

Dissemination of the edge of science: NeuroMat's approach and challenges

João Alexandre Peschanski, FCL
Fernando J. da Paixão, UNICAMP



What FAPESP expects from RIDCs

- “The development of the Brazilian society requires that leaders of the scientific community contribute effectively to scientific dissemination in their areas of expertise”
- “Independently on their research focus, RIDCs must sustain dissemination activities and contribute to improving scientific literacy in Brazil”
- “Dissemination activities must . . . propose radical innovations to improve public scientific culture”

Scientific dissemination includes...

- COMMUNICATION
- EDUCATION / TRAINING
- EXHIBITION

FAPESP's expectations are to be met under structural, institutional constraints

- Stable scientific illiteracy
- Continuously insufficient, inefficient investment to public school system
- General lack of interest in science news in broad-public media outlets
 - In 2013, there were only eight pieces on Mathematics in the largest five Brazilian newspapers
- Little incentives for professors and researchers in universities to get involved in programs of “culture and extension”

NeuroMat's general approach to scientific dissemination

- All research activities have a dissemination potential
 - But external science communicators won't necessarily do it for us
- All dissemination activities should have a research potential
 - Basically because we are not really sure what we should be doing

Who we are...

- Fernando J. da Paixão (NeuroMat dissemination coordinator)
- Célio Costa Filho (NeuroMat dissemination assistant)
- Magda Chang (NeuroMat executive manager)
- Carlos Ribas (NeuroMat IT analyst)
- Anatoli Iambartsev, André Frazão Helene, Antonio Carlos Roque, Antonio Galves, Claudia Vargas, Ernst Hamburger (frequent contributors)
- Sidnéia França (TT5 web designer)
- João Alexandre Peschanski (NeuroMat communications supervisor)
- David Alves, Marília Carrera (FAPESP science-journalism fellows)
- Éder Porto, Gildemar Félix, Lucas Belo, Luna Maldonado (USP undergraduate fellows)

What we do...

Communication

- Website

The screenshot shows the NeuroMat website homepage. At the top left is the NeuroMat logo, followed by the text "Research, Innovation and Dissemination Center for Neuromathematics". To the right is a search bar with the placeholder text "Search...". Below the search bar are language options for "Português" and "English". A dark navigation bar contains the following menu items: "About NeuroMat", "Research", "Tools", "In the media", "Events", and "Opportunities". There are also social media icons for Facebook and YouTube. The main banner features the NeuroMat logo in green and white over a background of a complex network graph. Below the banner is a section for the "Second NeuroMat Workshop: New Frontiers in NeuroMathematics" held on Nov 10, 2016. This section includes a large graphic with the workshop title and dates, and a smaller graphic showing the workshop title and dates. To the right of the workshop section are logos for funding by FAPESP and hosting by USP. At the bottom right is a "Newsletter" sign-up box with the text "Stay informed on our latest".

NeuroMat Research, Innovation and Dissemination Center for Neuromathematics

Search...

Português English

About NeuroMat Research Tools In the media Events Opportunities

Planeta by León Ferrari

NeuroMat

Second NeuroMat Workshop: New Frontiers in NeuroMathematics
Nov 10, 2016.

**Second NeuroMat Workshop:
New Frontiers in
NeuroMathematics**
November 22 - 25, 2016 - São Paulo
neuromat.numec.prp.usp.br/nm2w

NeuroMat is funded by **FAPESP**

NeuroMat is hosted by **USP**

Newsletter
Stay informed on our latest

Communication

- Website

- 3,127 content pages
- 15,000 different users since September 2013
- 55% of these users are non-Brazilians (many from North America and China)
- 80,568 page views since September 2013
- Average session duration time is 3,5 minutes.



Communication

- Website

- 3,127 content pages
- ongoing functional, design project
 - creation of a dashboard for investigators
 - integration of NeuroMat tools
 - visualization of content based on intelligent assumptions about users
- 80,568 page views since September 2013
- research potential

The screenshot shows a website page for the "Second NeuroMat Workshop: New Frontiers in NeuroMathematics". The page features a search bar at the top right, language options for Portuguese and English, and navigation links for "In the media", "Events", and "Opportunities". A prominent banner for the workshop is displayed, including the dates "November 22 - 25, 2016 - São Paulo" and the URL "neuromat.numec.prp.usp.br/mm2w". Below the banner, there is a section titled "NeuroMat is funded by" with the FAPESP logo, and another section titled "NeuroMat is hosted by" with the USP logo. At the bottom, there is a "Newsletter" sign-up box with the text "Stay informed on our latest".

Average session duration time is 3,5 minutes.

Communication

- Newsletter

Newsletter #33



Integrating research, technology transfer and dissemination: NeuroMat's third report of activities

When the São Paulo Research Foundation established the structure of the Research, Innovation and Dissemination Centers it stated clearly that the most important feature of RIDCs was the multiplicity of their missions, a cornerstone for attaining the status of "a world class research center." Each RIDC must have a specific, high-impact research focus, and this research focus must be necessarily integrated with technology-transfer and scientific dissemination explicit missions. FAPESP's RIDC for Neuromathematics (NeuroMat), that was established in 2013 and is coordinated by mathematician Antonio Galves, reports its third year of activities by emphasizing how the major scientific challenge of building a conceptual framework for neuroscience data informs technology transfer and scientific dissemination.

[Read more here](#)

NeuroMat Parkinson Network: a video presentation



Aiming at improving the life quality of people with Parkinson's Disease, the Research, Innovation and Dissemination Center for Neuromathematics (RIDC NeuroMat) has created the network Amparo. It brings together people with the disease, relatives, helpers, students and professionals to establish a flow of exchange to better the understanding of this disease in Brazil and especially connecting knowledge from the

Communication

- Newsletter

- transmedia platform
- 51 long reports in 33 editions; 4 movies; 2 radiocasts
- 631 subscribers, including top scientists and science journalists
- reproduced in other venues and triggered media contact
 - Creative Commons
- integrated to social media

Newsletter #33

NeuroMat

Newsletter - N° 33 - October 2016

Integrating research, technology transfer and dissemination: NeuroMat's third report of

When the FAPESP Research Foundation established the structure of the Research, Innovation and Dissemination Center for Neuromathematics (RIDC), an important feature of RIDCs was the multiplicity of their missions, a cornerstone for attaining the status of "a world class research center." Each RIDC must have a high-impact research focus, and this research focus must be necessarily integrated with technology-transfer and scientific dissemination explicit missions. FAPESP's RIDC for Neuromathematics (NeuroMat), that was established in 2013 and is coordinated by mathematician Antonio Galves, reports its third year of activities by emphasizing how the major scientific challenge of building a conceptual framework for research, technology transfer and scientific dissemination.

[Read more here](#)

NeuroMat network's video presentation

Rede Amparo: convite

NeuroMat

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Communication

- Newsletter

- transmedia platform
- open call for research and experimentation on photo or audiovisual scientific journalism
- how/why we should change how science is pictured
- reproduced in other venues and triggered media contact
- Creative Commons
- integrated to social media

Communication

- Newsletter

- transmedia platform
- open call for research and experimentation on photo or video
- 51 editions: 4 movies; 2 audiocasts
- how/why we should change how

- science is pictured
- 631 subscribers, including top scientists and science



Genoma/USP



Harvard Pub. Health



Santa Fe Institute

Newsletter #33

NeuroMat

Research, Innovation and
Dissemination Center for
Neuroinformatics

Newsletter - N° 33 - October 2016

Integrating research, technology transfer and dissemination: NeuroMat's third report of

When the São Paulo Research Foundation established the structure of the Research, Innovation and Dissemination Center (RIDC) in 2011, one of the most important features of RIDCs was the multiplicity of their missions, a cornerstone for attaining the status of "a world class research center." Each RIDC must

NeuroMat

together people with the disease, relatives, helpers, students and professionals to establish a flow of exchange to better the understanding of this disease in Brazil and

Communication

- Newsletter

- transmedia platform
- open call for research and

Novas formas do
JORNALISMO CIENTÍFICO
e as Produções do CEPID NeuroMat

Mesa Redonda com Jornalistas e Cientistas

Dulcilia Buitoni
(líder GP Comunicação e Cultura Visual)

Ernst Hamburger
(físico e divulgador científico)

Carlos Vogt
(presidente da Univesp e coordenador do Labjor)

Sergio Neuenschwander
(neurocientista e documentarista)

Denis R. Burgierman
(diretor de redação da revista Superinteressante)

25 de setembro
18h30 às 22h
Sala Aloysio Biondi

Para mais informações, escreva para
comunicacao@numec.prp.usp.br

FACULDADE CÁSPER LÍBERO Grupo de Pesquisa Comunicação e Cultura Visual Apoio: FAPESP Centro de Eventos Casper Líbero

CEPID NeuroMat apresenta

DESAFIOS DA DIFUSÃO CIENTÍFICA Homenagem a ERNESTO HAMBURGER



apresentação:

Antonio Galves USP

Marcos Nogueira Martins USP

mesa-redonda:

André Frazão Helene USP

Fernando da Paixão UNICAMP

João Peschanski F. Casper Líbero

Mariluce Moura UFBA e Labjor/UNICAMP

Martha Marandino USP

Instituto de Física da USP

Auditório Adma Jafet

9 de junho de 2016 às 18h

apoio: FAPESP

NeuroMat) has created the network Amparo. It brings together people with the disease, relatives, helpers, students and professionals to establish a flow of exchange to better the understanding of this disease in Brazil and, especially, connecting knowledge from life

NeuroMat
ard Pub. Health

Santa Fe Institute

Communication

- Newsletter

- transmedia platform
- open call for research and experiential reports in 33 photo or video editions: 4 movies, 2 scientific journalism



WFSJ

World Federation of Science Journalists

- Ernst Hamburger (físico e divulgador científico)
- Carlos Vogt (presidente da Univesp e coordenador do Labor)
- Sergio Neuenschwander (neurocientista e documentarista)
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- reproduced in other venues and triggered media contact

25 de setembro
18h30 às 22h
Sala Aloysio Biondi

Para mais informações, inscreva-se para o evento em www.comunicacao@univesp.br

NeuroMat

Genoma/USP Harvard Pub. Health Santa Fe Institute

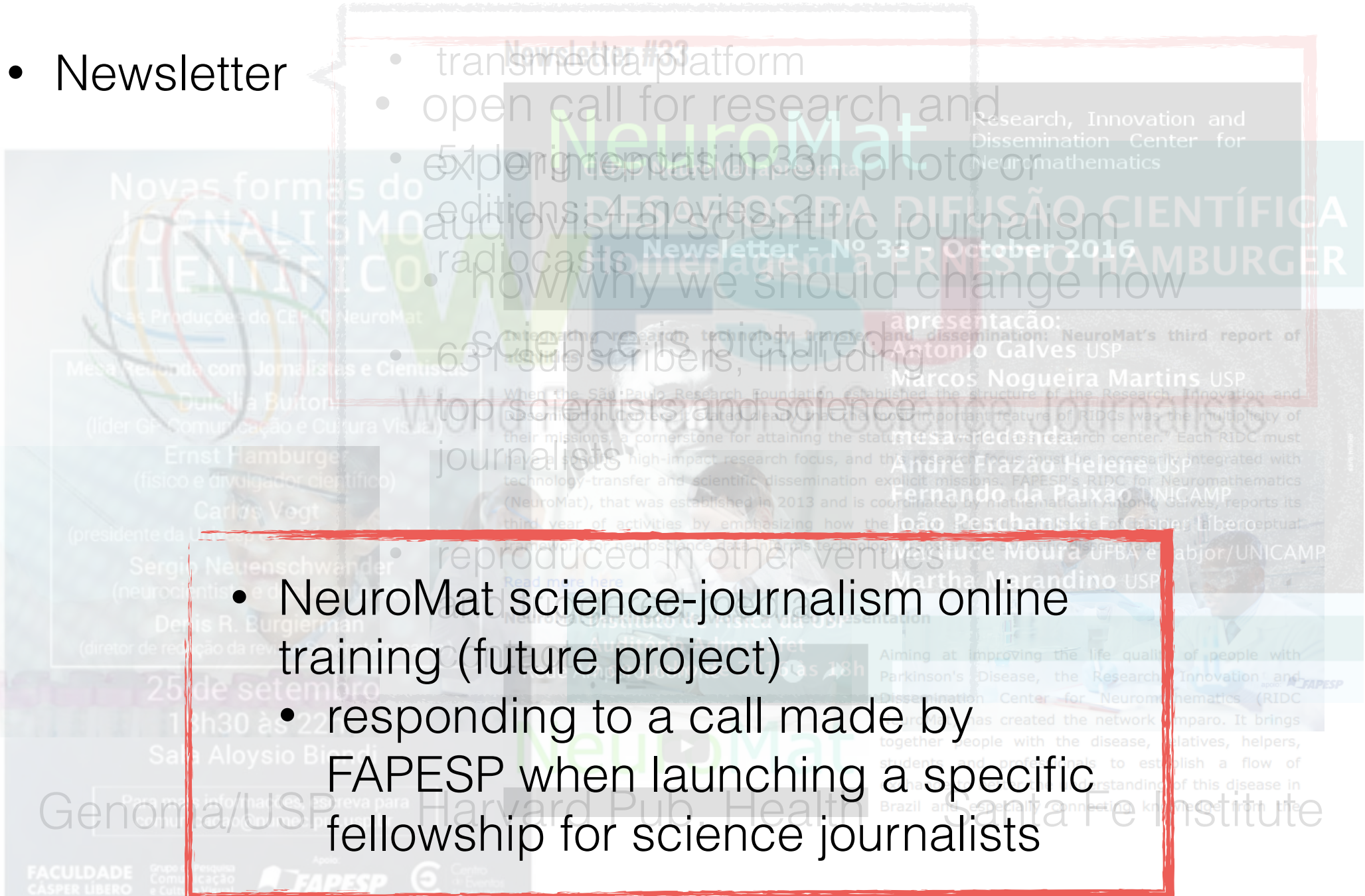
Communication

- Newsletter

- transmedia platform
- open call for research and experimental reports in 33 photo or audio-visual scientific journalism radiocasts
- how/why we should change how

- 631 subscribers, including

- NeuroMat science-journalism online training (future project)
- responding to a call made by FAPESP when launching a specific fellowship for science journalists



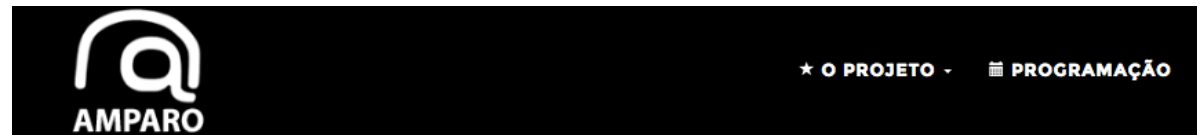
Education / Training

- LASCON



Education / Training

- AMPARO



O PROJETO



A doença de Parkinson é a segunda de progressiva mais frequente no mundo conhecida a cura. Além de causar s tremor, rigidez muscular, lentidão de m marcha e do equilíbrio, causa também como declínio cognitivo, d gastrointestinais, alterações do sono esses sintomas prejudicam progressiv vida das pessoas com doença de Parl Visando melhorar a qualidade de vida [NeuroMat](#) criou a Rede AMPARO.

Essa rede abriga pessoas com doença de Parkinson, familiares, cuidadores, estudantes e profissionais que de Parkinson (como médicos, enfermeiros, fisioterapeutas, fonoaudiólogos, psicólogos, nutricionistas).

Education / Training

- ABRAÇO

VO/ **Abraço**
Ação NeuroMat para pessoas
com lesão do plexo **Braquial**

Education / Training

- Statistics for All (2015)



Estadística para todos é lema de oficinas educativas do NeuroMat

Publicado em Educação, Especial por Denis Pacheco em 24 de julho de 2015

[Like](#) 141 [Tweet](#) [+1](#) [Share](#)

No final do século 19, o matemático inglês Karl Pearson defendeu que a estatística era "a gramática da Ciência". Dominá-la significava compreender a linguagem que está por trás de todos os fenômenos que afetam nossa vida cotidiana. Em abril deste ano, pesquisadores do Centro de Pesquisa, Inovação e Difusão em Neuromatemática

EDITORIAS

- Artes
- Ciências
- Comportamento
- Cultura
- Educação
- Especial
- Entrevista
- Esporte
- Ex-alunos
- Gente da USP
- Institucional
- Lazer e Entretenimento
- Meio ambiente
- Perfil
- Pesquisa
- Saúde
- Sociedade
- Tecnologia
- Vestibular
- USP Online Destaque

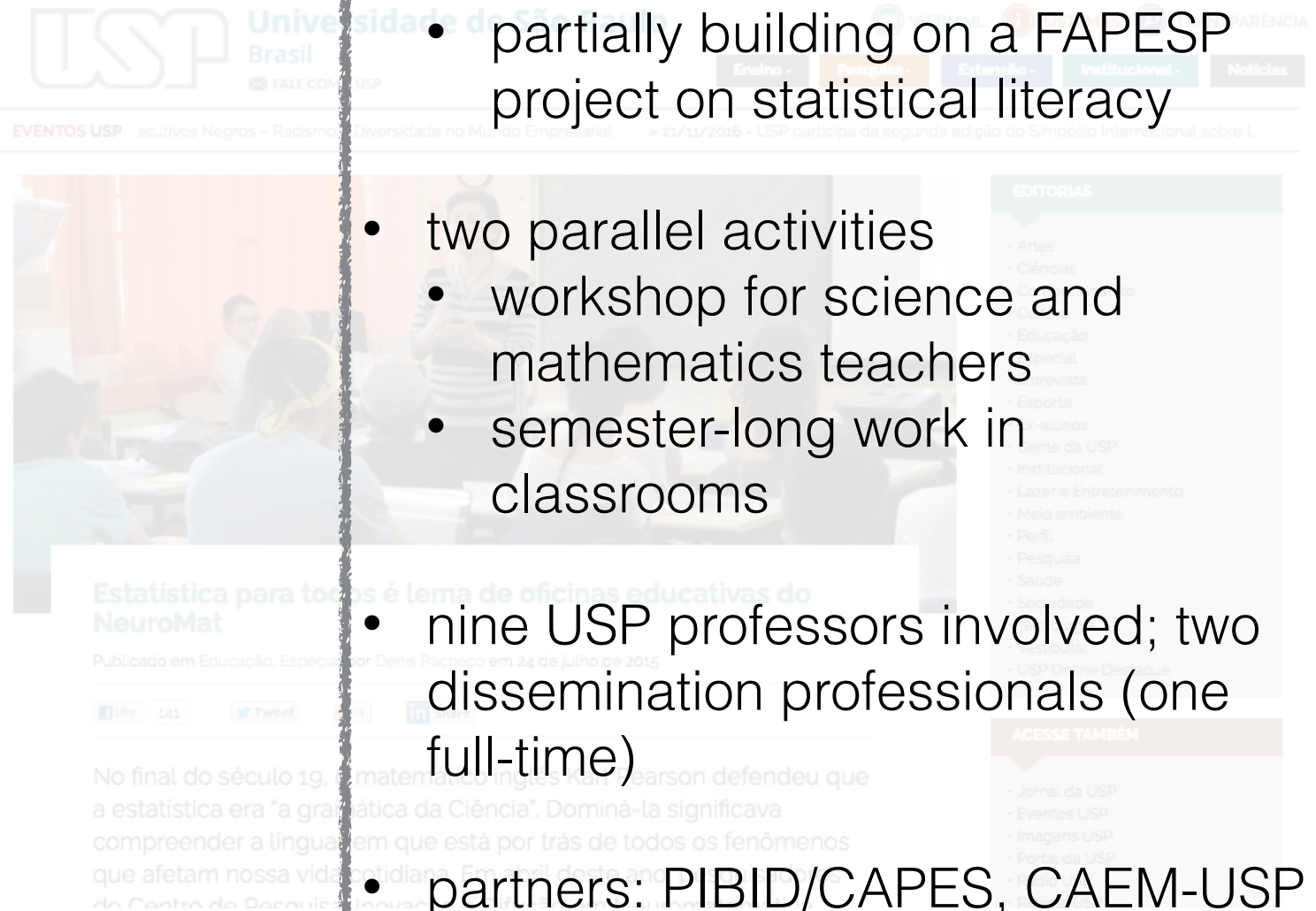
ACESSE TAMBÉM

- Jornal da USP
- Eventos USP
- Imagens USP
- Portal da USP
- Rádio USP
- Revista USP

Education / Training

- Statistics for All (2015)

- to improve how content pertaining to data description and analysis is taught in public schools
- partially building on a FAPESP project on statistical literacy
- two parallel activities
 - workshop for science and mathematics teachers
 - semester-long work in classrooms
- nine USP professors involved; two dissemination professionals (one full-time)
- partners: PIBID/CAPES, CAEM-USP



Education / Training

- Statistics for All (2015)

- to improve how content pertaining to data description and analysis is taught in public schools



16 public-school teachers
attended an 18-hour
training

workshop was positively
evaluated; follow-up
indicated no replication

partners: PIBID/CAPES, CAEM-USP

Education / Training

- Statistics for All (2015)

to improve how content pertaining to data description and analysis is

School	District	Area of the action	Grade	Students involved	Undergraduate monitors
Emef Deputado César Arruda Castanho	Jardim Cambara	Neuroscience and biology	7th	70	7
Emef Prof.a Ileusa Caetano Silva	Jardim Educandário	Neuroscience and biology	6th	70	7
EE Canuto Do Val	Barra Funda	Neuroscience and biology	8th	140	7
Emef Desembargador Amorim Lima	Vila Gomes	Neuroscience and biology	8th	70	7
Emef Desembargador Amorim Lima	Vila Gomes	Statistics	8th	90	1

four in-school data projects;
16 public-school teachers
attended an 18-hour
training;
conflicts between teachers
and monitors; five teachers
dropped out

PIBID/CAPES was
discontinued

indicated no replication
NeuroMat dissemination
committee disintegrated

Education / Training

- Statistics for All (2015)

School	District
Emef Deputado César Arruda Castanho	Jardim Cambara
Emef Prof.a Iteusa Caetano Silva	Jardim Educandário
EE Canuto Do Val	Barra Funda
Emef Desembargador Amorim Lima	Vila Gomes
Emef Desembargador Amorim Lima	Vila Gomes

- high learning potential from this “failed” experience was not systematically reported
- two parallel activities
- one personal major lesson: to act directly in school system is hard
 - not enough money
 - not enough people

four in-school data projects;
16 public-school teachers
science fair at USF
attended an 18-hour

conflicts between teachers
and monitors; five teachers
dropped out

indicated no replication
dissemination
partners: PIBID/CAPES, CAEM-USP
committee disintegrated

Education / Training

- Statistics for All (2015)

School	District	Area of Training	Undergraduate
Escola Des... Arruda Castanho		University of São Paulo Brazil	FAPESP
Escola Prof. a... Caetano Silva		and biolo...	project on statistical literacy
Escola Cam... E Cam...		Statistics	systematically reported
Escola Prof. a... Amorim Lima		Statistics	two parallel activities
Escola Des... Amorim Lima		Statistics	works on conceptual change and

- new direction involves massive training for teachers on NeuroMat's conjecture on brain functioning
- setting up a pilot project with USP's Escola de Aplicação
- working with networks and resources that are currently organized at USP (USP Escola)
- sharing widely content and methodology as online videos

to improve how content pertaining to high learning potential is taught in public schools from this fall @ USP partially building on a FAPESP experience was not project on statistical literacy systematically reported two parallel activities works on conceptual change and lesson, our RPOC cannot semester-long work in act directly in school system. Part of Pesquisa four in-school data projects, 16 published papers, 16 science fair at USP attended an 18-hour full-time) enough room. NeuroMat dissemination committee disintegrated

Communication

- Wikipedia Initiative



Communication

- Wikipedia Initiative

- main goal is to improve content pertaining to Neuromathematics on Wikipedia in Portuguese
 - Nourmohammadi et al. (2015): country scientific culture has an impact on Wikipedia quality
 - May Wikipedia quality have an impact on scientific culture?
- major activities are related to:
 - Wikimedia Commons
 - Wikipedia in Portuguese
- 2 FAPESP science-journalism fellows; 3 undergraduate fellows
- partners: WMF; UG-BR; CIP-FCL

Communication

- Wikipedia Initiative

- main goal is to improve content pertaining to Neuromathematics on Wikipedia in Portuguese

- Neurmohammadi

A call to duty: NeuroMat and the Wikipedia Initiative

Jul 25, 2014.

NeuroMat is launching a Wikipedia Initiative. The general purposes of this initiative are to contribute to improving entries in the encyclopedia pertaining to neuromathematics by making it easier for NeuroMat members and supporters to become involved in editing these entries and to facilitating Wikipedia-related assignments in classrooms or elsewhere as a means of scientific dissemination.

We understand Wikipedia as a global public good. It is the world's largest and most used encyclopedia, and one of the tenth most visited websites in the world as well as the only one of this list that is a nonprofit organization. Most academics were possibly disdainful of Wikipedia and might have discouraged students and colleagues from using it in the past, nevertheless Wikipedia and its fellow "wiki" tools are here to stay and we need to learn how to take the best out of it.

2 Ph.D. science journalism fellows; 3 undergraduate fellows

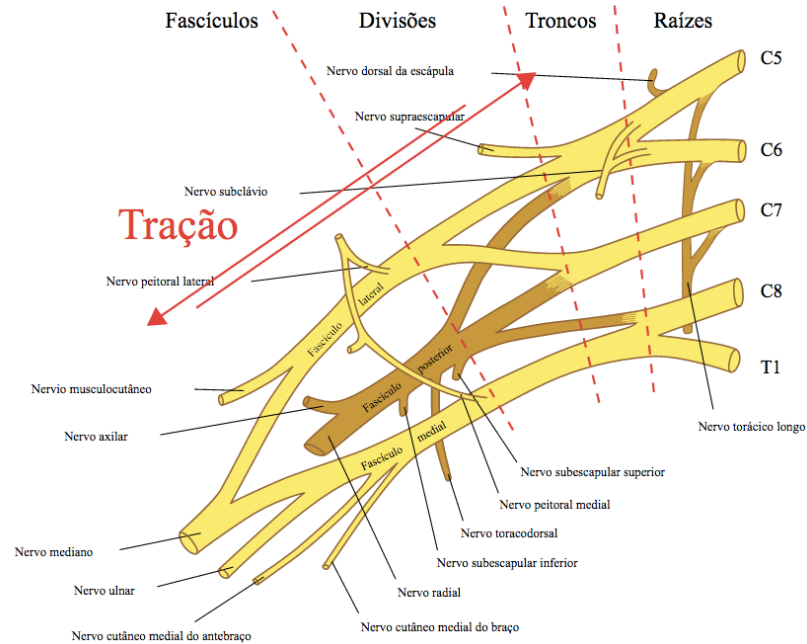
- partners: WMF; CIP-FCL

Communication

- Wikipedia Initiative



- main goal is to improve content pertaining to Neuromathematics on Wikipedia in Portuguese



students and colleagues from using it in the past, nevertheless Wikipedia and its fellow "wiki" tools are here to stay and we need to learn how to take the best out of it.

Impact visualization tool

- 2 FAPESP science-journalism fellows, 3 undergraduate fellows
- partners: WMF; CIP-FCL

Communication

- **Wikipedia Initiative**

- main goal is to improve content pertaining to Neuromathematics on Wikipedia in Portuguese

Modelo Galves-Löcherbach

country scientific culture has an impact on Wikipedia quality

Can Wikipedia quality have an

Leis dos grandes números

- major activities are related to:

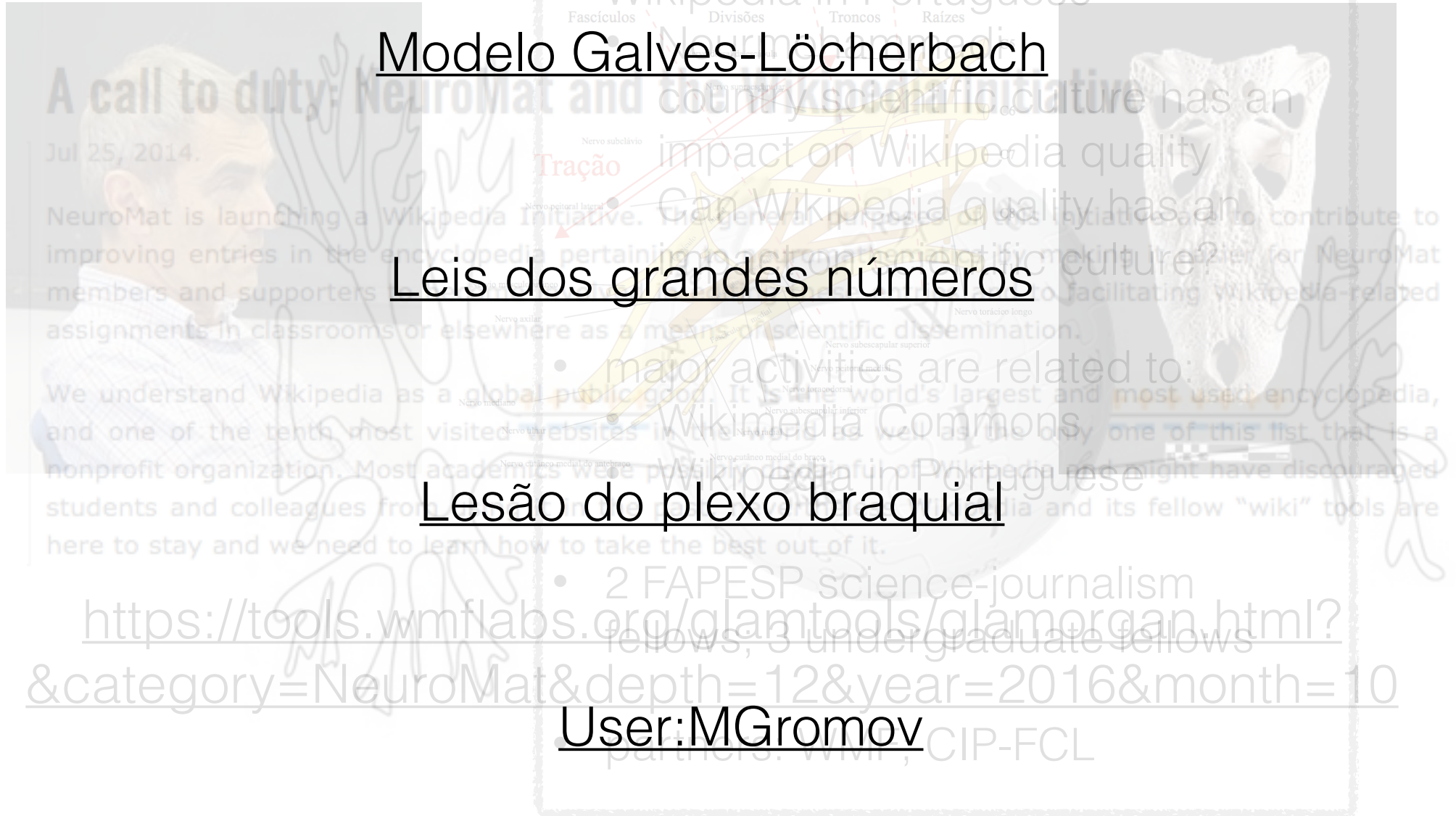
Wikipedia in Portuguese

Lesão do plexo braquial

- 2 FAPESP science-journalism fellows, 3 undergraduate fellows

[https://tools.wmflabs.org/glamtools/glamorgan.html?
&category=NeuroMat&depth=12&year=2016&month=10](https://tools.wmflabs.org/glamtools/glamorgan.html?&category=NeuroMat&depth=12&year=2016&month=10)

User:MGromov



Communication

- Wikipedia Initiative

- main goal is to improve content pertaining to Neuromathematics on Wikipedia in Portuguese

https://pt.wikipedia.org/wiki/Modelo_Galves-L_Neurmohammadi

TRAÇO DE CIÊNCIA

**blog de
difusão científica NeuroMat**

<https://difusaoneuromat.wordpress.com/>

partners: WME; CIP FCL
[https://pt.wikipedia.org/wiki/Usu%C3%A1rio\(a\):MGromov](https://pt.wikipedia.org/wiki/Usu%C3%A1rio(a):MGromov)

Communication

- Wikipedia Initiative

- main goal is to improve content pertaining to Neuromathematics on Wikipedia in Portuguese

External grants associated to NeuroMat's Wikipedia Initiative

Institution	Type	Project	Amount (US\$)
Interdisciplinary Research Center	Research stipend	Wikipedia at the Interface of Communication and Education	7,000
Wikimedia Foundation	Event support	Edit-a-thon on Neuroscience and Mathematics	600
Wikimedia Foundation	Equipment	GLAM USP	2,000

Partners: WMF, CIP, FCL
%C3%A1rio(a):MGromov

Communication

- Wikipedia Initiative



Como a Wikipédia pode ser usada para ensinar e difundir conhecimento científico

HuffPost Brasil | De Ana Beatriz Rosa

Publicado: 21/10/2016 23:35 BRST | Atualizado: 21/10/2016 23:36 BRST

Agência **FAPESP**

Centro de Pesquisa em Neuromatemática colabora com Wikipédia para difusão científica

09 de maio de 2016

Diego Freire | Agência FAPESP

Jornal da USP

Ciências Biológicas - 30/05/2016

No Ano da Ciência da Wikipédia, núcleo da USP atualiza verbetes sobre teoria do cérebro

Wikipédia é referência de pesquisa para internautas que procuram respostas sobre temas científicos

Por Redação - Editorias: Ciências Biológicas, Ciências Exatas e da Terra

ARedeeduca
TECNOLOGIA PARA A EDUCAÇÃO

NeuroMat acrescenta um milhão de caracteres à Wikipédia

O CONTEÚDO FOI TAMBÉM REALIZADO NO CONTEXTO DE DUAS MARATONAS DE EDIÇÃO, EM 2016, EM QUE ESTUDANTES DA USP MELHORARAM E CRIARAM VERBETES NA WIKIPÉDIA.

Wiki
Edu

The Year of Science
spreads to Brazil

By Eryk Salvaggio on August 2, 2016

Communication

- Wikipedia Initiative

- two publications; four congress presentations
- drafts being worked on
- sustainable, scalable and easy to disseminate, replicate
- need more involvement from university peers
- should connect more strongly to education
- big caveat: what are people who are watching/reading content we produce doing with it?

Como a Wikipédia pode ser usada para ensinar e difundir

main objective: to improve content pertaining to Neuroanatomics on Wikipedia

Publicado: 21/10/2016 23:35 BRST Atualizado: 21/10/2016 23:35 BRST

https://pt.wikipedia.org/wiki/Modelo_Galves-L

External grants 2016-2018 for the Wikipedia Initiative

Centro de Pesquisa em Neuromatéria Colabora

Impacto da Wikipédia na qualidade

Wikipédia Quality

members and supporters to become assignments in classrooms or elsewhere as

• main objective: to improve content

• should connect more strongly to education

• big caveat: what are people who are watching/reading content we produce doing with it?

• 2FA for science journalism

https://tools.wmflabs.org/oculusone/

NeuroMat acrescenta um milhão de caracteres à Wikipédia



A call to duty: Neuro

Jul 26, 2014

Neuro

Neuro

Neuro

Neuro

Neuro

Neuro



The Year spreads to Brazil

By Eryk Salvaggio on August 2, 2016

So...

- Subscribe to the NeuroMat newsletter!
- Like NeuroMat on Facebook!
- Check out our dissemination blog!
- Get in touch to Wiki with us!

comunicacao@neuromat.numec.prp.usp.br
facebook.com/neuromathematics

Thanks!