



M-CUBE
MetaMaterials-MRI

Rencontres FET Open 2019

Redha Abdeddaim

Paris, 1 Février 2018



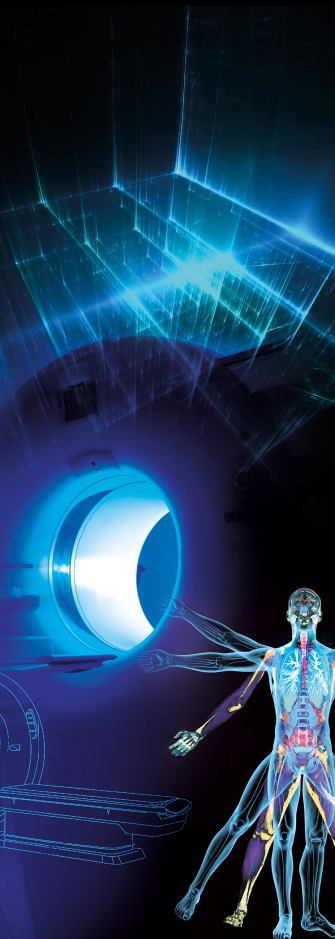
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 736937



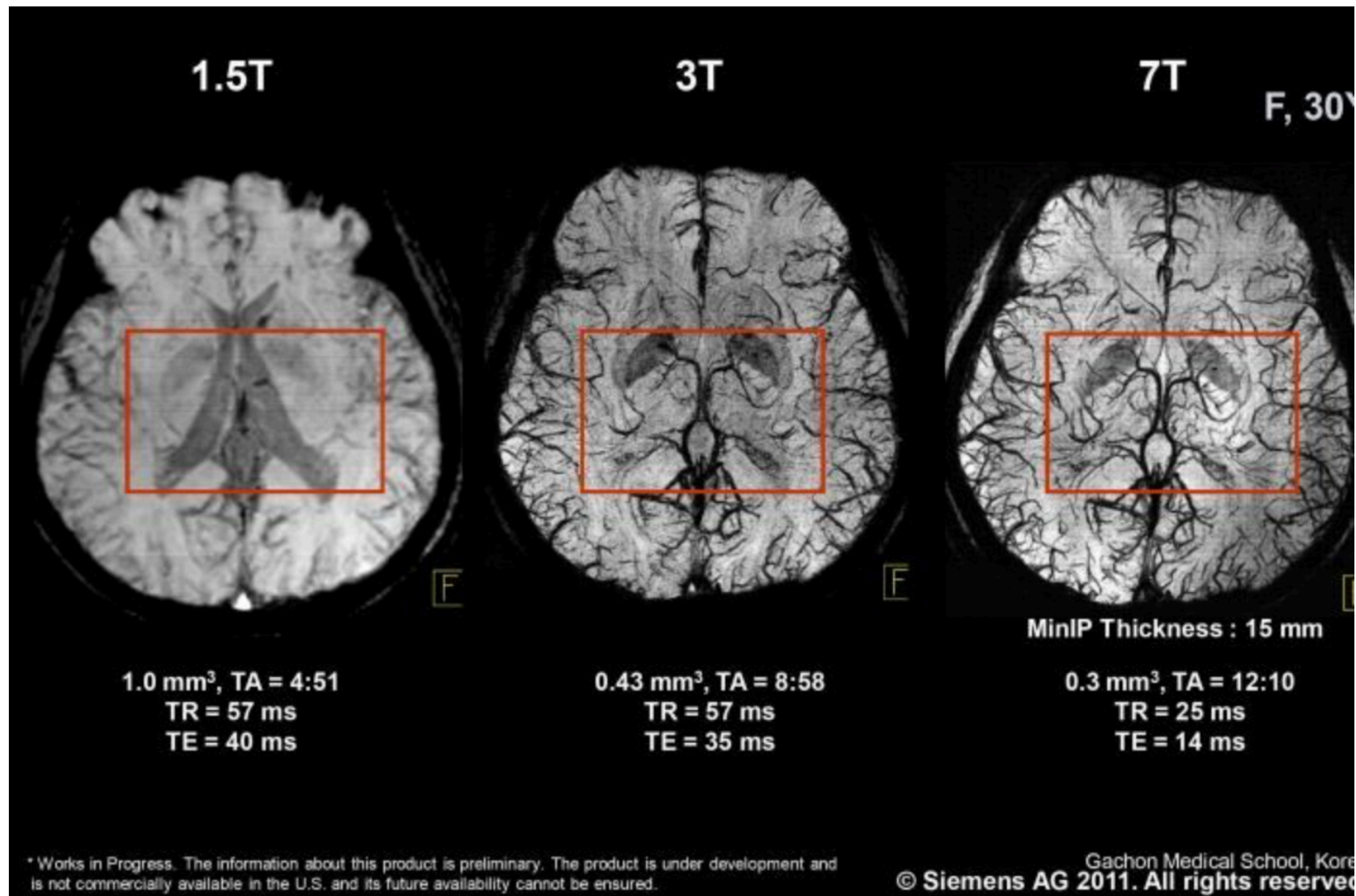


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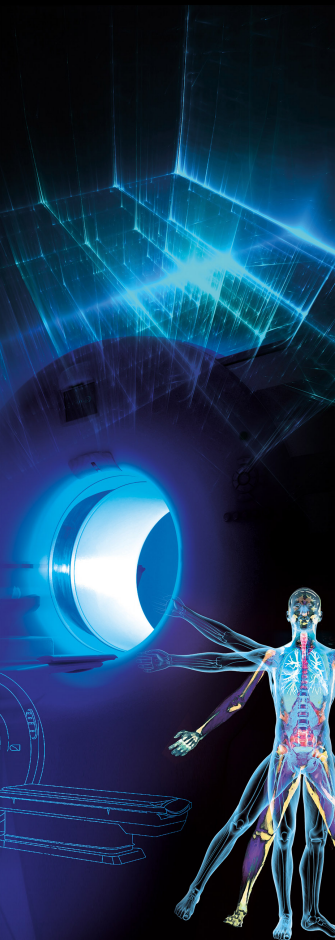
M-CUBE: *UN VRAI ENJEU*



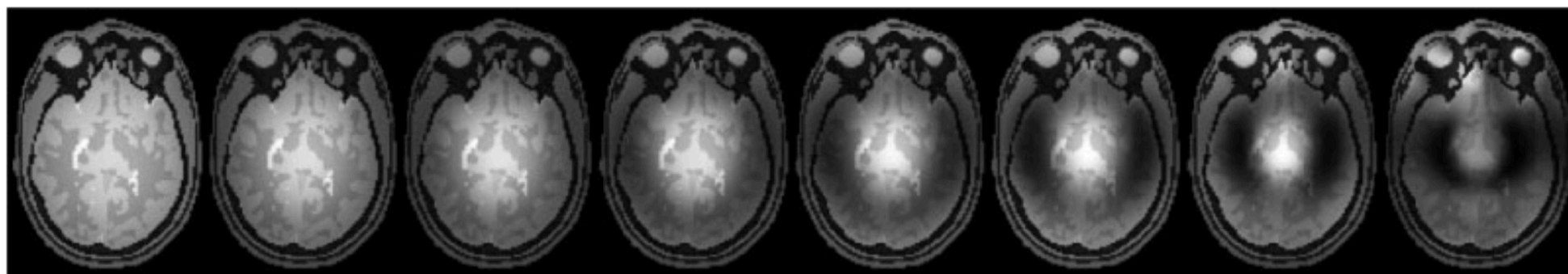


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M-CUBE: *UNE VRAI PROBLÉMATIQUE*



3T

4T

5T

6T

7T

8T

10T

12T



Field



Body



Field



Body



Field



Body



Field



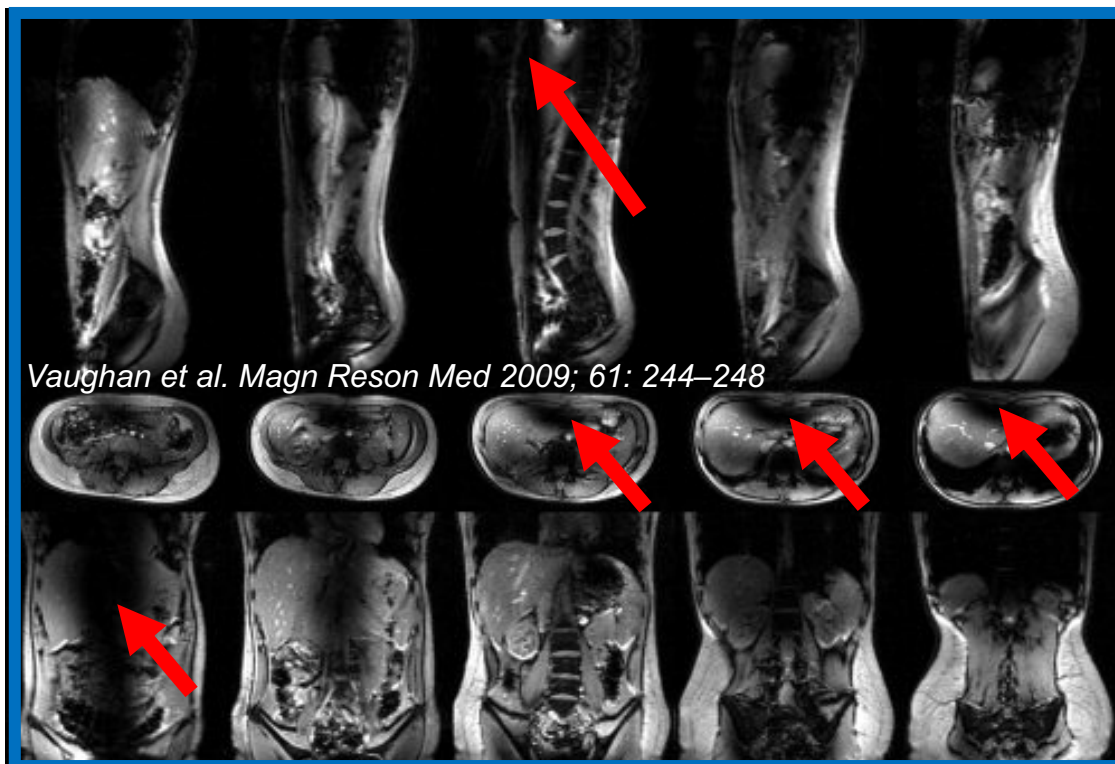
Body



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M-CUBE: *UN VRAI RISQUE SCIENTIFIQUE*



Vaughan et al. Magn Reson Med 2009; 61: 244–248

Une antenne corps Entier

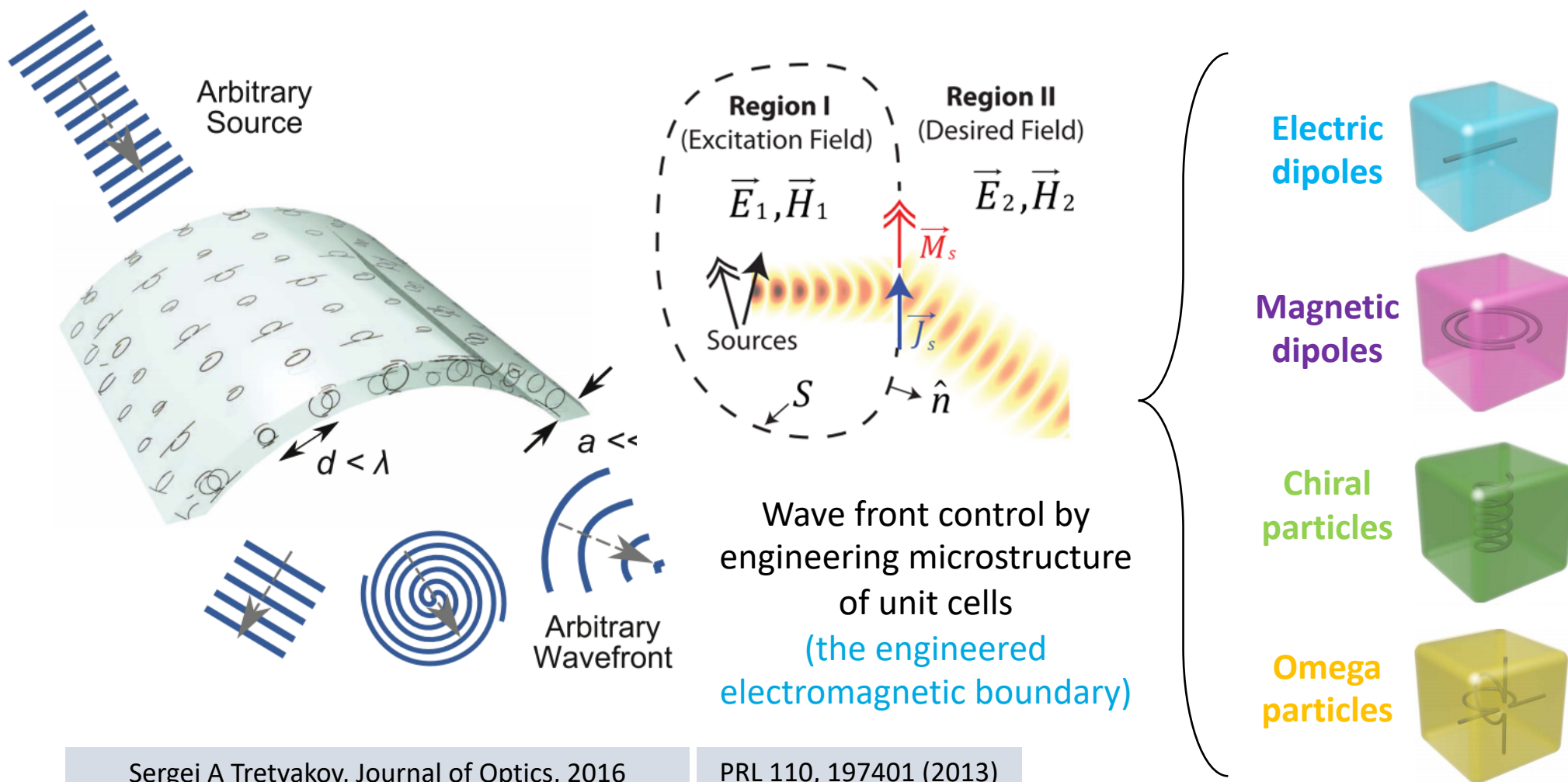
Différentes antennes pour
chaque partie du corps



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M-CUBE: *UNE SOLUTION POSSIBLE*



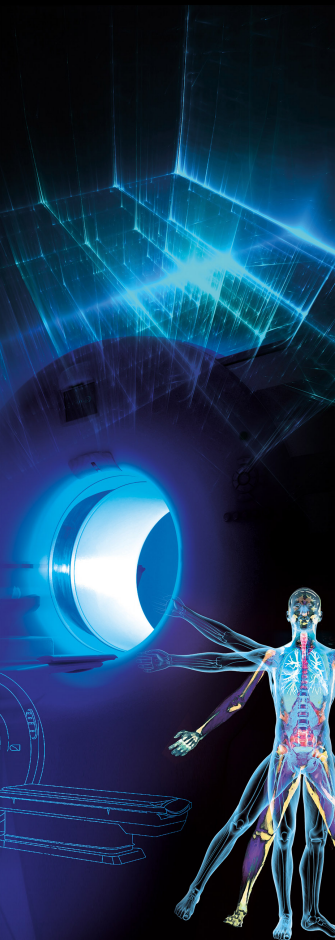
Sergei A Tretyakov, Journal of Optics, 2016

PRL 110, 197401 (2013)



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M-CUBE: *PAS SEUL*

Les Contrats Européens

Le **service des Contrats Européens**, créé en 2004 pour accompagner les personnels de l'Université et de l'AP-HM dans leurs démarches européennes, opère de façon transversale de la phase de détection au management et gestion financière des projets, essentiellement dans le cadre de [Horizon 2020](#).

Composée de [9 personnes](#), elle gère actuellement **une centaine de projets** de recherche européens.

Ses procédures de gestion financière et de suivi des projets ont conduit à l'obtention en juillet 2012 d'une certification européenne (**certificat sur la méthodologie**) permettant ainsi à l'Université de devenir le premier établissement d'enseignement supérieur en France et l'un des premiers en Europe à être ainsi distingué.

Les [missions](#) du service Contrats Européens :

- **Détection de projets et sensibilisation des équipes AMU**
- **Aide au montage de projets (ingénierie)**
- **Négociation et finalisation des Accords de Subvention**
- **Gestion administrative et financière des projets**
- **Management des projets sous coordination AMU**



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M-CUBE: *UN ÉQUILIBRE*



INSTITUT
FRESNEL



UMC Utrecht



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MR
Colls

A!
Aalto University



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University



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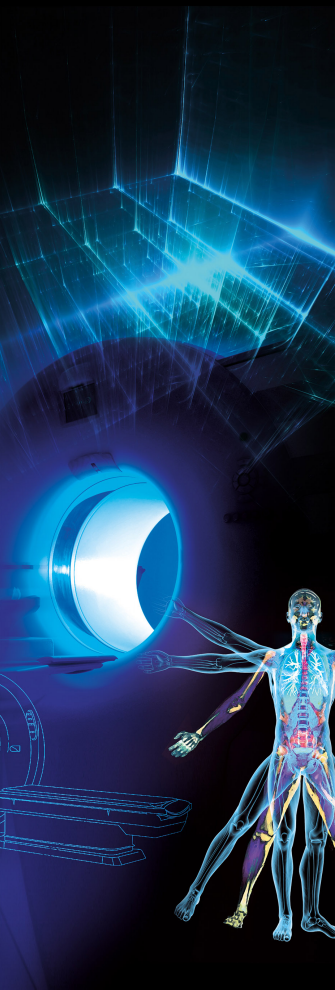
Australian
National
University

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M-CUBE: *INTERDISCIPLINAIRE*

MILSTONNES !!!!!!!

Industriels



Centres IRM



Médecins



Livable !!!!!!!

BUDGET !!!!!!!

Académiques





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M-CUBE: *DISSÉMINATIONS*





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M-CUBE: *ET APRES*



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UCL
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de Louvain

Young
researchers

20
nationality



Gender
Balanced

MR
Coils



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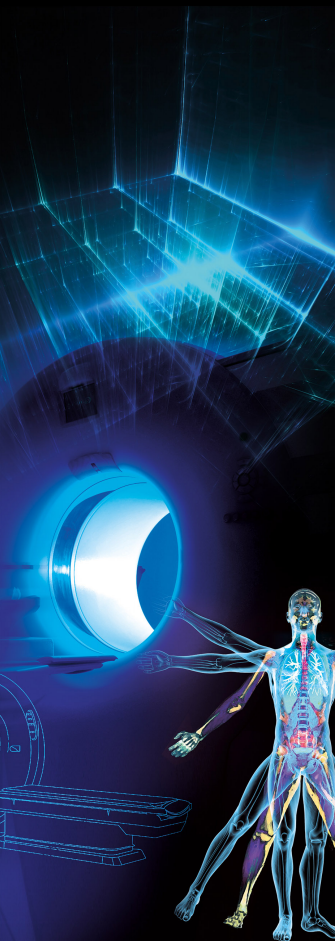


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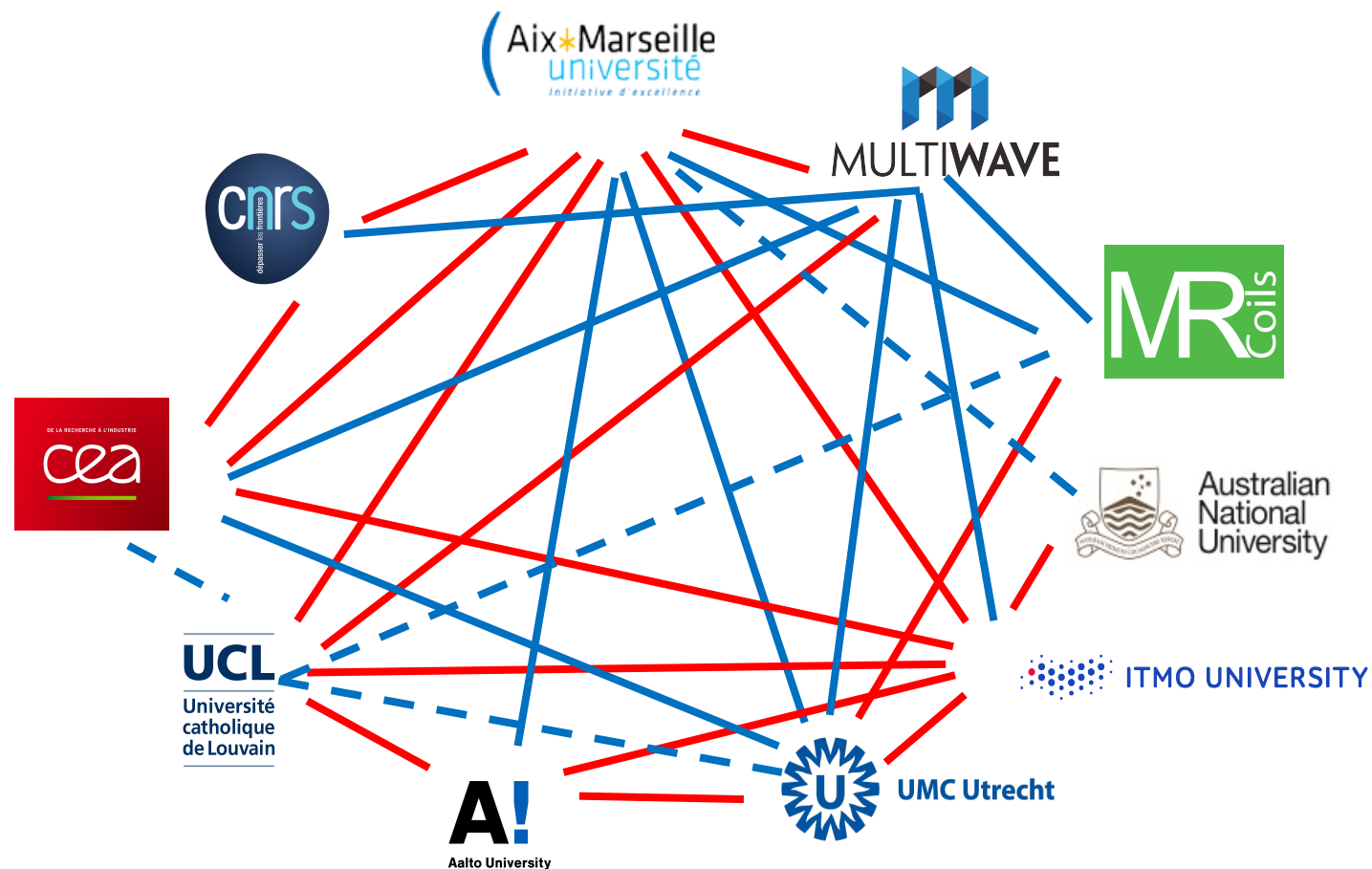
MR
Coils



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M-CUBE: ***RUNNING COLLABORATIONS***





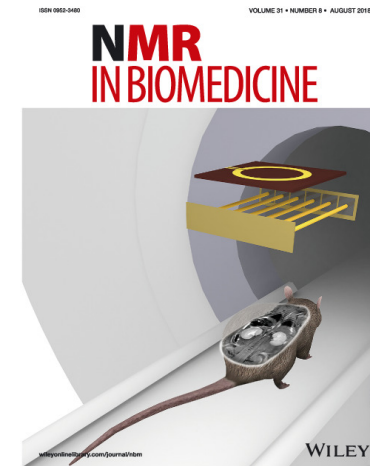
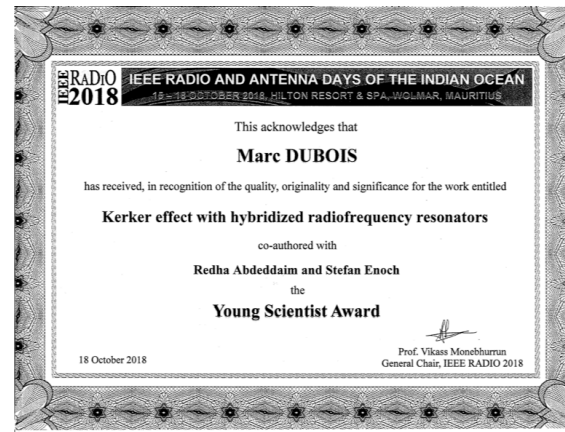
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M-CUBE: 16 RICL/20 PROCEEDINGS/ 5 BREVETS/10 PRIX

Home > Research and Innovation > Projects > Success Stories >

Improving disease detection through ultra-high-field MRIs

The widespread adoption of magnetic resonance imaging (MRI) revolutionised clinical medicine, and the revolution has not stopped. Scientists in an EU-funded project are exploring ways to make MRIs even more effective - aiming to help patients get the best possible treatment through early disease detection.



CATEGORY WINNER

Multiwave Technologies

Multiwave's 7T MRI antenna for the head allows to overcome the inhomogeneity issues due to the ultra high field using an embedded metamaterial (HMA) to enhance the field in the temporal lobes and the cerebellum. Using a standard antenna, brain conditions such as epilepsy or MS could be missed.

Voting is closed. 1865 users have voted.



FINALIST

Fresnel Institute - Aix-Marseille University

The metamaterial antenna improve radically medical imagery of body and brain, it creates a "patient-centered" solution that will pave the way for more accurate diagnostics in the context of personalized medicine enabling the earlier detection of diseases.

Voting is closed. 3244 users have voted.





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mcube-project.eu