

Seeds - The people incubator to nurture paradigm shifts

Betting on human creativity in an AI age

A proposal for a novel home to identify, train & fund (future) scientists

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Seeds exists to identify creative minds that would not be at home in traditional academia and give them a protected space to explore bold scientific hunches.

Context

“It’s difficult to imagine how I would ever have enough peace and quiet in the present sort of climate to do what I did in 1964. [...] Today I wouldn’t get an academic job. It’s as simple as that. I don’t think I would be regarded as productive enough.” Peter Higgs, Nobel Laureate in Physics, 1929-2024.

The comfort of our current lives relies on the scientific advancements we have made in the past 100-200 years. In the last couple of decades, however, despite more scientists, funding, and publications than ever, true transformative research is becoming increasingly rare¹.

A common understanding of why this is the case resolves around the way we fund and reward science. With the number of scientists outgrowing the amount of available funding, academia has built a system of review committees for both grants and papers to prioritize spending. These committees lead to rewarding prolonged expertise in a specific niche and proposals that conform to existing theories². Thus scientists are getting older until they can do original research³ and scientists wanting to switch fields have a hard time doing so. Also, the number of papers published has become a crucial success metric which rewards those scientists with many incremental successes to those that spend 10+ years on more controversial ideas

As a response to this, a bunch of novel R&D institutions and funding efforts have sprung up in the past couple of years: from government funded approaches like SPRIND and ARIA, to philanthropic efforts like Astera Institute, Arc Institute, Convergent Research, Speculative Technologies, Episteme, amongst others. All of these efforts are establishing novel ways of funding scientists outside of existing structures, but: what they have in common is that, they all work with ‘what’s there’, i.e. scientists that have already ‘made it’ in the existing system.

The missing bit

What about the people that could be great scientists but aren’t in today’s system? The creative and entrepreneurial ones. Those that:

- Are too young to do original research today
- Want to switch fields/do things across fields/define novel fields
- Don’t fit the current academic culture (i.e. the constant hurry for papers and new grants; 10y+ paths to tenure and first original research) and thus either leave science or never enter

¹ Park, Leahey & Funk. Papers and patents are becoming less disruptive over time (2023).

<https://www.nature.com/articles/s41586-022-05543-x>

² <https://link.springer.com/article/10.1007/BF01173636>

³ Examples: average age of NIH R01 grant is 42 years, the proportion of R01-funded principal investigators aged 35 or younger fell from 18 percent in 1983 to 3 percent in 2010. / Winners of Nobel Prizes before 1991 obtained their PhD on average at age 22-23, today scientists are approx. 10 years older when they receive their PhD.

Those 'outsiders' to the current system (novices or experts in different fields) pose a great opportunity for paradigm shifts in science. In the past, many important breakthroughs came from people that had little to no training in the respective field. They were self-taught or had expertise or jobs in other areas and brought their outside view to contradict existing theories. Creative minds from outside the field are able to reframe a problem as they are less influenced by existing norms of the field, notice things others wouldn't, tackle problems with different tools from their fields. Recent studies confirm this.⁴

Thus, I believe it needs a novel way of identifying those creative scientists that current academia does not reach and creating the room for them to do research. This is what Seeds will do.

Seeds - The people incubator for nurturing paradigm shifts

Seeds is an incubator that (1) attracts and selects science talent that would otherwise not emerge and (2) gives these potential scientists access to funding, labs and training ('a protected space') to work on their potential paradigm-shifting research. This research can be the seed for (3) further R&D that happens in startups, novel R&D efforts such as FROs, participants in SPRIND challenges or ARIA programs.

More details on the three core elements of the incubator:

1. Identification and Selection

Based on the understanding that 'we cannot know where unpredictable insights lie', Seeds will be designed to:

- Attract the entrepreneurial ones - those that do not care about titles, promotions, tenure,...
- Identify people with ambition and devotion to a problem, that think about problems holistically and from a systems level approach ('one science')
- Select via individual mentors: No committee/panel, no pre selected topics, if person meets rigorous criteria they qualify

2. Experimentation and Incubation

Depending on the background of the selected fellows, there will be two phases with varying intensity:

- Experimentation: Individuals sharpening their hypotheses around a bold idea via: shadowing/apprenticeships, interviews, desk research, experiments and individual training
- Incubation: Original research on a bold idea towards a seedling that can then be funded by other sources; small teams individuals plus 1-2 complementary skillsets

3. Launch

Seeds helps to embed transformative research in other entities depending on what fits best to give it the best chance to continue to grow, e.g. via:

- Novel R&D organisations, such as FROs
- Bold government funded R&D directives via ARPAs, SPRIND, ARIA
- Startups

⁴ Beginner's Charm: Beginner-Heavy Teams Are Associated With High Scientific Disruption. (2025) <https://arxiv.org/abs/2509.10389> & Surprising combinations of research contents and contexts are related to impact and emerge with scientific outsiders from distant disciplines (2023) <https://www.nature.com/articles/s41467-023-36741-4>

Rough roadmap:

6 month deliverables:

- Network development & program design: kick off event with potential mentors and shapers (professors/PIs, startup founders, CTOs,...) to codesign Seeds
- Preparation of outreach and first application and selection day
- Initial training elements and partners (labs, trainings) identified

2 year deliverables:

- First 10 fellows selected (and supported with funding and partner labs infrastructure)
- MVP for program design running (with partners)
- Network development towards potential graduation partners (from nonprofits, government entities, VCs)

Beyond that:

- Established scouting and talent identification network
- Network of regional labs
- Successful off ramp into foundations, publicly funded R&D, own companies

The Seeds organization consists of three pillars:

- *Network*: to uncover scientific talent, gather high profile supporters as mentors: professors & entrepreneurs, build in-roads to partner labs and institutions for lab and resource access, and build connections for follow-on funding (gov, philanthropies, VCs)
- *Program Design*: manage selection process, identify training needs and potential support partners, match with mentors, partners and hosts, identify 'launch' opportunities
- *R&D operations*: managing funding of the fellows, access to labs, hiring potential team members for the fellows, IP management

Come build with us!

It will take a coalition of public and private partners to build Seeds.

To uncover talent. To shape the formation of the program. To host fellows (in labs, startups, other organizations). To train fellows. To be mentors, patrons or sponsors for individual fellows. To be partners for the R&D ideas of the fellows taking shape as FROs, R&D programs, startups.

We have gone from undirected, young creativity in science to a tightly managed academic system that rewards incremental gains and coherence to known theories. As we move into an age of AI speeding up our existing ways of operating, let's not forget human creativity as a serendipitous driver of future scientific insights. Let's recreate a protected space for scientists to surprise us and build a more liveable future.

"Creativity is the essence of the human spirit, and flowers best when it's unconstrained. If you try to control it for your own ends you must learn that you can get only what you ask for. The unexpected will not arise. You are not wizards. [...] Unfortunately, your leaders have now decided that wonder is inefficient because it cannot be controlled, quantified or targeted."

Don Braben, Scientific Freedom: The Elixir of Civilization