB(A)**,
Average sound level of **98.7 dB(A)**.

Description of the population

	DJs (n=29)	controls (n=21)	Total (n=50)
male	89,7 %	80,9 %	86 %
female	10,3 %	19,1 %	14%
Age (years)	26,35 ± 5,74	28,71 ± 6,73	27,34 ± 6,55

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The risks for disc-jockeys

Level equivalent Leq (A) between **92.3 to 102.1 dB(A)**,
Average sound level of **98.7 dB(A)**.

Description of the DJ population

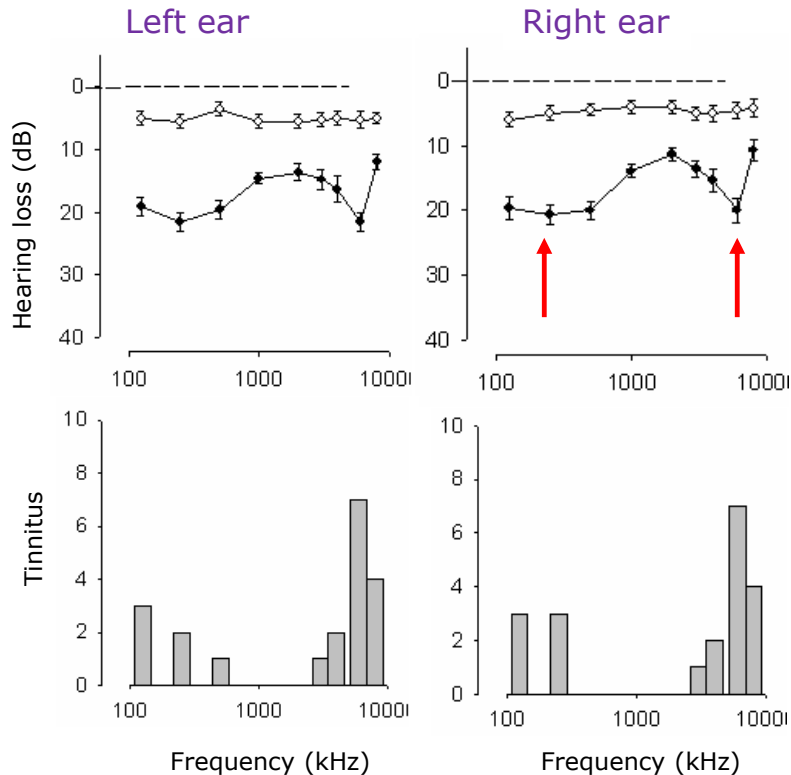
Time spent in the profession (years)	6,62 ± 6
Weekly exposure (hours)	21,58 ± 12,64
Subjects with tinnitus (%)	75,9
High pitched tinnitus (%)	63,6
Low pitched tinnitus (%)	27,4
High and low pitched tinnitus (%)	9
Non-lateralized tinnitus (%)	88,9

Amplified Music
too Loud?



The risks for disc-jockeys

Level equivalent $Leq(A)$ between **92.3 to 102.1 dB(A)**,
Average sound level of **98.7 dB(A)**.



Amplified Music too Loud?



The risks for disc-jockeys

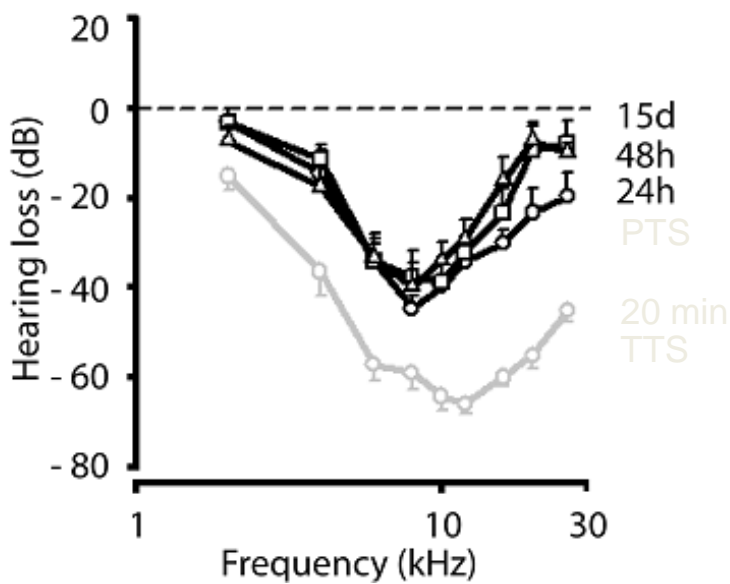


Dommmages neuro-sensoriels

Données expérimentales

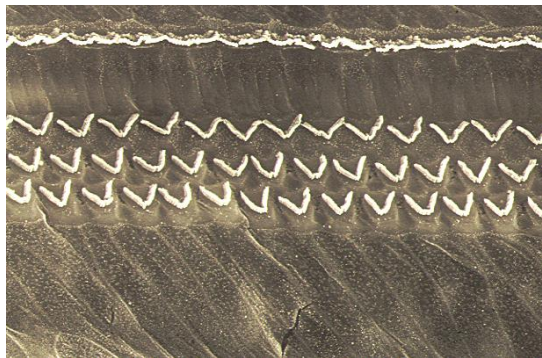


6kHz, 120 dB SPL, 30 min.

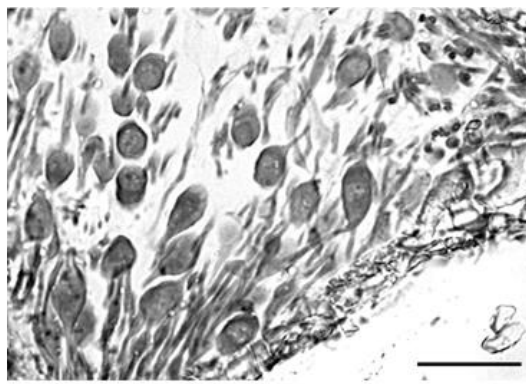
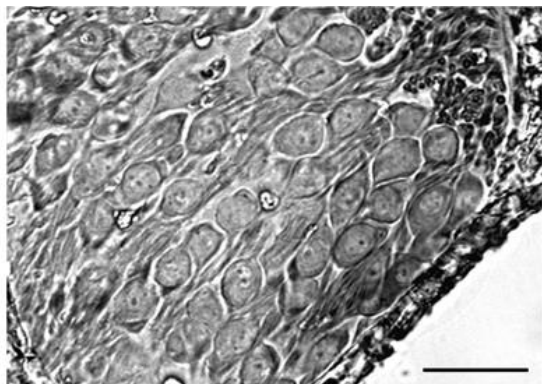


Wang/Puel, Neuroscience 2002, 111 (3), 635-648 .

Avant



1 mois après

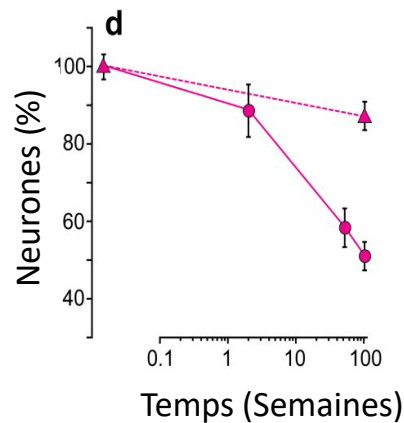
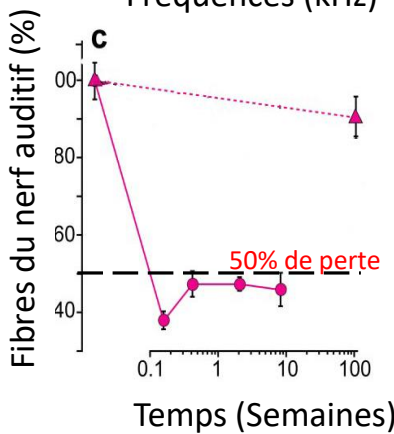
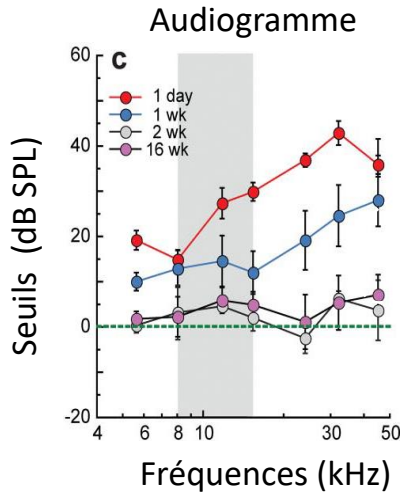
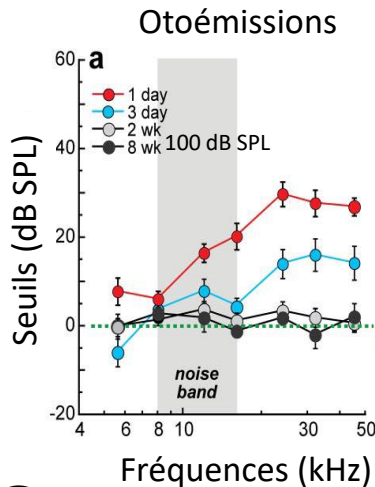
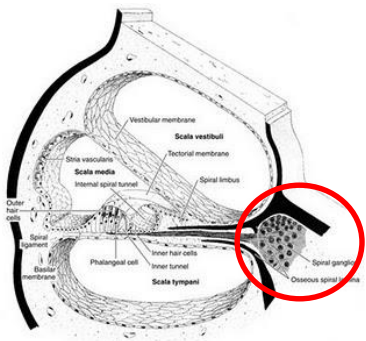




Les surdités cachées

Données expérimentales





Que faire ?

Prévention

Développer de nouveaux matériels et améliorer la prévention

Médical

Développer de nouveaux outils de dépistage et diagnostiques

Réhabilitation audioprothétique

Développer des algorithmes de traitements du signal
adapter à la pathologies

Recherche

Développer des stratégies thérapeutiques adaptées

Codage de l'information
sonore



Réparation & régénération
de l'épithélium sensoriel



Recherche Clinique



Funding

