

Propeller Lunch and Learn

DD-VPSE Office & Office for Technology Transfer

Spring 2023



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Propeller Venture Capital Funding Opportunities

Supporting ocean and climate science technology development and accelerating applied research through start-ups

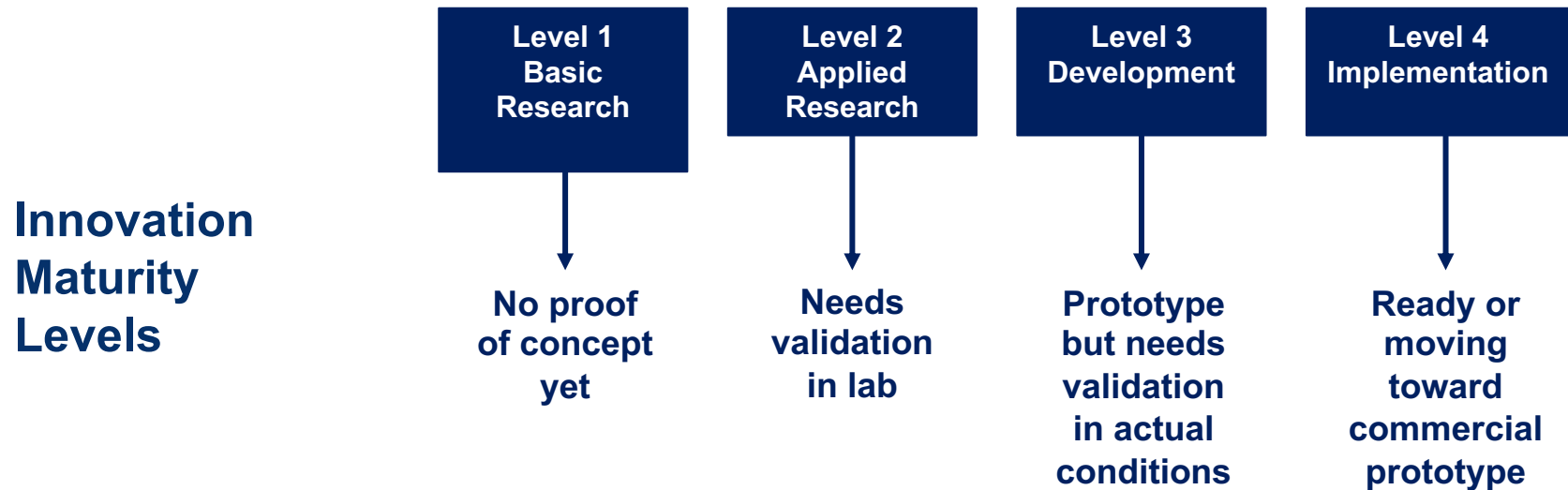
- **Funding research with potential to be the basis of a start-up company**
- **Funding aims to develop intellectual property (IP) that can provide value to a business venture**

Propeller's intent is to work with the WHOI researchers who are responsible for the technology to determine how best to involve them in a startup company – essentially up to the researcher to help choose their own path

OTT will also work with the WHOI researchers to ensure researchers' needs are considered

Propeller Areas of Interest: Climate Solutions

- Improved predictability, adaptation, and mitigation for climate change
- Ocean carbon solutions
- Ocean-based renewable energy
- Biotechnology
- Aquaculture
- Fisheries science and management
- Other ocean-based climate solutions



| Proposals

Total Amount of Awards

At the discretion of the DD-VPSE, we anticipate awarding a total of approximately \$1,500,000 from this proposal call. We anticipate calls for proposals on roughly a six-month basis.

Award Amount and Duration

Two types of R&D innovation projects will be supported. The Award duration for each type is as listed below, and all funds will be awarded in the first year.

- » **Propeller: Technical and Computational Innovation (PTCI)**. Each award will provide \$200,000 - \$300,000, inclusive of indirect costs, etc., of support for grants of up to 1 year in duration. Monies must be expended within the award period and no extensions will be granted except for the most extenuating of circumstances. Given the scope and time duration of these awards, these innovations should be within or near at least a Development Innovation Maturity level (Level 3, see [Appendix I](#)).
- » **Propeller: Science and Engineering (PSE)**. Each award will provide up to \$1,000,000, inclusive of indirect costs, etc., of support for grants of up to 2 years in duration. Monies must be expended within the award period and no extensions will be granted except for the most extenuating of circumstances. The initial Innovation Maturity may be lower than for the PTCI program described above (generally Level 2 - 3, see [Appendix I](#)).

Proposal information

Project Pitch Guidelines

The project pitch should be one PDF document containing the following 7 points of information:

- » **Title of concept** (start title with PSE or PTCI)
- » **Names of PIs and co-PIs.**
- » **Technology Innovation (up to 300 words).** Describe the technical innovation that would be the focus of the project, including a brief discussion of the origins of the innovation as well as an explanation as to why it meets the Propeller criteria for funding. Indicate whether this project falls under the PTCI or PSE category. (No figures or references)
- » **The technical objectives and challenges (up to 400 words).** Describe the R&D or technical work to be done during this project, including a discussion of how and why the proposed work will help prove that the product or service is technically feasible and/or significantly reduce technical risk. Discuss how, ultimately, this work would contribute to making the new product, service, or process commercially viable and impactful. (No figures or references)

- » **Market opportunity (up to 200 words):** Describe the estimated customer profile and pain point(s) that will be the near-term commercial focus of this work. (A pain point is a specific problem that prospective customers of your technology are experiencing that you believe could be solved through this technology). (No figures or references)
- » **Team (up to 200 words):** Discuss the qualifications of the team members who will lead the technical efforts.
- » **A preliminary WHOI grants budget and a brief budget justification** (explain unusual items) .
 - » Start date 1 July 2023.
 - » End date for PCTI budgets: up to 30 June 2024.
End date for PSE budgets: 30 June 2025.
 - » **CV (1- page):** PI and co-PIs should each include a current 1-page CV that includes a list of the 10 most recent or relevant products, which can be publications, data sets, software, patents, and copyrights.

Evaluation procedures

Review Process

The proposals will be reviewed by an ad-hoc committee made up of a cross-section of non-conflicted scientific and senior technical staff from across the departments. Hence, proposal arguments should be understandable to someone from a different field. The committee will rate the proposals and make recommendations for funding to the Deputy Director - Vice President for Science & Engineering (DD-VPSE). The DD-VPSE office will solely determine the WHOI Awardees and administer the funds.

Award Criteria

The following criteria will be evaluated:

- » Relevance to science and/or technology innovation applicable to the theme described above.
- » Possibility of future commercial viability if known.
- » Realism of project- and budget scope to achieve proposed outcome.
- » Probability of success of bringing innovations to implementation Innovation Maturity level.
- » Level of innovation.
- » Level of risk.
- » Ability to achieve results within the specified time frame.
- » Propeller personnel may provide written comments to the DD-VPSE regarding each proposal's possibility for eventual commercial viability.

Award process

- Proposal pitch submission
- Evaluation of proposals
- If selected to move forward:
 - More information will be requested (e.g., detailed budget); discussions may occur about what aspects will be funded
 - Meet with OTT on IP logistics
 - Delineate pre-existing IP & set goals for the technology
 - Identify obligations from prior funding
 - Confirm licensing viability & any restrictions on ownership or commercialization
- Accept award letter and associated conditions

Ongoing Project Responsibilities (during funding)

1) Ocean MBA Participation

2) Frequent reporting requirements

- Monthly mini-reports on new developments & IP production
- Budget expenditures

3) Meetings with Propeller at their request

- Project updates
- Subject matter expertise for market landscape analysis
- Conversations with outside companies, investors, or entrepreneurs

4) Reporting within 30 days of funding expiration

- Full project report & IP disclosure

OTT: Who We Are

Office for Technology Transfer



Allison Markova
Director, Technology Transfer



Cristy Salanga
Acting Director, Patent Agent



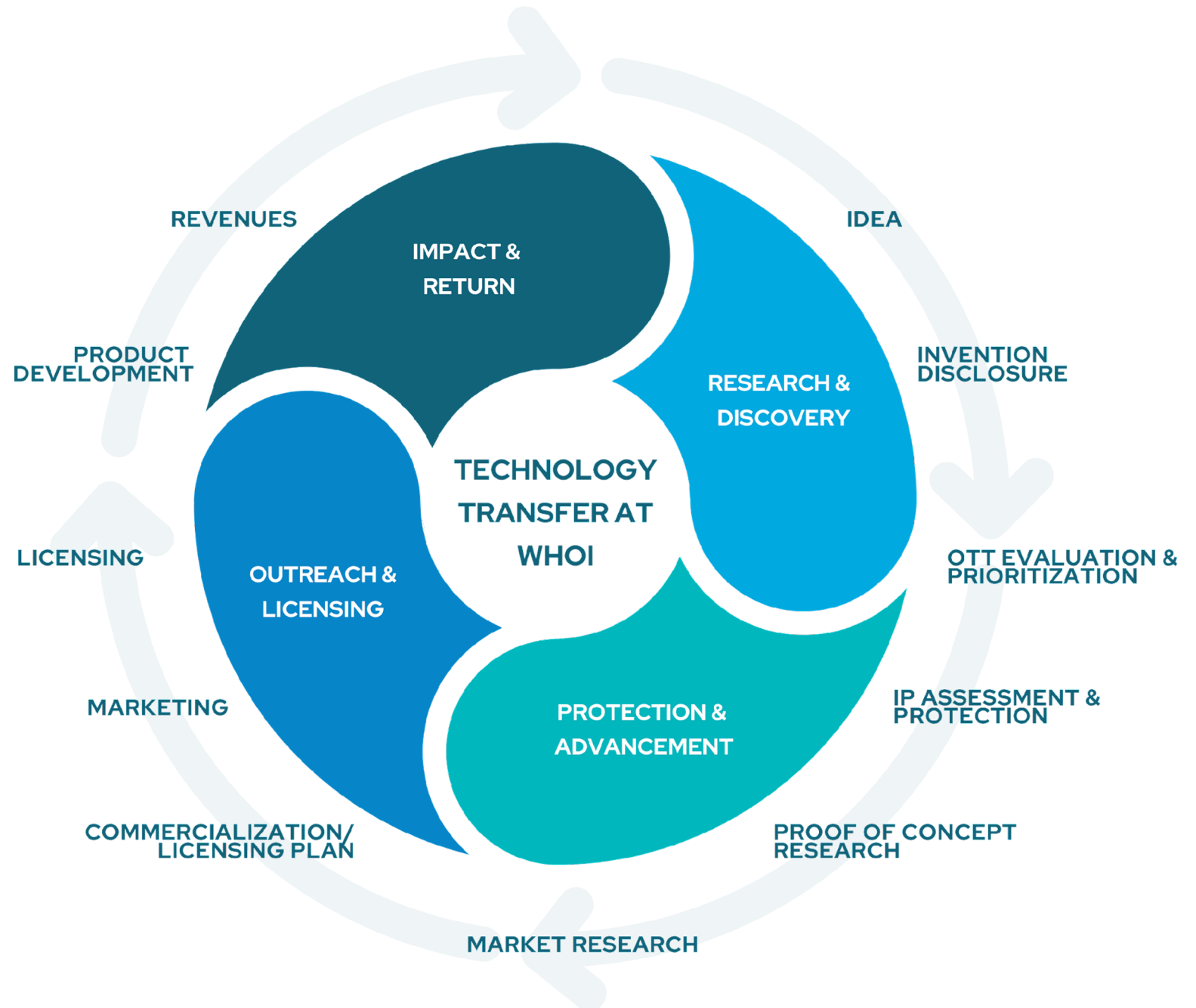
Abe Katzen
Business Development Associate



Annie Toomajian
Market Research &
Communications Associate

We Are Here to Help

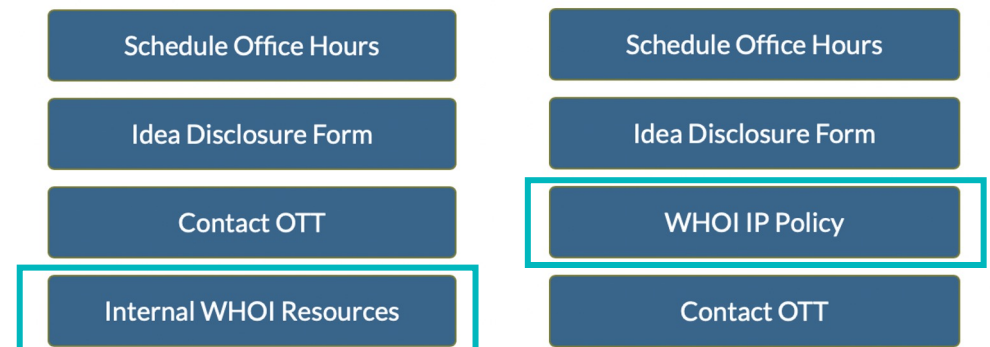
- Institutional commitment
- OTT is dedicated to realizing the full impact of WHOI innovations.
- We provide support, guidance, and helpful resources to WHOI staff and innovators.



What is IP?

- Intellectual Property (IP): Creations of the mind - creative works or ideas in a form that can be shared or can enable others to recreate, emulate, or manufacture them.
- 4 ways to protect intellectual property: **patents, trademarks, copyrights, & trade secrets**
- Inventors are obligated to assign discoveries or inventions to WHOI made or reduced to practice in the course of or as a result of their work at WHOI or naturally emanating therefrom.

WHOI's IP Policy can be found on the OTT website
techtransfer.whoiedu/tools-for-whoied-inventors/



Innovations May Be Protectable

Any idea that solves a problem may be patentable, and neither data nor experiments are required.

Patentable Subject Matter

- Process – Method of detecting/purifying a compound, new uses for an old composition of matter
- Machine – Instrument or device
- Manufacture – Tangible article in new form
- Composition of matter – New chemical compound, genetically engineered organism

Not Patentable: Laws of nature, natural phenomenon, abstract ideas, or algorithms

When and why would you want to patent?

• Patenting Timeframe

- Important to file patent application prior to a public disclosure
- Often filing the patent application as soon as possible is important
 - First inventor to file gets the patent

• Patent Value

- Patents are only needed if:
 - The technology can be commercialized,
 - The market potential is large enough to warrant investment in patent costs, and
 - The patent claims can prevent others from infringement.

IP still exists and can be protected even if not patentable.
It is still important to disclose IP to OTT.

• Unregistered IP

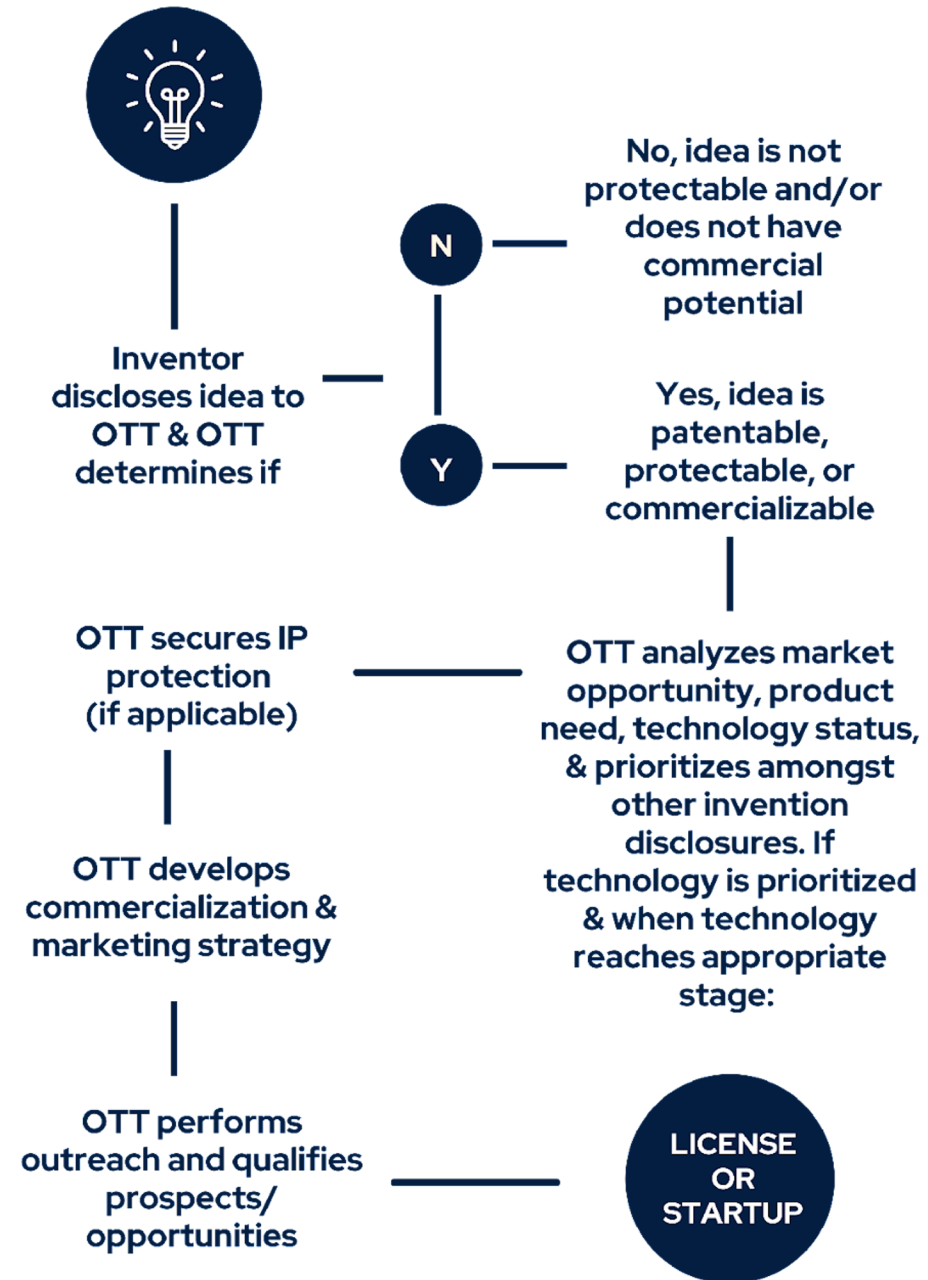
- Trade Secrets & Know-How

• Value of unregistered IP

- IP can still be valuable even without a patent
- Many technologies are difficult to develop & practice; companies will pay to acquire that knowledge
- Example: Hydroid's License of REMUS is *not* based on patents

After Disclosing IP

- Innovations are evaluated for protectability, commercial potential, and impact potential, collaboratively with inventors.
- We'd encourage you to speak with OTT about your idea as there could be other pathways to explore.



How does Propeller funding work?



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FAQs around Propeller awards

“What happens if I accept the award?”

- Intellectual Property resulting from Propeller-sponsored research is considered ‘Funded IP’
- Propeller has an *Exclusive Option* to license any Funded-IP
 - *Propeller gets to negotiate a license with WHOI before WHOI has licensing discussion with any other parties*

FAQs around Propeller awards

“Does a funding award mean that Propeller will start a company around the IP?”

- There is no guarantee that Propeller funding will lead to a startup with them
- Early-stage investing is inherently risky, and Propeller might decide not to pursue commercialization for a variety of reasons:
 - Scientific risk
 - Commercial risk
 - Timing of technology & markets
 - Speed of progress
 - Competitive landscape

“Why is WHOI negotiating the License and not me?”

- The institution legally owns the IP
- This avoids Conflict of Interest issues

This is true of any license negotiation, with any outside entity

General Technology Transfer Basics

“What happen if Propeller licenses IP from my research?”

- Propeller becomes responsible for future commercialization of the technology
- WHOI retains the right to use the IP for:
 - Academic Research
 - Non-commercial uses
 - Publication
 - Educational purposes

This is true for any startup, not just Propeller

General Technology Transfer Basics

“I’m confused... is Propeller licensing the IP, or a startup company?”

- Propeller can negotiate a license on behalf of a company that is *or will be* part of their portfolio
- Ultimately this portfolio company would hold the license to the IP

| FAQs around Propeller licensing

“If Propeller (or other company) licenses my IP, do they have rights to all my other research?”

- No—licenses are negotiated for specific pieces of IP
- A license to one (or a portfolio of) technology from your lab does not extend to other IP outside the agreement

| FAQs around Propeller licensing

“Will Propeller have ongoing rights to future work or improvements related to the licensed technology?”

- This will be negotiated on a case-by-case basis
- Propeller will generally want rights to improvements or progress for a period of time

This is true for any startup, not just Propeller

FAQs around startups

“What kind of compensation might I receive if I participate in a Propeller startup?”

Similar to the types of compensation for participating in any startup company

Forms of compensation available:

- Money: Paid role or Consulting Agreement
- Equity: Shares in the company

** Note: Equity is risky and illiquid—many startups fail, and you generally can't cash out until the company is 1) acquired, or 2) goes public*

→ WHOI has no role in these decisions; it is up to the individual to negotiate these terms with Propeller (as with any startup company)

So you're part of a startup...

... now what??



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Conflict of Interest &

Conflict of Commitment

*Avoiding actual or
perceived conflict issues*

A Conflict occurs when personal interests raise a question of whether an individual's actions, judgement, or decision can remain unbiased.

Conflicts of Interest or Commitment can arise naturally from interactions outside the institution...

→ **The existence of a Conflict does not imply wrongdoing!**

Goals of the COI/COM policy

- Mitigate actual conflicts or the appearance of conflicts
- Avoid harm individuals & the institution
- Maintain scientific integrity
- Avoid violating the public trust

| Types of Conflicts of Interest or Commitment

- Financial:** You represent WHOI in contract negotiations on behalf of a company in which you are partner
- Scientific:** Receiving industry funding at an external organization for work related to your WHOI research/expertise
- Mission:** Receiving funding from organizations in conflict with WHOI's mission
- Reputational:** Greenwashing or making misleading claims about a company's products/activities
- Commitment:** Your outside activities cause you to neglect your research & education mission

Managing Conflict with Startup Roles

Potential Challenges

- Financial COI
- Intellectual Property
- Personnel
- Equipment
- Separation of duties
- WHOI's 501(c)(3) status

Remember: We are invested in your success!

- You **can** be part of a startup
- You **can** have a managerial role
- You **can** receive compensation from a startup
- You **should** meet with ACECS to discuss your individual situation

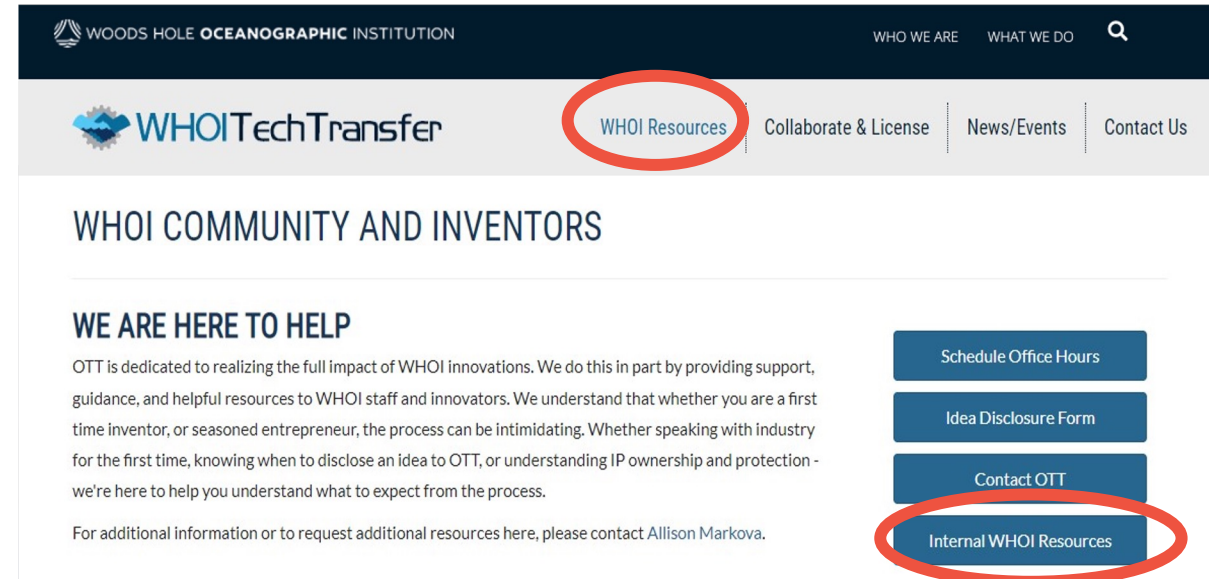
Be proactive: Propose a Conflict Management Plan (CMP) and submit to the Advisory Committee on Ethics, Conflicts, and Security (ACECS).

<https://generalcounsel.who.edu/conflict-of-interest-and-commitment/>

Additional Resources

OTT offers various support services and resources- among them:

- Contracts- NDAs, MTAs, etc.
- Mentorships
- Industry & Market Insights
- Regional Networking
- OTT IP Course
- Funding & Educational Opportunities



Website: techtransfer.whoi.edu

Email: techtransfer@whoi.edu

Thank You!

(Propeller Pitch Deadline: Friday, May 5th @ 5pm)

<https://intranet.who.edu/ddvpr/special-projects/ocean-propeller/>



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Supplemental Slides



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Thinking like an investor...

What makes something a 'good' investment?

- Large potential market
 - Whose problem are you solving?
 - Who would pay for it? And how much?
- Technology with the ability to scale up
- Product is differentiated
- Product is defensible
- Commercial viability

How is Venture Capital different from other funding?

- Higher velocity → they move fast
- Want to quickly de-risk technology
- Focused on technological and market hypotheses (less so scientific)