ANTS-REVIEW

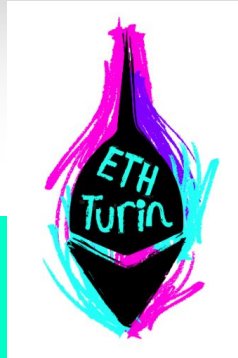ETH Turin

a Bounty-like system for Open Anonymous Scientific Peer-Reviews
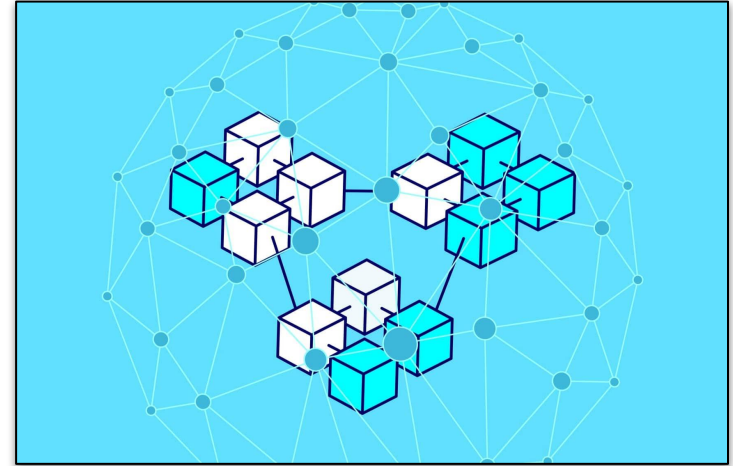
Current Peer-Review System: Outdated & Flawed

WHY?

- very **SLOW** process (can take years) that affects scientific dissemination

- based on **UNPAID** work done by external researchers (already invested in their own projects)

- invisible **UNCREDITED** work within the academic circuit (unlike publications, it doesn't count for *h-index*)

- **vulnerable** to *BIASED, ABUSIVE, FRAUDOLENT* behaviour...

Blockchain Technology Can Provide the Solution

- Decentralization, security, autonomy, transparency, immutability…

- For its own characteristics, BT could make the peer-review process **a more democratic process by more equally redistributing POWER among all stakeholders** (authors, editors, publishers, taxpayers…)

b8d5ad9d974a44e7e2882f986467f4d3 (2016, August 12). **Towards Open Science: The Case for a Decentralized Autonomous Academic Endorsement System.** *Zenodo.* http://doi.org/10.5281/zenodo.60054

HOW ?

Our Proposal: a Bounty-like System

➜ ***The work behind a*** *finished* ***scientific paper*** *is* ***like*** *that of the complex organism such as* ***an anthill*** *which emerges from the sum of many individualities: in it* ==all contributions== *(even if 'micro')* *are essential to the whole and* ==are worth recognition==.

➜ Therefore, ==we propose an incentive protocol== for rewarding open peer-reviews while preserving the anonymity of the reviewers. Authors can issue a bounty-like contract called ==AntsReview==. Reviews fulfilling the requirements are audited by external editors and awarded a ==token (ANT)==. To reinforce ethical behaviour the system will implement on AntsReview a ==quadratic funding==.

PoC (Proof of Concept)

- **Truffle** project using **Ganache**
- simple **Bounty smart contract**
- **access management** (owner, pauser, issuer)
- data hashed from **IPFS**
- optimization via **OpenZepellin Library**
- deployed on **Rinkeby testnet**
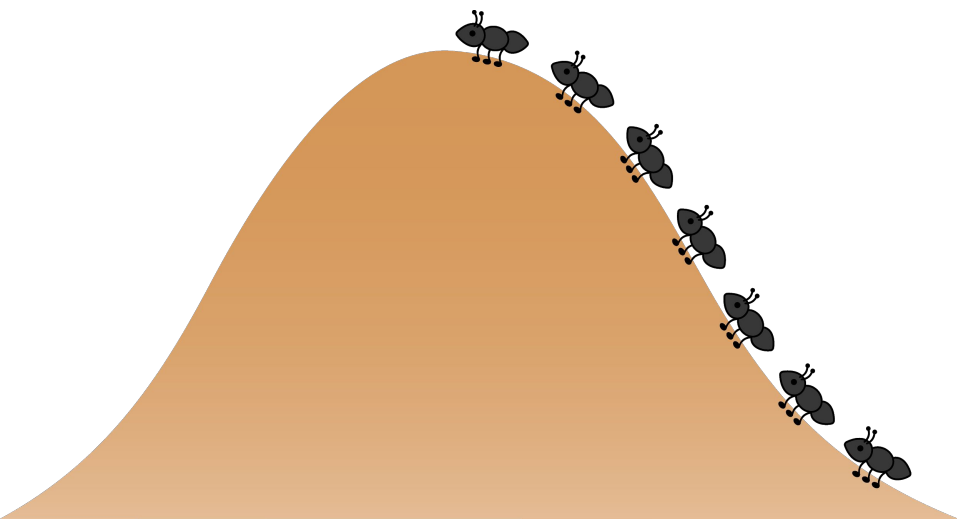- **DApp UI,** using React.js and Rimble UI
- **Demo**

Next steps

- **ERC20 token**, name Ant, symbol **ANT**.
- Timestamped on Ethereum via **PoE** (**Proof of Existence**).
- Storing on **IPFS**.
- **zkANT**, allowing private ANT transactions on Ethereum using *ZK-SNARKs* via **AZTEC protocol**.
- **DeFi token integrations** (Dai, Chai,…)
- **ENS**, allowing human-readable Ethereum addresses
- **Upgradability**, to allow the logic to be extended and improved.
- **Quadratic Funding**, Gitcoin-like for AntsReview.
- **...Mimblewimble**

POST-HACKATHON STEPS

- **GITCOIN Grants**
- **ICO** ?

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