

BUIP138: Fund BU's Chief Scientist

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Summary:

For many years, I have contributed to Bitcoin Unlimited in my spare time as an unpaid volunteer. In September, I decided to "go pro" so that I could take a more active and hands-on role in research & development. It would be helpful if I were to receive a salary to partly compensate for the income that I am forgoing by not working elsewhere.

Budget:

This BUIP authorizes up to \$100,000 USD a year (paid monthly in crypto) to fund my work. (This number was chosen in consultation with Andrew Stone and Andrew Clifford and is inline with the other BU developers).

What I Intend to Work On:

The majority of my work will focus on research & development towards new technology to allow blocks beyond 25 GB to be validated on low-cost hardware. I intend to release the first preview of what I've been working on towards the end of this month.

Funding this position will also make it easier for me to continue doing what I normally do, which is write articles to explain BU technology and initiatives, collaborate with other developers, carry out experiments, and organize workshops.

Here Are Some Highlights of What I Have Done In the Past on Bitcoin:

Scholarly Papers:

[Rizun, P. R. "A Transaction Fee Market Exists Without a Block Size Limit." Presented at *Scaling Bitcoin Montreal* \(2015\)](#)

[Rizun, P. R. "Subchains: A Technique to Scale Bitcoin and Improve the User Experience." *Ledger*, Vol. 1, pp 38 - 52 \(2016\)](#)

Research Talks (with links to recordings):

["Empirical Double-spends Probabilities for Unconfirmed Transaction", *Instant Transactions Workshop*, Gargnano, Italy \(2018\)](#)

["Measuring Maximum Sustained Transaction Throughput on a Global Network of Bitcoin Nodes," *Scaling Bitcoin Conference*, Stanford, USA \(2017\).](#)

["A Segwit Coin is not a Bitcoin." *The Future of Bitcoin Conference*, Arnhem, Netherlands \(2017\).](#)

["A Transaction Fee Market Exists Without a Block Size Limit." *Scaling Bitcoin Conference*, Montreal, Canada \(2015\).](#)

Technical Articles:

"Towards Massive On-Chain Scaling: Presenting Our Block Propagation Results With Xthin." [parts [1](#), [2](#), [3](#), [4](#), [5](#)] (2016)

["Visualizing HTLCs and Lightning Network's Dirty Little Secret" \(2019\)](#)

Workshop Planning:

[Satoshi's Vision Conference in San Francisco \(organized by Solex and me\) \(2016\)](#)

[Instant Transaction Workshop, Gargnano, Italy \(organized by Sickpig and me\) \(2018\)](#)

Podcasts:

["Lightning Critique: FUD or Fair?" *What Bitcoin Did* Podcast \(2019\)](#)

["A Bitcoin Fee Market Without a Block Size Limit" *Epicenter Bitcoin* \(2016\)](#)

Hardware:

Sigsafe: [paper](#), [demo video](#), [promo video](#)

Intellectual Property:

Neither Bitcoin Unlimited, its members nor its officers have any claim of ownership to intellectual property that may result from my work on bitcoin, beyond that which I explicitly assign to BU. (This applies for all BU developers, but I wanted to state this explicitly)