



DESCODIFICAR SINAIS DE SENSORES DE OXIGÉNIO PARA DIAGNOSTICAR...DIABETES!

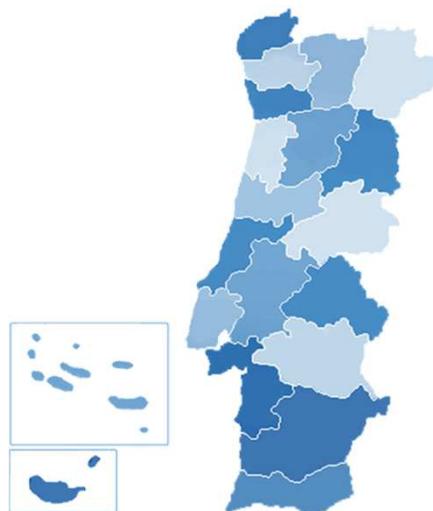
Maria Pedro Guarino

DIABETES: EMERGÊNCIA GLOBAL



0,7-0,9%
do PIB
português em
2015

8-10%
das despesas
em SAÚDE
em 2015



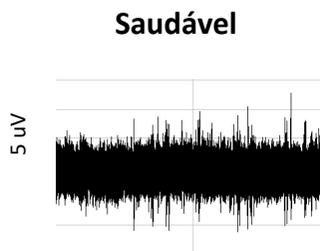
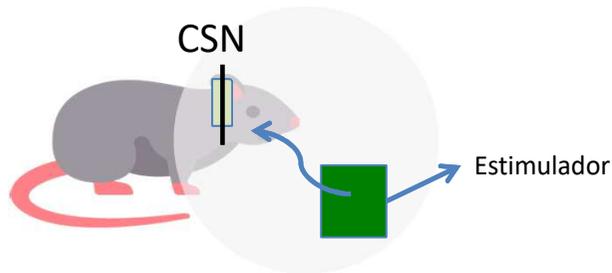
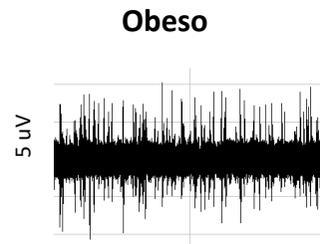
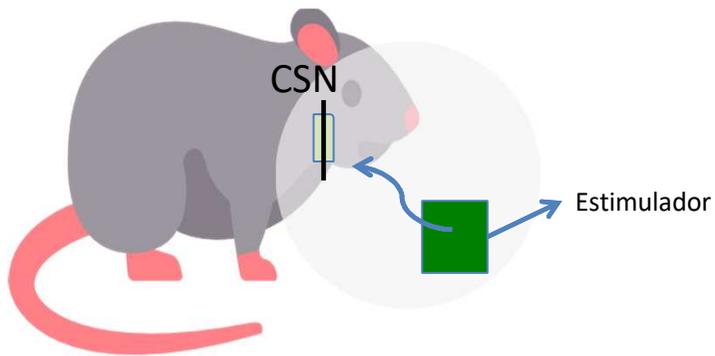
40,7% da população portuguesa
(20-79 anos) tem **pré-diabetes**
ou **diabetes**

3.1 MILHÕES

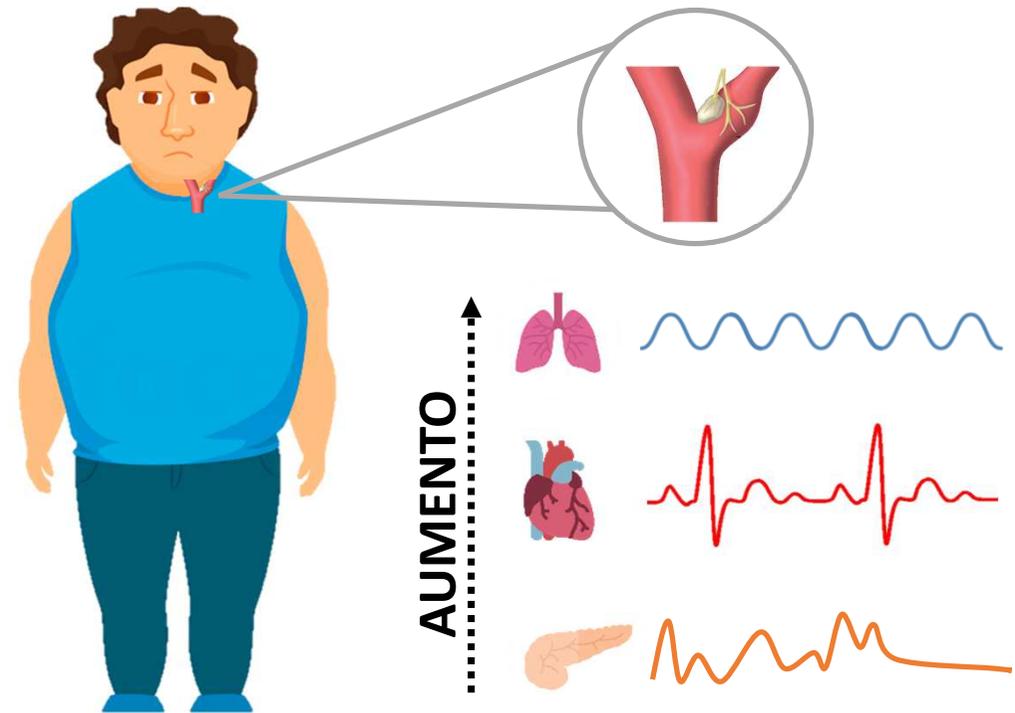
A **Diabetes** em **Portugal** em 2014 representou um
custo direto estimado entre

1300 – 1550 milhões de euros

COMO COMEÇOU?



E nos HUMANOS?



Ribeiro, Maria J., et al. "Carotid body denervation prevents the development of insulin resistance and hypertension induced by hypercaloric diets" *Diabetes* 62.8 (2013): 2905-2916.
Conde, Silvia V., et al. "Insulin resistance: a new consequence of altered carotid body chemoreflex?" *The Journal of physiology* 595.1 (2017): 31-41.

A IDEIA



CBMETER

FCT/SAICT-POL/23278/2016

PARTNERS



Instituto Politécnico
de Castelo Branco

MAKERTECH



C E N T R O
H O S P I T A L A R
L E I R I A

FUNDING



REPÚBLICA
PORTUGUESA



COMPETE
2020

UMA SOLUÇÃO INTEGRADA

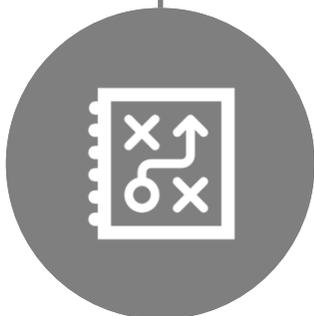
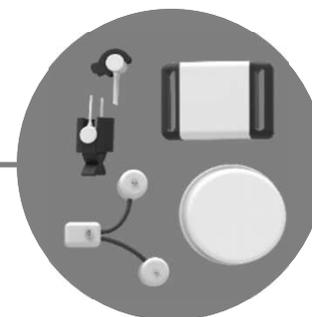
FORMAÇÃO



CBHUB



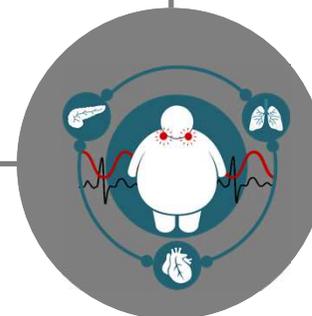
CBSENSORS



**MODELOS MATEMÁTICOS
ANÁLISE DE INTELIGÊNCIA ARTIFICIAL**



CBMEAL



CBVIEW

29/10/2021



SOCIEDADE PORTUGUESA
DIABETOLOGIA

ESTUDO PILOTO

Passo 1

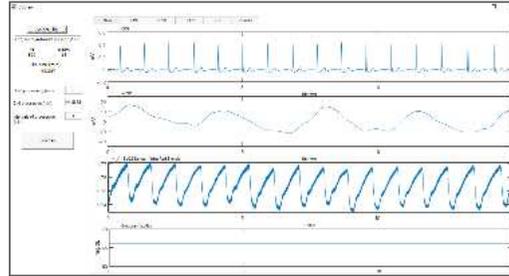


Colocação dos sensores

Passo 2



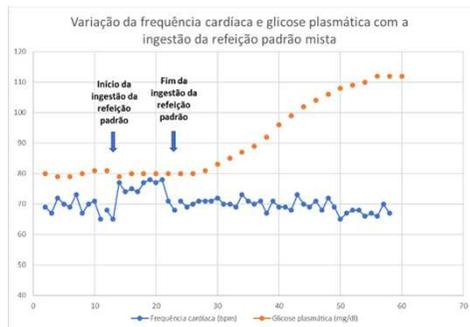
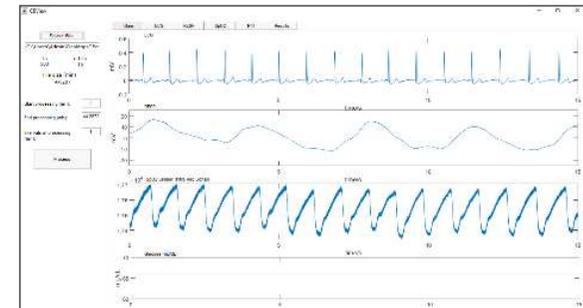
Teste de *Dejours*



Passo 3



Refeição padrão mista

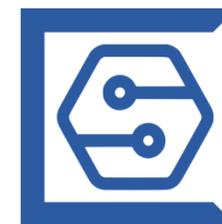


Algoritmos de *Machine Learning*

TRANSFERINDO O CONHECIMENTO...



A screenshot of the SENSIMETER website. The header includes the SENSIMETER logo and navigation links: Homepage, About Us, Services, Projects, Contact Us. The main content area features the title "CBMETER - A NEW DEVICE FOR EARLY DIAGNOSIS OF METABOLIC DISEASES" and a sub-header "Develop a novel early-diagnosis methodology and equipment for metabolic diseases, which may represent a new system of disease prevention." Below this is a video player showing a woman speaking, with a subtitle that reads "We are also considering using CBmeter balanced meal in other contexts." To the right of the video is a text block describing the CBmeter device and its application in early diagnosis of metabolic diseases.



SENSIMETER

Healthcare & Technologies Solutions

UM SERVIÇO INOVADOR

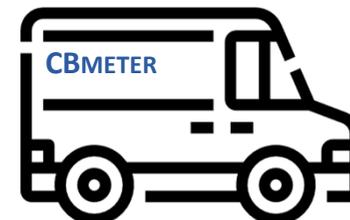


DETEÇÃO PRECOCE DE DOENÇA METABÓLICA E DIABETES MELLITUS

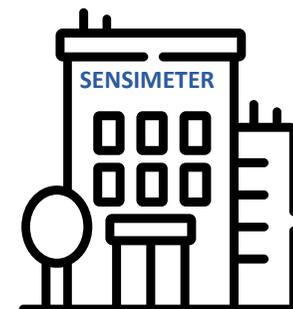
MONITORIZAÇÃO DE PESSOAS COM DIABETES

Cientes-alvo: Unidades de Saúde Familiares (USF)

População-alvo: Pessoas na faixa etária entre os 18 e os 55 anos inscritas nos ACES



1 NUTRICIONISTA
2 FISILOGISTAS CLÍNICOS



1 DIRETOR CLÍNICO
1 ENGENHEIRO INFORMÁTICO
1 DATA ANALYST

A EQUIPA



Maria Pedro Guarino
Fisiologista



Rui Fonseca-Pinto
Médico



Nuno Vieira Lopes
Engenheiro Eletrotécnico



Marlene Lages
Nutricionista



Henrique Carvalho
Gestor



Inês Lisboa
Gestora



Silvia V. Conde
Neurofarmacologista

PONTOS FORTES



2.
HIPÓTESE CIENTÍFICA
VALIDADA

1.
SOLUÇÃO CENTRADA NA
PREVENÇÃO VS
TRATAMENTO DE UM
PROBLEMA DE SAÚDE
GLOBAL

3.
PRODUÇÃO ACESSÍVEL/
REDE DE SAÚDE PÚBLICA

