



# Science Communication in the Digital Era

## Building a digital communication strategy

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**IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System**  
(D.D. n. 130/2022 - CUP B53C22002150006) Funded by EU - Next Generation EU PNRR-  
Mission 4 “Education and Research” - Component 2: “From research to business” - Investment  
3.1: “Fund for the realisation of an integrated system of research and innovation infrastructures”



# Building a Digital Communication Strategy

- Needs Analysis and Definition
- Target Analysis / Audience Intelligence
- Objectives
- Tools
- Planning
- Monitoring



# Practical Steps

- State of the Art
- Define the Need
- Target (or Personas)
- Competitors
- Tone of Voice
- Define Objectives and KPIs



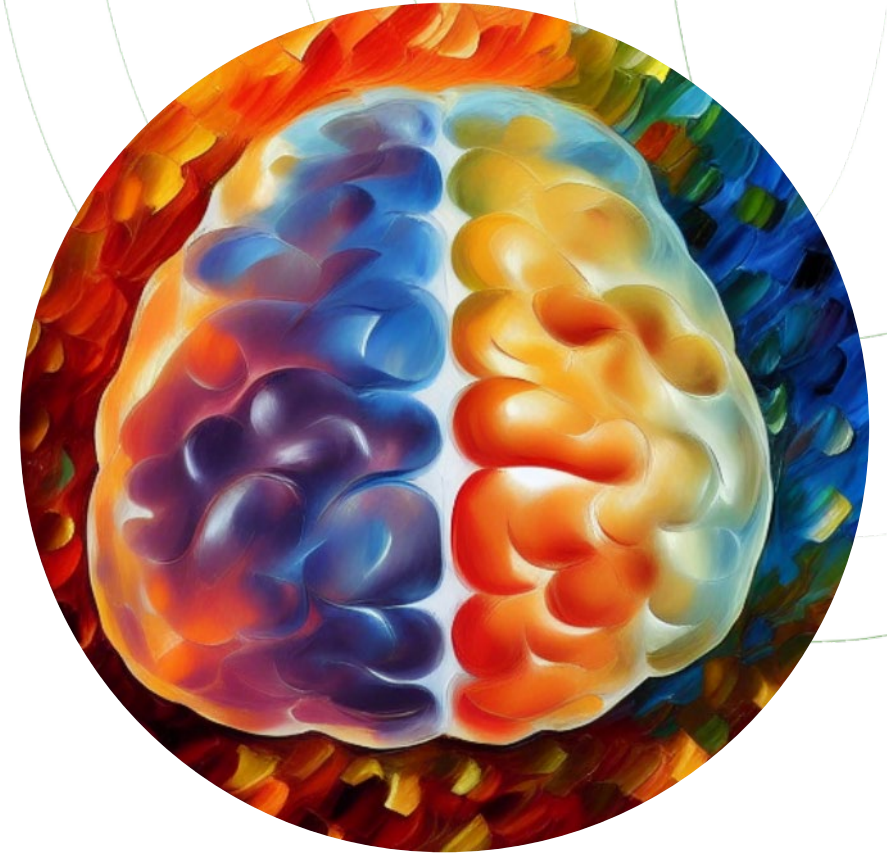
# Finding your audience

- Social Listening
- Competitor Analysis
- Community Feedback
- SEM & SERP Tools  
(e.g., AnswerThePublic, AlsoAsked, Google Trends)



# Be SMART

- Specific
- Measurable
- Attainable
- Relevant
- Time-specific



# Defining your tone of voice and copywriting

- The hardest part of copywriting is finding a language that is “as natural as speech, as precise as writing”.
- You should also choose in advance the type of responses and interactions.
- Please, no: “Authentic, unique, dynamic” and other clichés. It should be a practical reference tool



# From digital strategy to content schedule

- Balance between push communication and “intercepting” the audience
- Analytics-driven, within reason (especially in SciComm)
- Non-sequential
- Organized but flexible



# Social Media are not(?) Slot Machines

- Virality isn't a strategy
- More posts  $\neq$  more impact
- But you still need consistency and frequency to have a chance be visible
- Intent matters



# What Analytics should I care about?

Of course, the specific numbers depend on each platform and context, but in general:

- 🌐 Reach rate:  $\text{total post reach} / \text{total followers}$  (>30%)
- 🌐 Engagement rate (>5%)
- 🌐 Watchtime



# Instagram

You can:

- Have a private, public personal profile or use the creator mode

As a user you can

- **publish** posts (images with captions), reels (videos) or stories.
- **Follow and interact** with people or pages you are interested in
- Go live




Photo by Pixabay [Pexels]

# Instagram | What do we know about the algorithm


- 🌐 Instagram rewards **recent** interactions (follow, comment, like, dm other people's content, send dm, reply to comments and dm).
- 🌐 How recent is the interaction weights more than on other platforms; there is a strong bias towards novelty
- 🌐 Is currently trying to not become irrelevant due to the rise of Tiktok so Meta for the last few years has been trying to algorithmically favour Reels (short vertical videos)

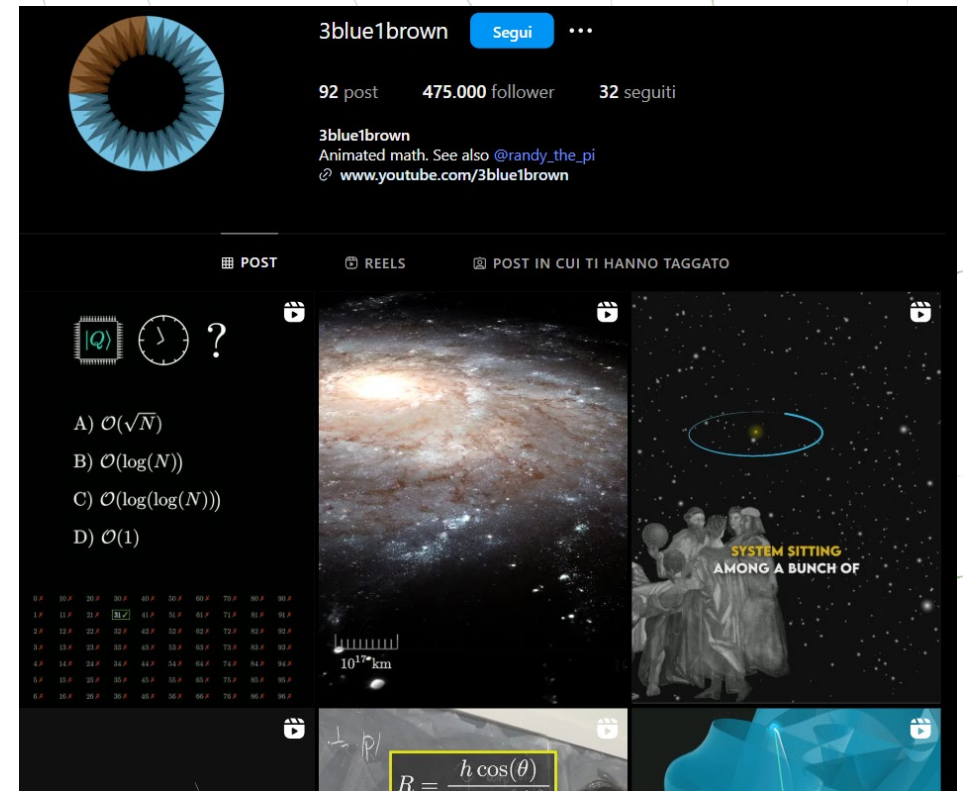
# Instagram | Does it make sense for you?

Yes, if:

-  You're in a field that can use strong visuals (graphs, animations, illustrations) or you care about sharing experiences or slice of life content especially in video format.

No, if:

-  You care mostly about career development and professional networking, or you aim for deeper discussions and technical explanation.



@3Blue1Brown on Instagram


# LinkedIn

- Personal **profile** and public **page**
- **Groups** (join, create, moderate)
- Professional networking platform
- Owned by Microsoft




# LinkedIn | Set up your headline

- 🌐 Experience and Projects
- 🌐 Skills and Endorsements
- 🌐 Recommendations and Accomplishments
- 🌐 Education and Continuous Learning



Research Scientist

**Research Scientist in AI | Deep Learning & Neural Networks |  
Transforming Healthcare with AI**



Research Scientist

**Lead Research Scientist | Specializing in Genomic Data Analysis |  
Innovating for Personalized Medicine**

# What does LinkedIn Like?



Tina Miller

**Innovative Research Scientist in Renewable Energy Technologies**

## About

I am an ambitious Research Scientist with a passion for sustainable energy solutions and a Ph.D. in Materials Science. Over the past 7 years, my focus has been on developing advanced materials for solar energy conversion, striving to make renewable energy more accessible and efficient.

My approach combines a deep theoretical understanding of material properties with practical experimentation, leading to the creation of high-performance solar cells and energy storage systems. I pride myself on my ability to translate complex scientific concepts into real-world applications that can have a positive impact on the environment.

Leadership in research for me means not only guiding projects to success but also fostering a culture of innovation and resilience. I have successfully secured funding through grants and partnerships, and my findings have been featured in top-tier scientific journals. I am also an advocate for science communication, actively participating in outreach programs to educate the public on the importance of renewable energy technologies.



Tina Miller

**Driven Research Scientist with a Specialization in Biomedical Sciences**

## About

As a dedicated Research Scientist with over 12 years of experience in the biomedical field, my career is defined by a relentless pursuit of knowledge and the development of innovative healthcare solutions. With a strong foundation in molecular biology and genetics, I have contributed to groundbreaking research that has advanced our understanding of complex diseases.

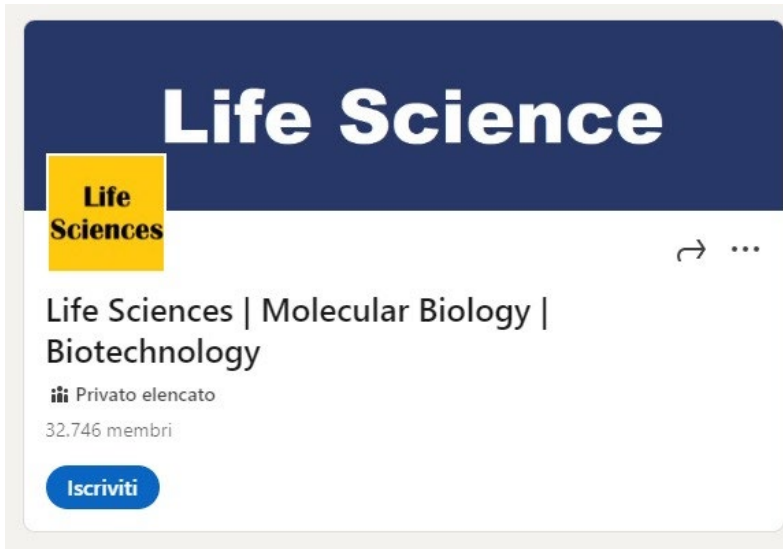
My expertise lies in designing and conducting experiments that lead to significant scientific discoveries. I am adept at using cutting-edge technologies and bioinformatics tools to analyze data and interpret results. My work has resulted in multiple peer-reviewed publications and has been instrumental in the development of new diagnostic tools and therapies.

In my current role, I lead a dynamic team of researchers, fostering an environment of collaboration and intellectual curiosity. I am committed to mentoring the next generation of scientists and believe in the power of interdisciplinary research to solve health challenges. I actively engage with the scientific community through conferences and collaborative projects, staying at the forefront of biomedical innovation.

# LinkedIn | Engage

🌐 Connections

🌐 Comment, cite, groups



**Life Science**

Life Sciences | Molecular Biology | Biotechnology

Privato elencato  
32.746 membri

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Healthcare & Life Sciences

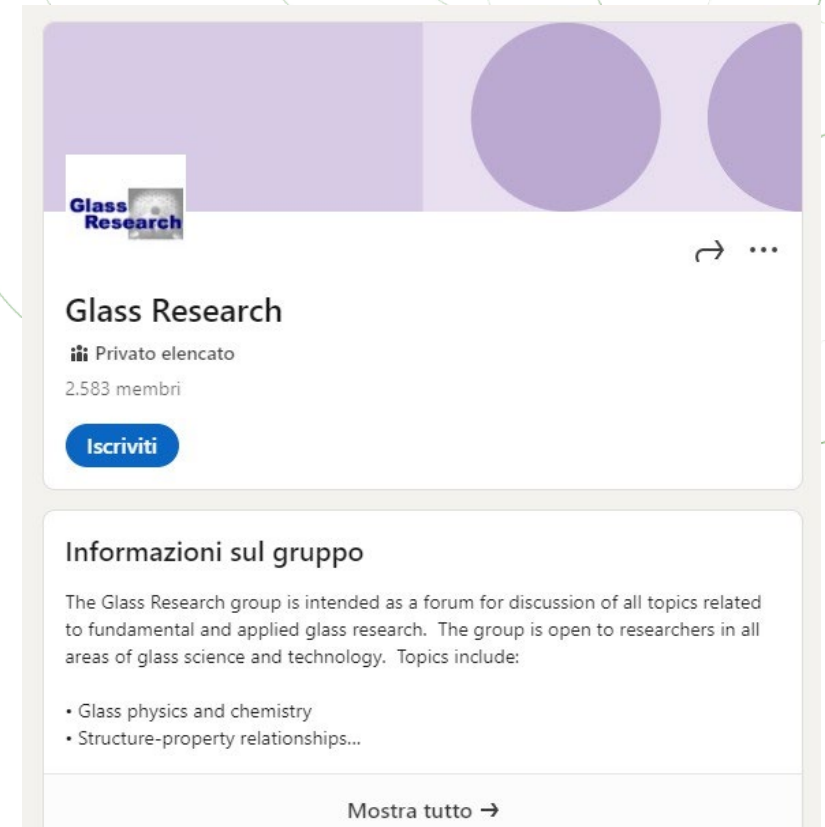
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22.658 membri

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**Informazioni sul gruppo**

This is a group to expand our network and share ideas.

We welcome everyone active in Biotechnology, Pharmaceutical/OTC, Medical Technology and Care, covering a wide array of positions in Research & Development, Clinical, Care, Sales, Marketing, Communications, Management and Regulatory areas.



**Glass Research**

Privato elencato  
2.583 membri

[Iscriviti](#)

**Informazioni sul gruppo**

The Glass Research group is intended as a forum for discussion of all topics related to fundamental and applied glass research. The group is open to researchers in all areas of glass science and technology. Topics include:

- Glass physics and chemistry
- Structure-property relationships...

[Mostra tutto →](#)

# LinkedIn | Anatomy of a post



**Roberto Trotta** (He/Him) • 1°

Head of Theoretical and Scientific Data Science group  
6 ore •

tags

Very happy with our latest paper, led by [Chiara Moretti](#) and with [Maximilian Autenrieth](#), [David A van Dyk](#) & Andrei Mesinger, in which we demonstrate greatly improved galaxy photo-z reconstruction (using conditional density estimators trained on spectroscopic data) in the presence of covariate shift.

This is the latest application of our novel StratLearn framework, designed to handle supervised learning in the presence of covariate shift, an ubiquitous problem in astronomy. The plot below compares our method, called StratLearn-z with the standard GPz, showing much improved performance (perfect reconstruction along the diagonal), especially at high z. 😊

Full details in our paper: <https://lnkd.in/eg4NEHDS>

Link

Mostra traduzione

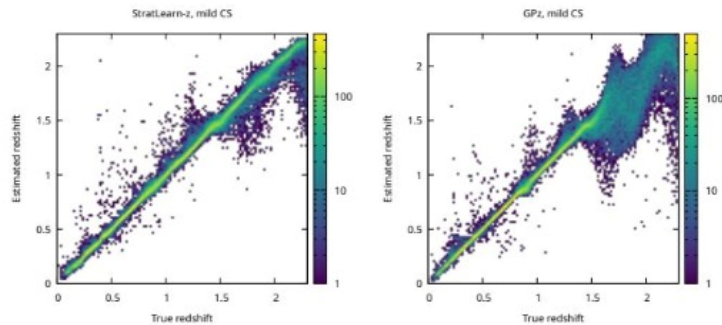


FIG. 6.— Same as Fig. 4, but for the mild CS case,  $\alpha = 5$ ,  $\beta = 6$ . Left: StratLearn-z, right: GPz.

graphs



Emoticons

SISSA

2,491 follower

giorno •



Page tags

🚀 Today the first session of the course “Digital Twins for a Sustainable Economy”, organized by SISSA and [iNEST - Ecosistema dell'Innovazione del Nord Est](#) in collaboration with [Università degli Studi di Trieste](#), [Università degli Studi di Padova](#), and [OGS](#), kicked off at Venezia Giulia Chamber of Commerce.

The session began with [Andrea Cangiani](#), Associate Professor in Numerical Analysis at SISSA, introducing the course. [Gianluigi Rozza](#), Full Professor in Numerical Analysis and Scientific Computing at SISSA, then discussed advanced techniques for physical modeling and real-time simulation in Digital Twins.

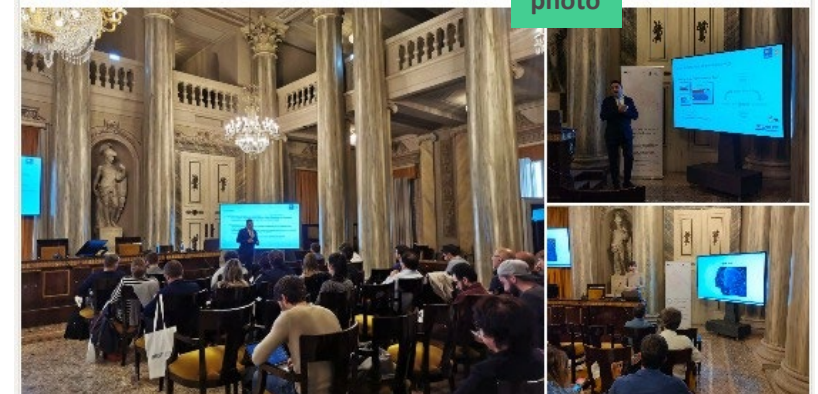
Later in the day, [Nicola Demo](#), co-founder and CTO at [FAST COMPUTING srl Società Benefit](#), led a hands-on session, guiding participants through software simulations and demonstrating how physical models enhance Digital Twin accuracy.

🌐 The course aims to provide companies with the tools and knowledge needed to effectively integrate Digital Twins into their operations, fostering innovation and operational efficiency.

➡️ The next session will be on Monday 7th October.

[#DigitalTwins](#) [#SustainableEconomy](#) [#Innovation](#)

hashtags



photo

# LinkedIn | Does it make sense for you?

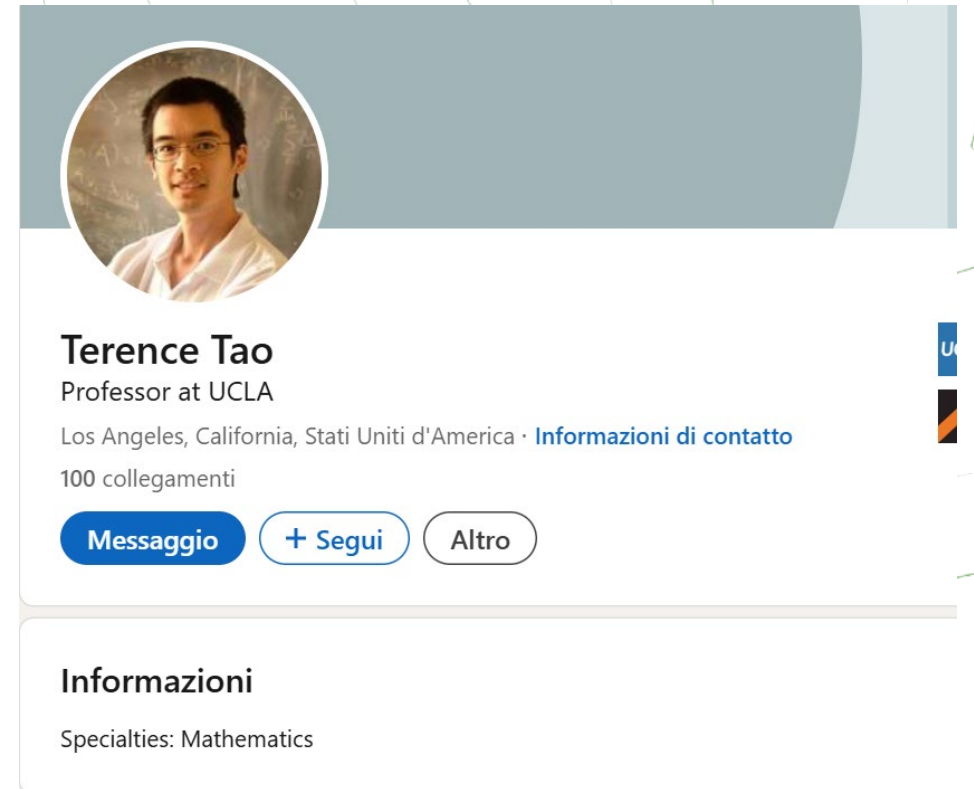
Yes, if:

- 🌐 You want to connect with researchers, academics, and industry professionals
- 🌐 You share milestones, publications, or event participation
- 🌐 You plan of getting out of academia

It's basically mandatory if you don't have a personal webpage. The value is in connection and presentation, not content.

No, if:

- 🌐 You're not ready to shape a public-facing professional identity
- 🌐 You want to do science popularization in a non tech-driven field



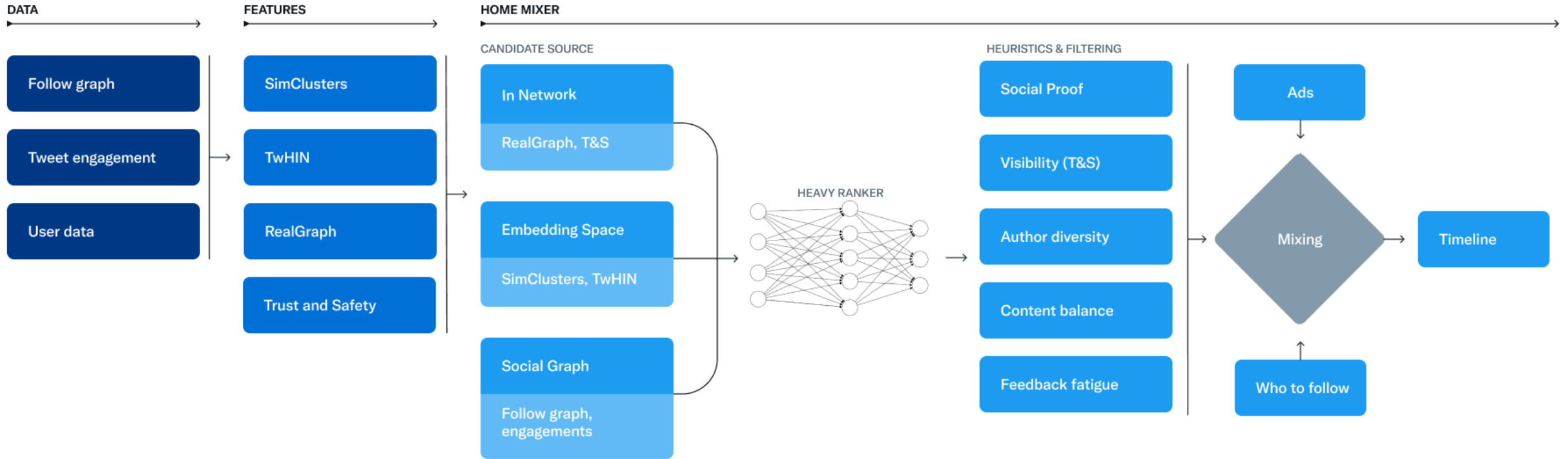
The screenshot shows a LinkedIn profile for Terence Tao. At the top is a circular profile picture of a man with glasses. Below the photo, the name "Terence Tao" is displayed in bold, followed by "Professor at UCLA". The location "Los Angeles, California, Stati Uniti d'America" and a link for "Informazioni di contatto" are listed. It shows "100 collegamenti" and three buttons: "Messaggio", "+ Segui", and "Altro". Below this is a section titled "Informazioni" with the text "Specialties: Mathematics".

@Terence Tao has a basically empty LinkedIn Page last updated in like 2012. But you're not Terence Tao.

# Twitter/X

- **280 characters for** non paying users (but you can thread)
- You can mention other people, comment their tweet, post photo, video or link
- Use **hashtags** to track topics (one or two, not too many)
- Recent strong push for video
- A terrible place for most things but sadly still kind of relevant for newsworthy stuff





# Twitter/X | What kind of content

## Frequent and fast:

- 🌐 High volume, regular posts keep accounts visible
- 🌐 Threads still work, but single strong posts perform better

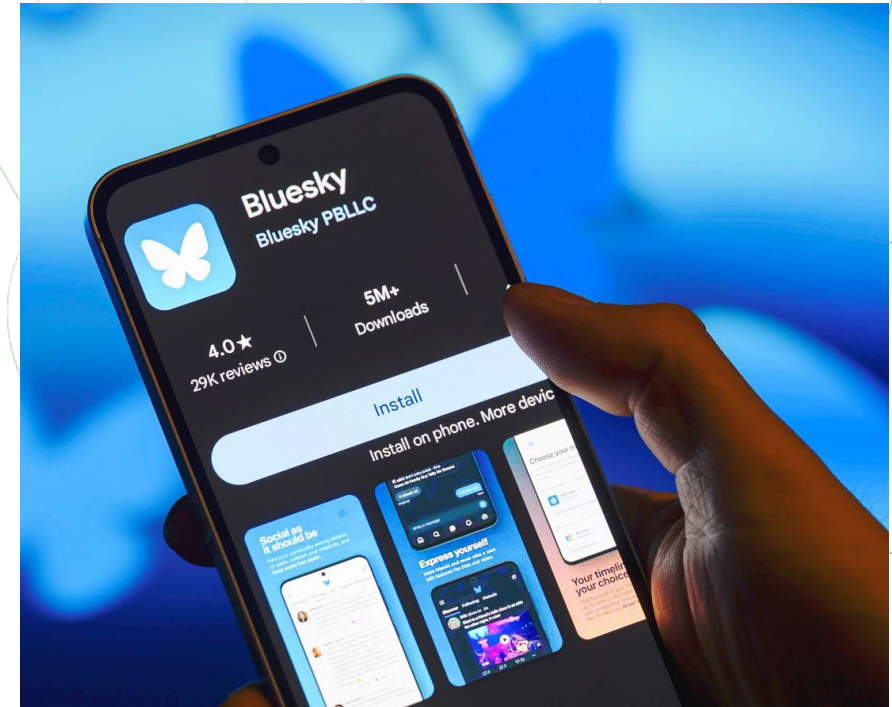
## Personal and opinionated:

- 🌐 Posts with voice or stance get more interaction
- 🌐 Sharing thoughts on academia, teaching, or your research process builds a following

You can use Twitter/X for quick ideas, links to papers, preprints, event updates, light commentary and quick networking.

# But what about Bluesky?

- 🌐 No algorithm pushing trends, so you have to have genuine insight or actually be funny to get attention
- 🌐 Still requires very frequent posting
- 🌐 Replies, questions, and dialogue are the most viable way for self-promotion, so it has genuine networking potential
- 🌐 Lots of academics in the US moved to Bluesky, but there is still very little adoption in most communities. Depending on your specific research area, it could be a good place to think out loud and discuss papers.



# Academia.edu

- 🌐 Biggest Academic SM, but mostly humanities
- 🌐 Share your papers and affiliation
- 🌐 Connect with scholars and follow them
- 🌐 Download papers



# ResearchGate.net

- 🌐 More STEM focused, but still not a lot of mathematicians
- 🌐 Used to share preprints, ask/answer technical questions
- 🌐 Some researchers use it as an informal paper archive but licensing is weird
- 🌐 Still not a substitute for arXiv or actual archives
- 🌐 Kinda spammy
- 🌐 You might be on it even without having a profile

RG

Article PDF Available

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Scientific Reports

June 2025 · 15(1)

DOI:10.1038/s41598-025-91870-8

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### Andriy Polishchuk's scientific contributions

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Andriy Polishchuk

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## Other Academic Discovery tool

🌐 Personal profile pages

🌐 Google Scholar

🌐 ORCID



# You probably need a personal website

Still the most professional, flexible tool to make yourself findable.

## Why you need one:

- 🌐 Central, stable place to link your papers, CV, talks, teaching, contact
- 🌐 Helps people find and cite your work without platform friction (findability)
- 🌐 Allows you to “control the narrative”
- 🌐 Works across disciplines, institutions, and time
- 🌐 It’s okay if you update it sporadically, most people do. A well maintained personal website signals academic credibility

# But what should I have on my website?

## What to include:

- 🌐 A **short bio** (twitter-link who you are and what you work on), and a more expanded **about me (3-4) paragraphs**
- 🌐 **Your CV** (PDF and/or clean HTML version)
- 🌐 **Publications** (with links to preprints, DOIs, or PDFs)
- 🌐 **Talks, teaching materials**, everything that makes you look like people think you say stuff worth listening to
- 🌐 **Contact info** (email or contact form)
- 🌐 A link to **your GitHub** if you write code
- 🌐 A few photos (professional but simple)

Depending on how tech-savvy you are you can build anything from a single page no-code website with Notion to a WordPress blog to a simple tech stack with Github Pages. In most cases you won't need much more than a couple days of effort.

# Building a Social Media Strategy - Exercises

Step 1:

Group up and pick one of the following:

- A new interdisciplinary European Research project
- A public science outreach event spearheaded by your institution

Write a very brief (300-500 characters) concept for the project or event, describing **what** is it about and **why** it matters

# Building a Social Media Strategy - Exercises

Step 2: as a group, define the principles your strategy, using the following table as template:

Strategic Element

Questions to Answer

Goals

What do you want to achieve? (e.g. awareness, type of engagement, participation, etc)

Target Audience

Who are you trying to reach? (e.g. students, researchers,, media, policymakers )

Platforms

Which social media channels will you use? Why?

Content Plan

What types of content will you post? How does it help your goal? Sketch an example

Tone and Style

What language, visuals, or voice will you adopt?

KPIs and Metrics

How will you measure success? (e.g. views, shares, sign-ups, comments)

Timeline

Time out the various phases: sketch out a general plan on what you wanna do when

# Building a Social Media Strategy - Exercises

## Step 3: Pitch your plan

You have at most 5 minutes to pitch to a funding committee the event / the dissemination package of your research project.

Pick a spokesperson in the group to pitch the strategy you built, explaining or justifying your communication choices from the previous table.

# Writing for Social Media - Exercises

Write a post about your latest paper/press release. Include:

🌐 Who to tag (people/institutions)

🌐 Hashtags


🌐 What to write:

- Max 2000 characters
- Use language, that makes sense for your usual target audience
- Include a call to action

🌐 Multimedia (or at least say what visual you'd include)

# Writing for Social Media - Exercises

## **Make it shorter**

 Take your post and rewrite a 280-character version (Twitter-style)

 **Constraint:** No jargon, no filler words. Focus on the core message.

What should survive the cut?

# Writing for Social Media - Exercises

🌐 Say it differently

🌐 Rewrite the content from your tweet in two versions:

- As if you were addressing a fellow researcher
- As if you were explaining it to a 10-year-old

Try not to *change the message*, but to work adapting the tone and language

# Writing for Social Media - Exercises

🌐 Write your short bio in two different contexts:

For a Twitter or Instagram profile

More human, less formal. Max 160 characters.

🌐 For your own institutional or personal website

Max 500 characters.

Focus on what you do day-to-day and how it connects to the bigger picture. Prioritize clarity over status.



# THANKS!

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