

HELLO, I AM GREGORY

AN ASSISTANT FOR MULTIPLE SCLEROSIS RESEARCHERS

[HTTPS://GREGORY-MS.COM](https://gregory-ms.com)



BRUNO AMARAL

COMMUNICATION STRATEGIST

15 years of experience

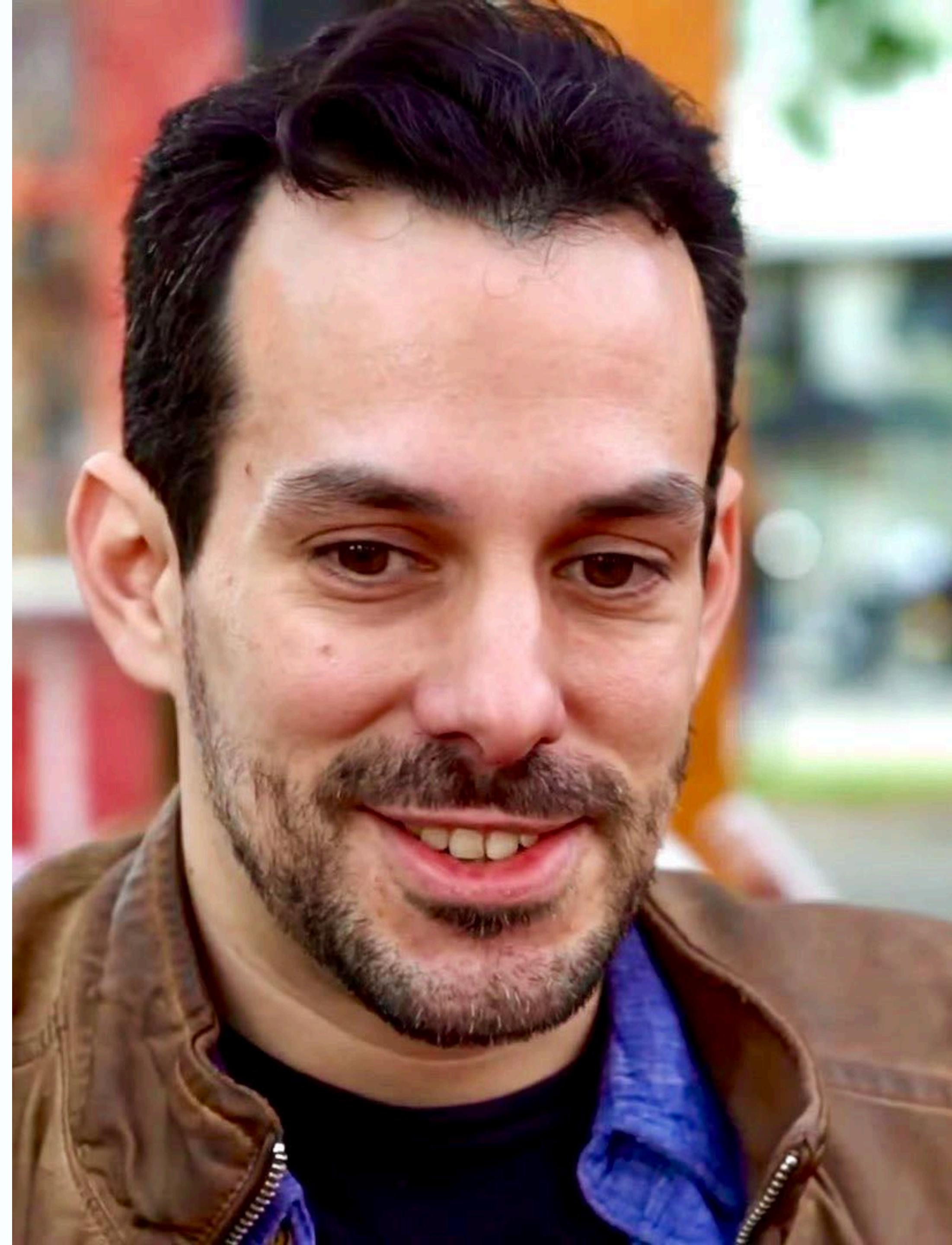
Currently working at **EDP**

Independent consultant for the **Lisbon Collective**

Teaches at the University of Lisbon

<https://brunoamaral.eu>

“ I have a very particular set of skills



“Too much information is as bad as not enough.

From February to November 2021 there were more than **5600** articles on Multiple Sclerosis (MS) published in scientific online publications. It would be a full time job to keep a research team up to speed with the latest findings.

We need a way to filter relevant information and distribute it to relevant stakeholders, in the hope it will speed up development of new drugs and therapies for patients.



Healthcare workers



Researchers

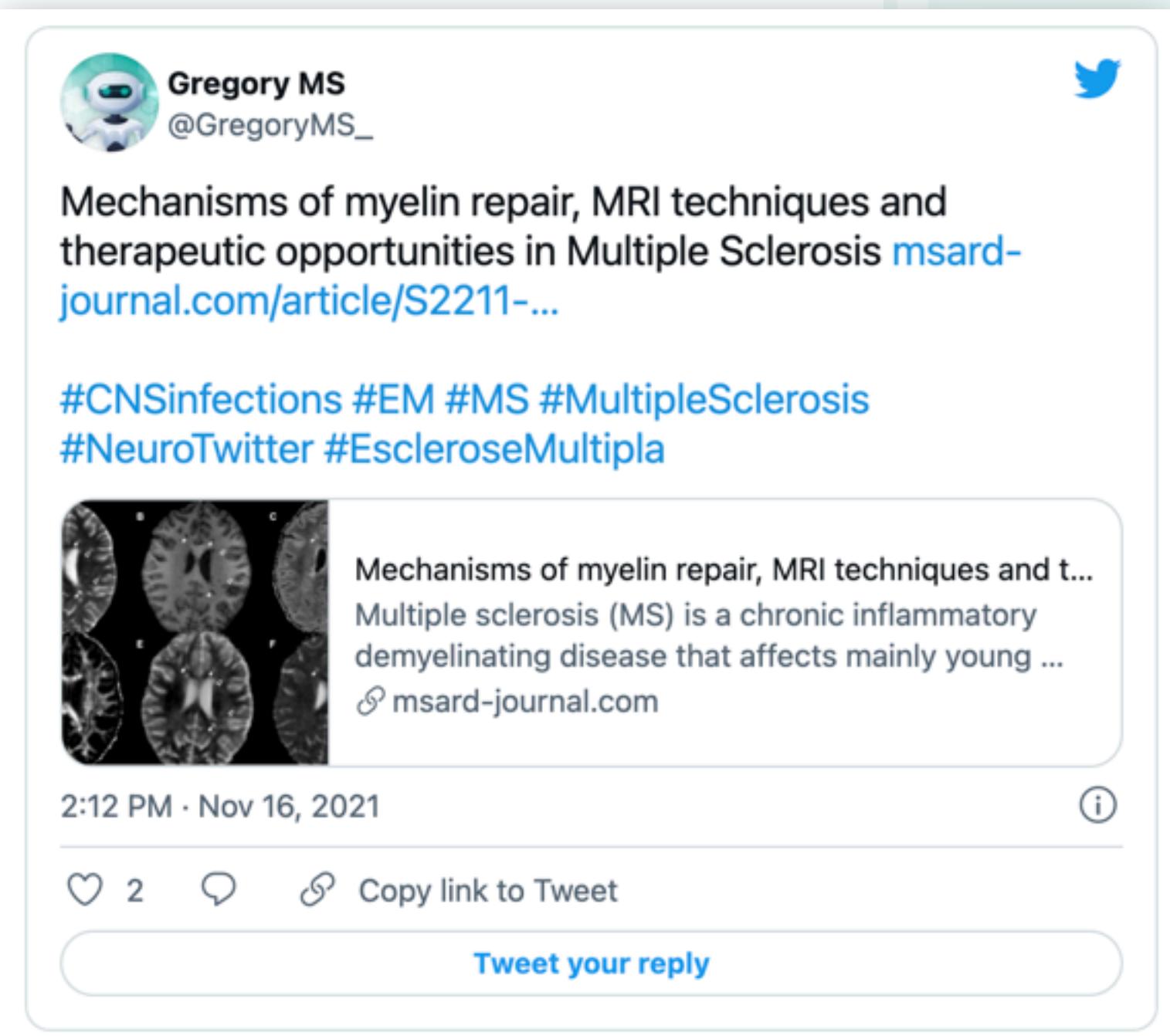


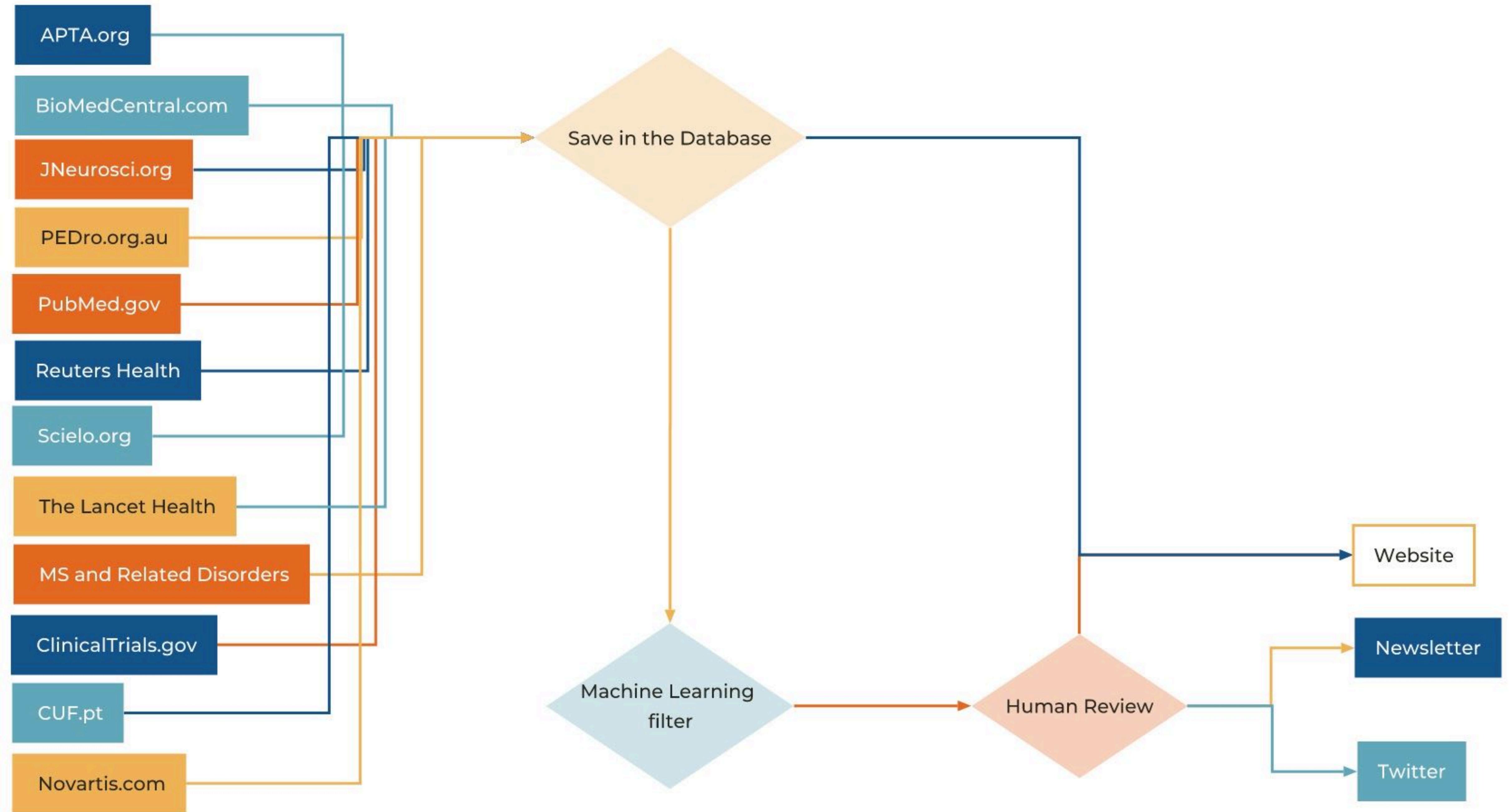
GREGORY'S MISSION

SOLVE INFORMATION OVERLOAD

We use **machine learning** to **index** and **filter** relevant research for people with MS (PwMS).

The website is **updated several times a day** and relevant articles are shared on twitter.







Gregory Admin Summary

Gregory Admin Summary

Gregory
To: Bruno Amaral

Monday, 22 Nov, 13:48

Digest of articles in the last 2 days

The effects of self-management interventions on depressive symptoms in adults with chronic physical disease(s) experiencing depressive symptomatology: a systematic review and meta-analysis

Discovery Date: 2021-11-20T14:28:12Z

- ML GNB: 0
- ML LR: 0

<https://bmcpsychotherapy.biomedcentral.com/articles/10.1186/s12888-021-03504-8>

Mark Relevant

In vivo detection of damage in multiple sclerosis cortex and cortical lesions using NODDI

Discovery Date: 2021-11-20T15:27:43Z

- ML GNB: 0
- ML LR: 0

https://pubmed.ncbi.nlm.nih.gov/34799405/?utm_source=Other&utm_medium=rss&utm_campaign=pubmed-2&utm_content=10guX6I3SqrBueeLKSTD6FCRM44ewnrN2MKKTQLLPMHB4xNsZU&fc=20210216052009&ff=20211120102742&v=2.15.0

Mark Relevant

Diagnosis and Management of Central Nervous System Demyelinating Disorders

Discovery Date: 2021-11-20T15:27:43Z

- ML GNB: 0
- ML LR: 0

https://pubmed.ncbi.nlm.nih.gov/34798965/?utm_source=Other&utm_medium=rss&utm_campaign=pubmed-2&utm_content=10guX6I3SqrBueeLKSTD6FCRM44ewnrN2MKKTOLI1PMHB4xNsZU&fc=20210216052009&ff=20211120102742&v=2.15.0

The admin gets an email every 48h with the new articles so that the relevant ones can be flagged.

Gregory Weekly Summary

Gregory Weekly Summary

Gregory
To: Bruno Amaral

Tuesday, 16 Nov, 08:00

Good Morning, Bruno.

Here are the relevant articles we have found in the last 7 days

Real-world application of autologous hematopoietic stem cell transplantation in 507 patients with multiple sclerosis

Discovery Date: 2021-10-11T23:06:14Z

https://pubmed.ncbi.nlm.nih.gov/34633525/?utm_source=Other&utm_medium=rss&utm_campaign=pubmed-2&utm_content=10guX6I3S0M44ewnrN2MKKTQLLPMHB4xNsZU&fc=20210216052009&ff=20211011190614&v=2.15.0

Effects of Mesenchymal Stem Cell-Derived Exosomes on Autoimmune Diseases

Discovery Date: 2021-10-14T18:49:14Z

https://pubmed.ncbi.nlm.nih.gov/34646275/?utm_source=Other&utm_medium=rss&utm_campaign=pubmed-2&utm_content=10guX6I3SqrhUeeLKSTD6FCRM44ewnrN2MKKTQLLPMHB4xNsZU&fc=20210216052009&ff=20211014144913&v=2.15.0

Exosomes derived from bone marrow mesenchymal stromal cells promote remyelination and reduce neuroinflammation in the demyelinating central nervous system

Discovery Date: 2021-10-16T18:49:14Z

<https://pubmed.ncbi.nlm.nih.gov/34653510/>

Subscribers receive a weekly digest of the recent and relevant research.

Gregory MS

localhost:1313

GREGORY MS HOME DOCTORS RESEARCHERS PHYSICAL THERAPISTS PATIENTS DEVELOPERS CLINICAL TRIALS OBSERVATORY ARTICLES

Relevant articles

Labels: SOURCES HUMAN SELECTION AUTOMATIC SELECTION

1 2 3 ... 20 » »»

Blocking Kallikrein 6 promotes developmental myelination

Glia. 2021 Oct 9. doi:10.1002/glia.24100. Online ahead of print. ABSTRACT Kallikrein related peptidase 6 (Klk6) is a secreted serine protease highly expressed in oligodendrocytes and implicated in various physiological and pathological conditions. To ...

[Continue Reading](#)

October 9, 2021 [PUBMED](#) [HUMAN](#)

Tofacitinib enhances remyelination and improves myelin integrity in cuprizone-induced mice

Immunopharmacol Immunotoxicol. 2021 Oct 7:1-9. doi:10.1080/08923973.2021.1986063. Online ahead of print. ABSTRACT AIM: Demyelination and subsequent remyelination are well-known mechanisms in multiple sclerosis (MS) pathology. ...

[Continue Reading](#)

October 8, 2021 [PUBMED](#) [HUMAN](#)

Nobiletin suppresses the development of experimental autoimmune encephalomyelitis mediated by modulation of T helper 17 cell

Relevant articles are displayed in the *Homepage*.

Gregory MS

localhost:1313

GREGORY MS

HOME DOCTORS RESEARCHERS PHYSICIANS

PHYSICAL THERAPISTS PATIENTS

ARTICLES

Labels: SOURCES HUMAN SELECTION AUTOMATIC SELECTION

Blocking Kallikrein

Glia. 2021 Oct 9. doi: 10.1002/glia.25963. Kallikrein 6 (Klk6) is a secreted serine protease that has been implicated in various physiological and pathological conditions. To ... Continue Reading

October 9, 2021 PUBMED HUMAN

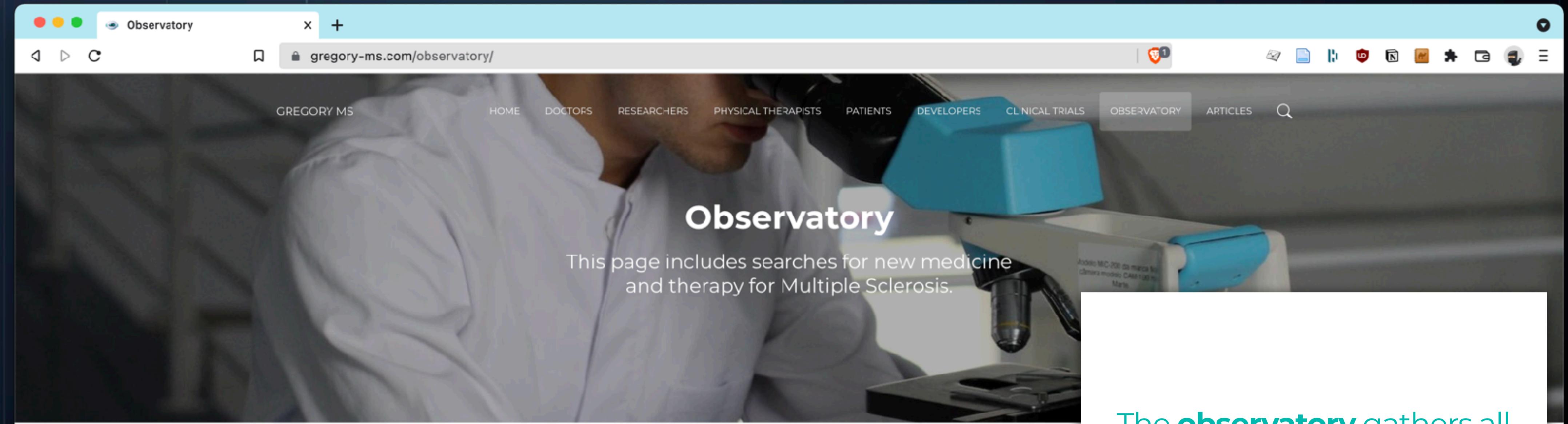
Tofacitinib enhances remyelination in cuprizone-induced mice

Immunopharmacol Immunotoxicol. 2021 Oct 7:1-9. doi: 10.1080/08982633.2021.66063. On the basis of our results, we conclude that tofacitinib may have therapeutic potential in multiple sclerosis (MS) pathology. ... Continue Reading

October 8, 2021 PUBMED HUMAN

Nobiletin suppresses the development of experimental autoimmune encephalomyelitis mediated by modulation of T helper 17 cell

Relevancy of articles is also detected automatically by a **machine learning algorithm** and then reviewed by the admin.



Observatory

g Gregory-ms.com/observatory/

GREGORY MS

HOME DOCTORS RESEARCHERS PHYSICAL THERAPISTS PATIENTS DEVELOPERS CLINICAL TRIALS OBSERVATORY ARTICLES

Observatory

This page includes searches for new medicine and therapy for Multiple Sclerosis.

Most of the therapies listed were identified by the [MS Society](#) as relevant, others were added based on Google search results.

In each section we list the published articles and any clinical trials that include the new drug in the title. If the relevancy of the new drug didn't come from the MS Society, we also mention it in the page.s

October 26, 2021 Covid-19 [Read more](#) by **Bruno Amaral**,

October 15, 2021 HSCT [Read more](#) by **Bruno Amaral**,

August 31, 2021 Tolebrutinib [Read more](#)

August 17, 2021 Cladribine [Read more](#)

The **observatory** gathers all the information for specific therapies and treatments

Metformin

gregory-ms.com/observatory/metformin/

GREGORY MS

HOME DOCTORS RESEARCHERS PHYSICAL THERAPISTS PATIENTS DEVELOPERS CLINICAL TRIALS OBSERVATORY ARTICLES

August 14, 2021 | 1 min read

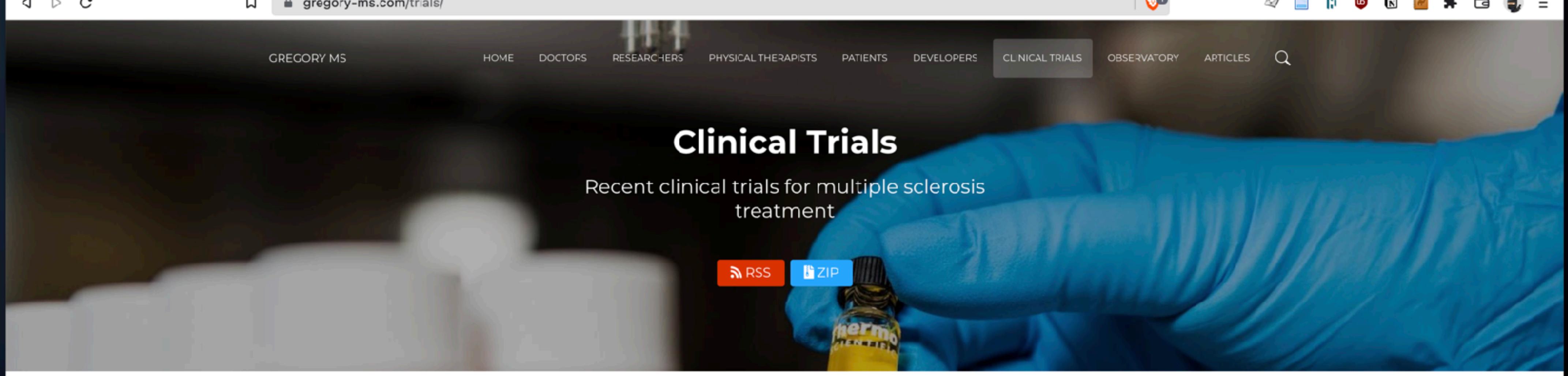
Metformin

1. Metformin Protects Myelin from Degeneration in A Mouse Model of lysophosphatidylcholine Induced Demyelination in The Optic Chiasm [pubmed](#)
2. Metformin ameliorates the severity of experimental Alport syndrome [pubmed](#)
3. Metformin Reverses Hashimoto's Thyroiditis by Regulating Key Immune Events [pubmed](#)
4. Comparative assessment of in vitro BBB tight junction integrity following exposure to cigarette smoke and e-cigarette vapor: a quantitative evaluation of the protective effects of metformin using small-molecular-weight paracellular markers [BioMedCentral](#)
5. Inhibition of mTORC1 through ATF4-induced REDD1 and Sestrin2 expression by Metformin [BioMedCentral](#)
6. Evaluation of the effects of metformin as adenosine monophosphate-activated protein kinase activator on spatial learning and memory in a rat model of multiple sclerosis disease [pubmed](#)
7. Metformin Therapy Attenuates Pro-inflammatory Microglia by Inhibiting NF-kappaB in Cuprizone Demyelinating Mouse Model of Multiple Sclerosis [pubmed](#)

Clinical Trials

In each page of the observatory, we list the relevant articles and respective clinical trials.

0 comments



Clinical Trials

Recent clinical trials for multiple sclerosis treatment

[RSS](#) [ZIP](#)

Information on Clinical Trials is retrieved from the following websites.

[CUF](#) [ClinicalTrials.gov](#) [Novartis](#)

To filter clinical trials by source visit the sources page →

November 22, 2021

Improving Prospective Memory Via Telehealth

[Read more](#)

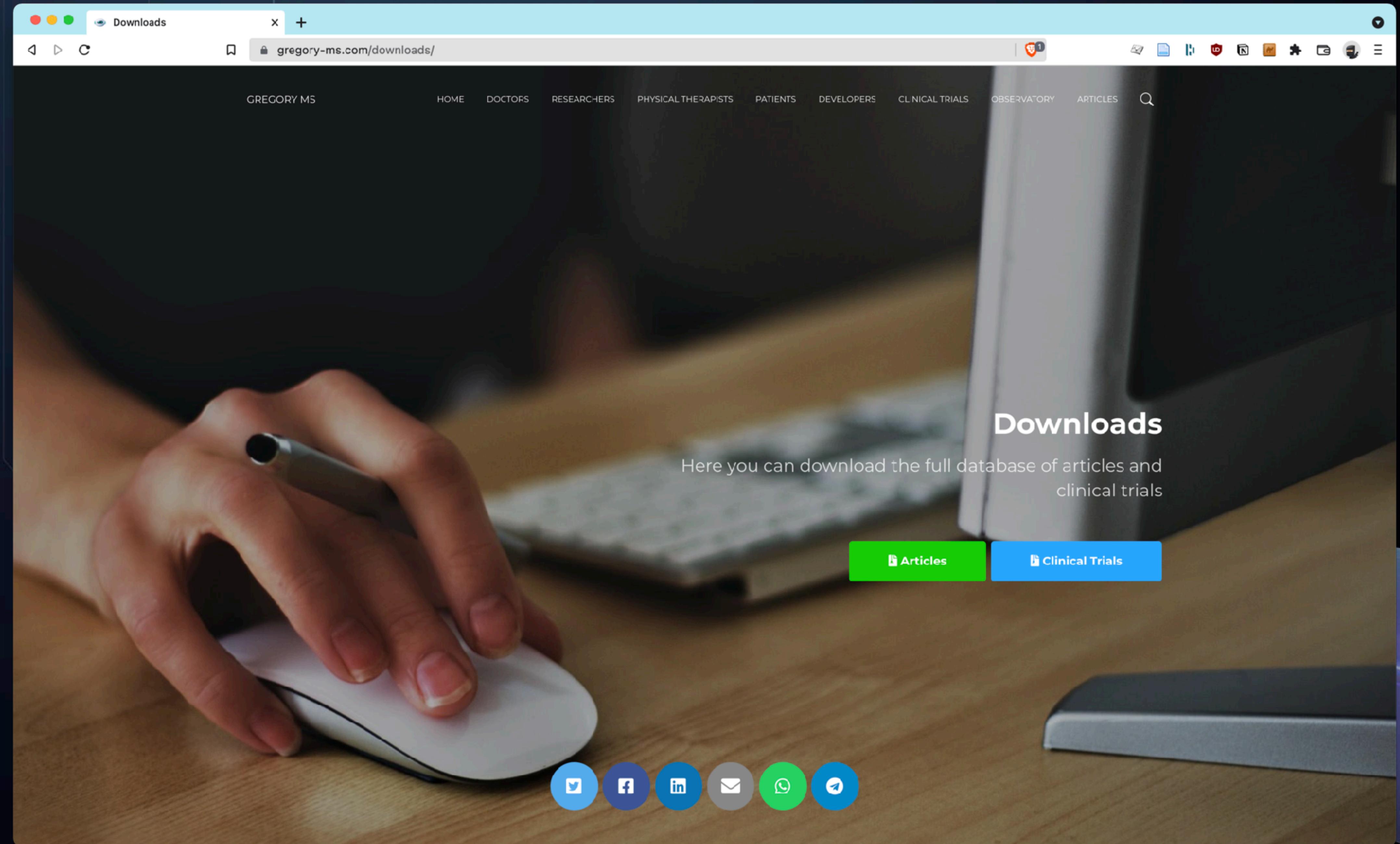
November 18, 2021

A Health Action Process Approach Online Intervention for People With Multiple Sclerosis

[Read more](#)

November 18, 2021

November 17, 2021



Downloads

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GREGORY MS

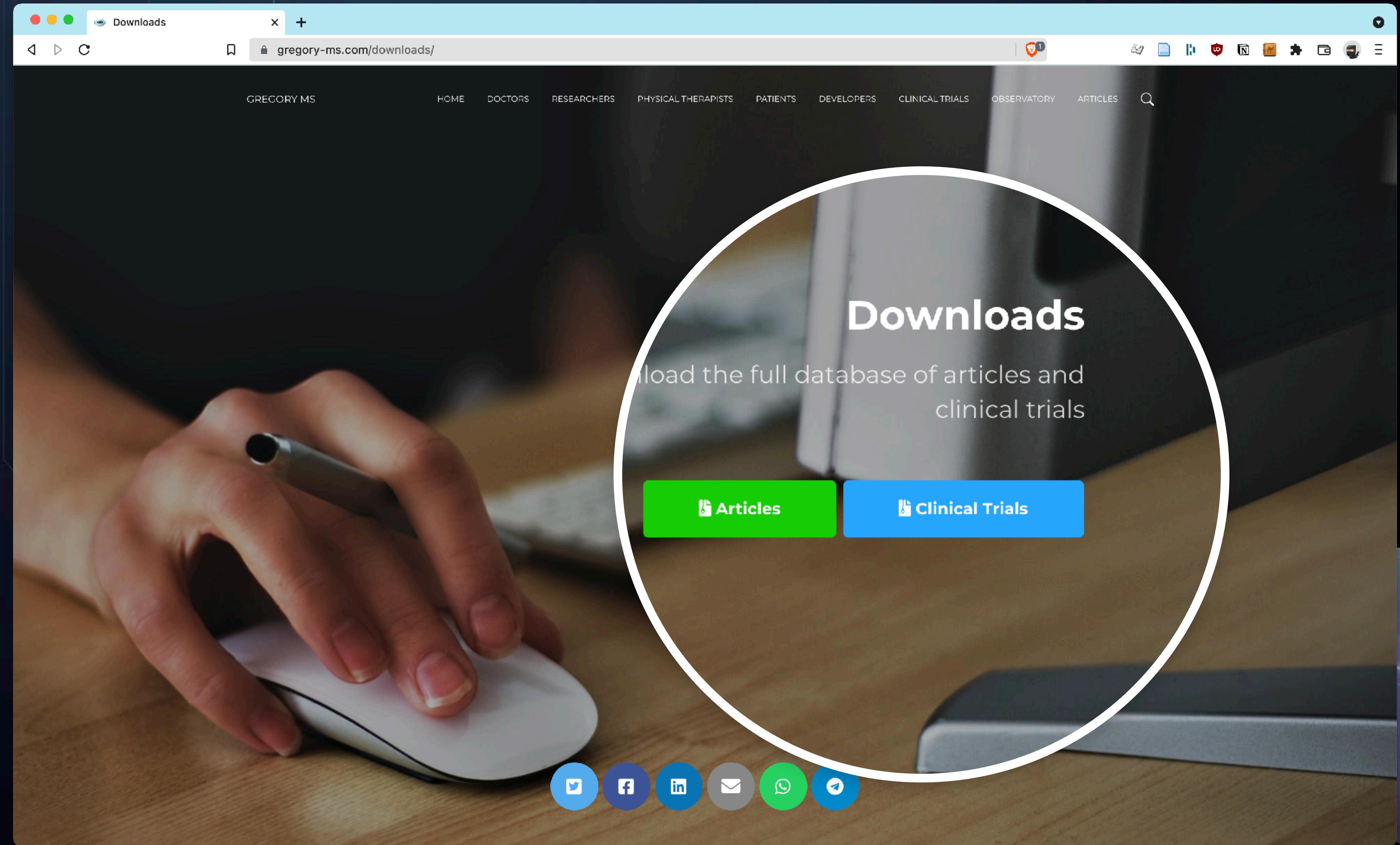
HOME DOCTORS RESEARCHERS PHYSICAL THERAPISTS PATIENTS DEVELOPERS CLINICAL TRIALS OBSERVATORY ARTICLES

Downloads

Here you can download the full database of articles and clinical trials

Articles Clinical Trials

Twitter Facebook LinkedIn Email WhatsApp Telegram



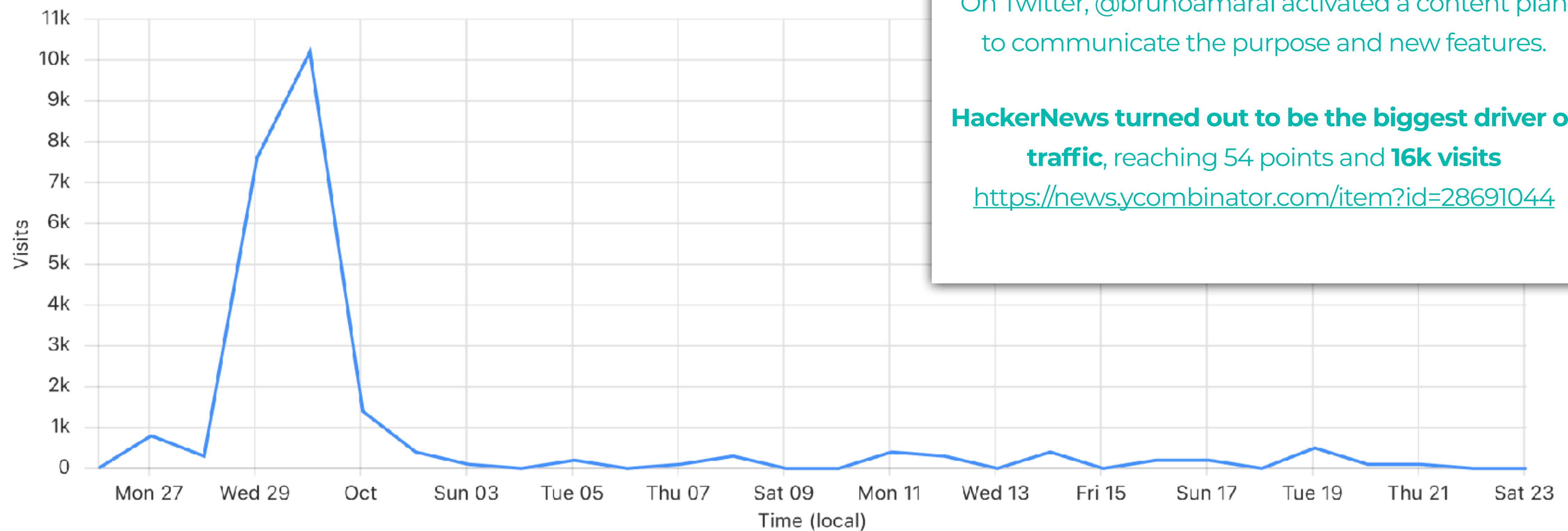
RESULTS SO FAR

- ▶ **1** team member
- ▶ **1** friendly robot
- ▶ Over **120** visits to the site per day
- ▶ **78** followers on Twitter
- ▶ **4** subscribers to the weekly digest
- ▶ A peak of **16 000** visits when version 2 was launched
September 29th
- ▶ **5 604** articles retrieved between February and
November 15th
- ▶ **324** clinical trials
- ▶ **0€** budget



Total visits

23.6k



September 27th, Gregory v2 was launched and for the first time shared across relevant social media.

On Twitter, @brunoamaral activated a content plan to communicate the purpose and new features.

HackerNews turned out to be the biggest driver of traffic, reaching 54 points and **16k visits**

<https://news.ycombinator.com/item?id=28691044>

Source: CloudFlare Analytics Sep 27th 2021 00:00 (UTC +01:00) > Oct 23rd 2021 23:59 (UTC +01:00)

IT'S NOT AN EASY ROAD

GREGORY'S VISION IS TO BE ABLE TO TRACK AND ASSIST RESEARCH FROM START TO FINISH

1. Find articles as they are published ●
2. Identify articles relevant to improve Quality of Life (QOL) or ameliorate symptoms ●
3. Track new therapies in the observatory ●
4. Send a free newsletter to relevant stakeholders ●
5. Inform of related clinical trials ○
6. Allow everyone to browse and analyse the database ○
7. Spread the word about clinical trials in Portugal ■
8. Track acceptance of new therapies and drugs ■
9. Help researchers optimize their efforts ■

● Complete

○ In progress or incomplete

■ Next steps



“HELLO” IS THE HARDEST WORD

INTRODUCING GREGORY TO THE MEDICAL COMMUNITY

1. Ongoing PR campaign

Connect with relevant professionals

2. Social Media plan on Twitter

Persistent and coherent participation in the relevant hashtags.

#CNSinfections #EM #MS #MultipleSclerosis #NeuroTwitter

#EscleroseMultipla

3. Leverage Twitter’s algorithm

Time is scarce, so Gregory only follows relevant stakeholders so Twitter will send recommend following similar accounts.

4. Community Outreach

From Reddit to Telegram, we present Gregory to online communities who are relevant for MS Research.



EXTRA STEPS

LEVELLING UP OUR COMMUNICATION PLAN

1. Find allies in Portugal and abroad

Medical institutions, MS support groups, Associations. Their network is a valuable resource to introduce Gregory to its end users.

2. Add data sources

INFARMED, European Medicines Agency

3. Reach out to relevant authors

Sometimes Gregory finds articles on using Machine Learning, Artificial Intelligence and similar technologies to research MS.

When that happens we send an introduction email to the author of that paper.



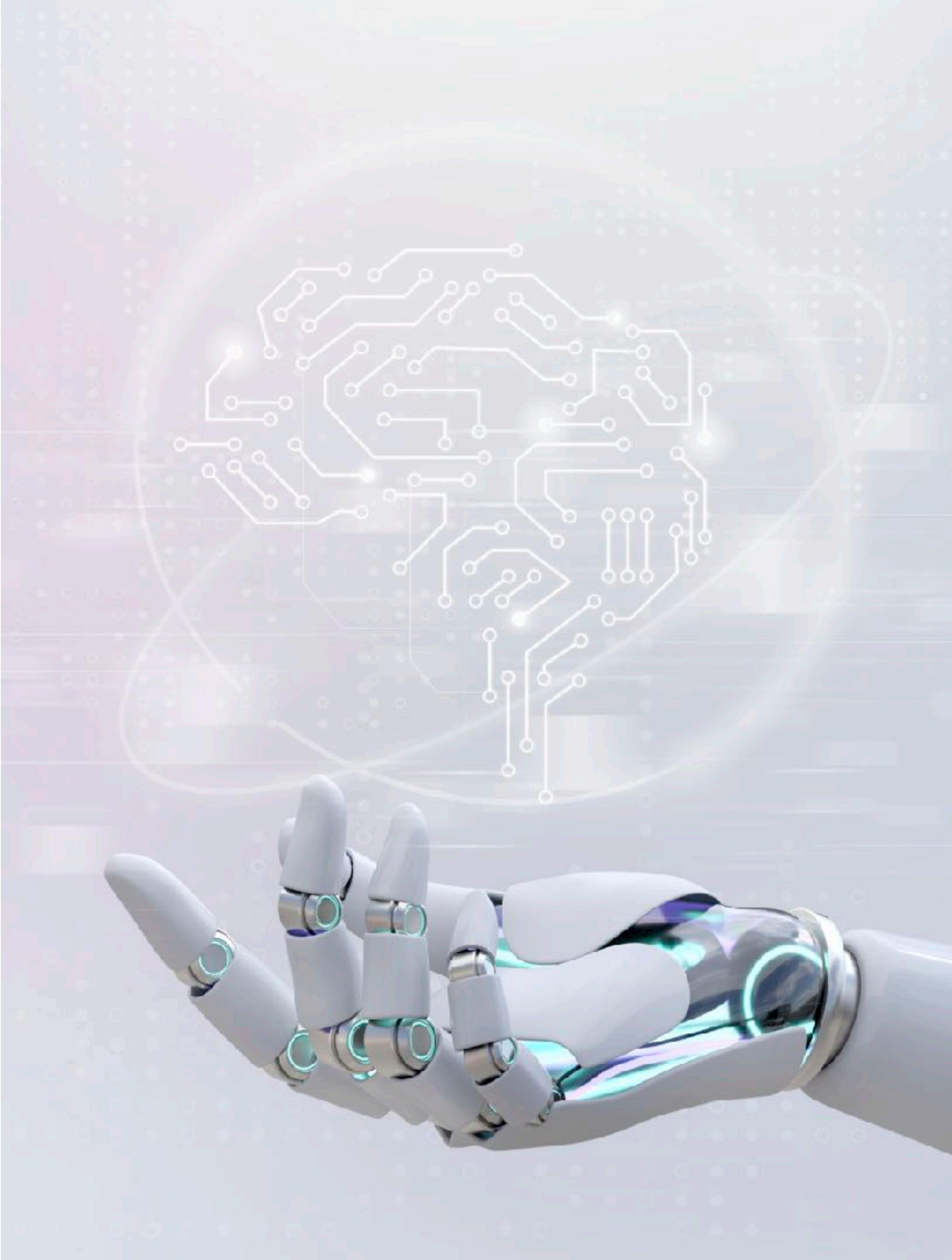
ALLIES

- **Sociedade Portuguesa de Esclerose Múltipla (SPEM)**
- **CloudFlare** (CF), through Project Galileo
- **One Over Zero**, through consulting and moral support.

António Lopes, Artur Ventura, Carlos Morgado, João Neves, Pedro Melo, Rui Carmo, et al.



Powered by
Project Galileo

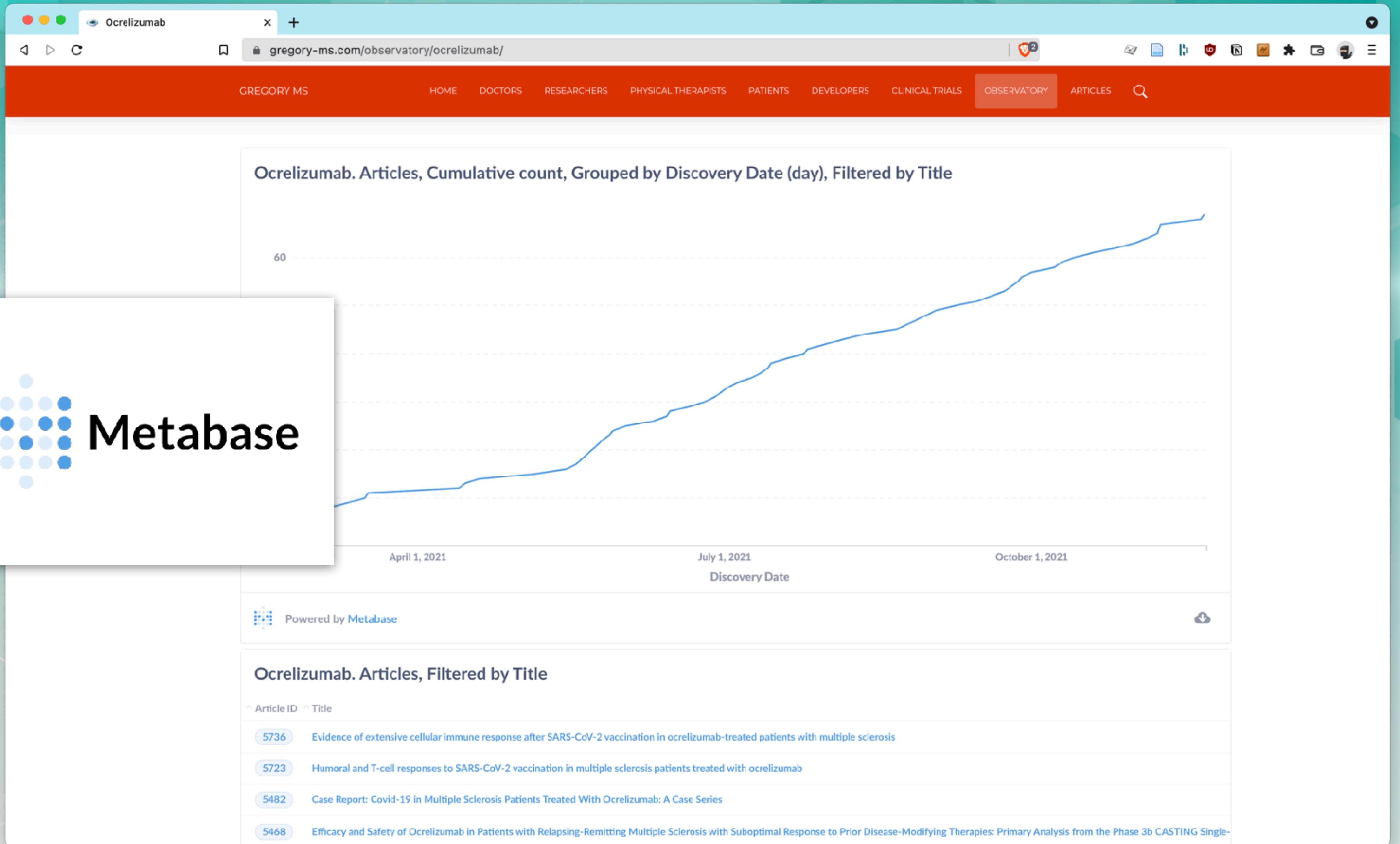


SIMILAR SOLUTIONS

[elicit.org](#)

Elicit is a GPT-3 powered research assistant. Elicit helps you classify datasets, brainstorm research questions, and search through publications.

The screenshot shows the Elicit website interface. At the top, there's a navigation bar with the word "Elicit" on the left and a "Log in" button on the right. Below the navigation bar, there's a section titled "The AI Research Assistant". This section contains a brief description of Elicit's capabilities: "Elicit is a GPT-3 powered research assistant. Elicit helps you classify datasets, brainstorm research questions, and search through publications." Below this description is a blue "Sign up" button. At the bottom of the page, there's a small note: "By signing up, you agree to our [Terms](#) and [Privacy Policy](#)". On the right side of the main content area, there's a sidebar with fields for "Task" (set to "Publication search") and "Input" (with a placeholder "Enter a topic"). The background of the entire page features a light teal hexagonal grid pattern.





Metabase is a tool to build dashboards and charts, available at <https://www.metabase.com/>.

We have installed an instance of this software to allow researchers to run more complex queries to Gregory's database. If you would like access, please email bruno@gregory-ms.com.



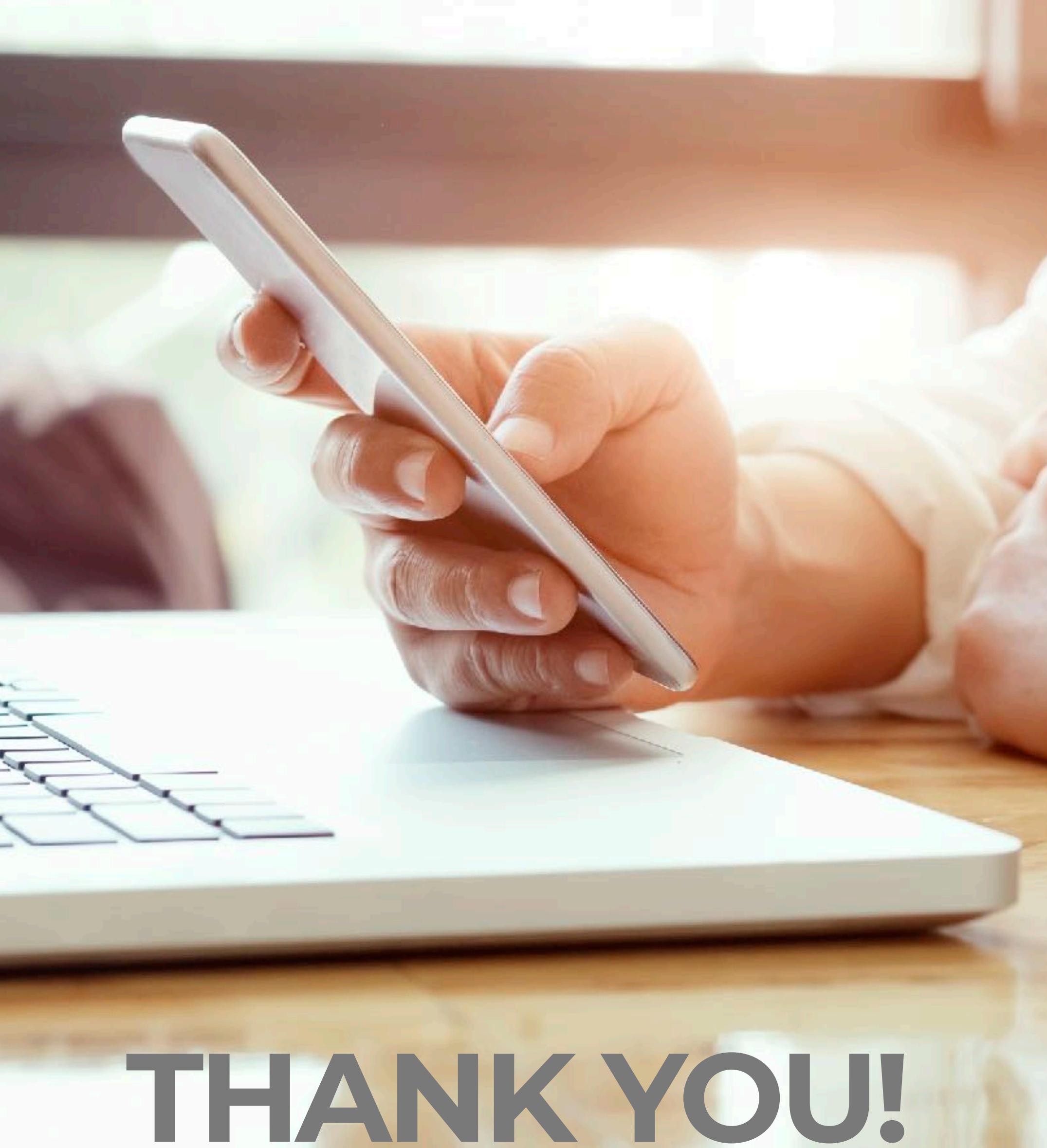
CONTACTS

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WEB PLATFORM

<https://gregory-ms.com>



THANK YOU!

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