The Robust Incentives Group is an Ethereum Foundation research team dedicated to the study of protocol mechanisms with the lens of game theory, mechanism design, crypto-economics, formal methods and data science. Looking to expand your credentials and participate in Ethereum research? Check out our current RIG Open Problems (ROPs)! Subscribe to our Robust communications, and receive a ~monthly summary of what we've been up to! Watch all ETHconomics 2videos, a research gathering at Devconnect for all things Ethereum cryptoeconomics! **Posts** All posts By tag Filter Sort Title **Authors** Tags Date published Link Semantics of Staking 2: Re-staking Game Theory / Econ Protocol Development January 4, 2024 https://mirror.xyz/barnabe.eth/96MD A194uXLLjcOWePW3O2N3P-JG-SHtNxU0b40o50 Timing Games: Implications and Possible Mitigations Consensus MEV December 5, 2023 https://ethresear.ch/t/timing-games-implications-and-possible-mitigations/17612 Semantics of Staking 1: Liquefaction

Game Theory / Econ

Protocol Development

November 28, 2023

https://mirror.xyz/barnabe.eth/v7W2CsSVYW6I\_9bbHFDqvqShQ6gTX3weAtwkaVAzAL4

MEV burn: Incentivizing earlier bidding in "a simple design"

Proposer-Builder Separation

MEV

November 11, 2023

https://ethresear.ch/t/mev-burn-incentivizing-earlier-bidding-in-a-simple-design/17389

The Costs of Censorship: A Modeling and Simulation Approach to Inclusion Lists

Protocol Development

Game Theory / Econ

Simulations

November 10, 2023

https://ethresear.ch/t/the-costs-of-censorship-a-modeling-and-simulation-approach-to-inclusion-lists/17382

Fun and games with inclusion lists

Game Theory / Econ

Proposer-Builder Separation

September 6, 2023

https://ethresear.ch/t/fun-and-games-with-inclusion-lists/16557?u=barnabe

Rollups are Real — Rollup Economics 2.0

Scaling / Rollups

Game Theory / Econ

August 13, 2023

 $\underline{https://davidecrapis.notion.site/Rollups-are-Real-Rollup-Economics-2-0-2516079f62a745b598133a101ba5a3de}$ 

Empirical analysis of Builders' Behavioral Profiles (BBPs)

MEV

Data

Proposer-Builder Separation

August 10, 2023

https://ethresear.ch/t/empirical-analysis-of-builders-behavioral-profiles-bbps/16327

**PEPC FAQ** 

MEV

**Protocol Development** 

Proposer-Builder Separation

August 3, 2023

https://efdn.notion.site/PEPC-FAQ-0787ba2f77e14efba771ff2d903d67e4?pvs=4

Game-theoretic Model for MEV-Boost Auctions (MMA)

MEV

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July 27, 2023 https://ethresear.ch/t/game-theoretic-model-for-mev-boost-auctions-mma/16206 Latency in Blockchains and Ethereum L2 Migration Game Theory / Econ Resource Pricing Scaling / Rollups July 21, 2023 https://davidecrapis.notion.site/Latency-in-Blockchains-and-Ethereum-L2-Migration-f4ea156908bb48688615bddcc6b14ed3 Cascading Network Effects on Ethereum's Finality Consensus Data June 13, 2023 https://ethresear.ch/t/cascading-network-effects-on-ethereums-finality/15871 Bid cancellations considered harmful Proposer-Builder Separation MEV Data May 5, 2023 https://ethresear.ch/t/bid-cancellations-considered-harmful/15500 Seeing Like a Protocol Protocol Development MEV April 10, 2023 https://barnabe.substack.com/p/seeing-like-a-protocol Estimating inclusion delays for censored transactions Proposer-Builder Separation Data

March 22, 2023

https://ethresear.ch/t/estimating-inclusion-delays-for-censored-transactions/15115

**MEV Resilient Ethereum** 

MEV

Protocol Development

Proposer-Builder Separation

Data

March 20, 2023

https://notes.ethereum.org/@RMFhKOrSSEWxmqjZMOT1Ag/rJb\_cq8Co

EIP-4844 Fee Market Analysis

Resource Pricing

March 16, 2023

https://ethresear.ch/t/eip-4844-fee-market-analysis/15078

Latency arms race concerns in blockspace markets

MEV

March 3, 2023

https://ethresear.ch/t/latency-arms-race-concerns-in-blockspace-markets/14957

Approximating User Welfare and Surplus with Transaction Data

Game Theory / Econ

Resource Pricing

Data

February 6, 2023

https://ethresear.ch/t/approximating-user-welfare-and-surplus-with-transaction-data/14766

**Guide to Ethereum Economics: Introduction** 

Game Theory / Econ

**Protocol Development** 

January 12, 2023

https://medium.com/@dcrapis/guide-to-ethereum-economics-introduction-abe89a873d09

Block vs. Slot Auction PBS

Proposer-Builder Separation

December 14, 2022

 $\underline{https://mirror.xyz/0x03c29504CEcCa30B93FF5774183a1358D41fbeB1/CPYI91s98cp9zKFkanKs\_qotYzw09kWvouaAa9GXBrQ}\\$ 

Notes on Proposer-Builder Separation

Proposer-Builder Separation

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**Protocol Development** 

November 8, 2022

https://barnabe.substack.com/p/pbs

Structuring Blockspace Derivatives

Resource Pricing

Game Theory / Econ

October 21, 2022

 $\underline{https://mirror.xyz/0x03c29504CEcCa30B93FF5774183a1358D41fbeB1/WKa3GFC03uY34d2MufTyD0c595xVRUEZi9RNG-dHNKs}\\$ 

Next-Block Base Fee Options: Towards a Practical Implementation

Resource Pricing

Game Theory / Econ

October 21, 2022

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Timing games in Proof-of-Stake

Consensus

Game Theory / Econ

October 20, 2022

https://ethresear.ch/t/timing-games-in-proof-of-stake/13980

Unbundling PBS: Towards protocol-enforced proposer commitments (PEPC)

Proposer-Builder Separation

MEV

October 8, 2022

https://ethresear.ch/t/unbundling-pbs-towards-protocol-enforced-proposer-commitments-pepc/13879?u=barnabe

Visualising the 7-block reorg on the Ethereum beacon chain

Consensus

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May 29, 2022

https://barnabe.substack.com/p/pos-ethereum-reorg

Understanding rollup economics from first principles

Resource Pricing

Scaling / Rollups

February 24, 2022

https://barnabe.substack.com/p/understanding-rollup-economics-from

Change fork choice rule to mitigate balancing and reorging attacks

Consensus

October 28, 2021

https://ethresear.ch/t/change-fork-choice-rule-to-mitigate-balancing-and-reorging-attacks/11127

beaconrunner: Agent-based simulations of Proof-of-Stake Ethereum

Consensus

Simulations
June 1, 2021
https://ethereum.github.io/beaconrunner/
abm1559: Agent-based simulations of EIP 1559
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A data-driven view of the beacon chain incident
Consensus
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April 30, 2021
https://barnabe.substack.com/p/a-data-driven-view-of-the-beacon
The road to Ethereum
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https://barnabe.substack.com/p/eth2
Better bidding with eip1559
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ETHVietnam (Online)
October 24, 2022
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Devcon 6
October 12, 2022
Updates on Proposer-Builder Separation
Devcon 6
October 11, 2022
ELI5 Cryptoeconomics
Devcon 6
October 11, 2022
Making sense of rollup economics
EthCC[5]
July 20, 2022
Ethereum: Consensus, The Merge & Governance
University of Zurich, Blockchain Summer School
July 18, 2022
Modelling blockchain protocols: Consensus and fee markets
SMGT Erice
May 14, 2022
Let me in! Let me IIINNNN! A longitudinal study of the transaction supply chain from CryptoKitties to MEV-Boost to PBS
mev.day
April 22, 2022
Notes on Ethereum's circulating supply equilibrium and the prospect of perpetual deflation via minimum viable issuance under proof of stake
ETHconomics
April 21, 2022
<u>ETHconomics</u>
ETHconomics
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Three Attacks on PoS Ethereum

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PEEPanEIP #37: EIP-1559: Fee market change with Tim Beiko, Barnabé Monnot, Micah Zoltu

Ethereum Cat Herders

July 20, 2021

June 21, 2021

The road to Ethereum

SUTD

April 9, 2021

En route pour eip1559

Ethereum France, in French

November 10, 2020

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Ethereum's new transaction fee market design, EIP 1559

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