What will be the main focus of your paper?

In one sentence, what will be the main focus of your partner's paper?

Paragraph from Li and Vitanyi, section 2.5.1:

It is seductive to call an infinite binary sequence ω random if there is a constant c such that for all n, the n-length prefix $\omega_{1:n}$ has $C(\omega_{1:n}) \geq n - c$. However, such sequences do not exist. We shall show that for high-complexity sequences, with $C(\omega_{1:n} \geq n - \log n - 2\log\log n$ for all n, this results in so-called *complexity oscillations*, where for every $\epsilon > 0$

$$\frac{n - C(\omega_{1:n})}{\log n}$$

oscillates between 0 and $1 + \epsilon$ for large enough n.

Revised paragraph:

In this section, we try to use Kolmogorov complexity to solve the problem of defining random infinite sequences. A natural attempt to do this would be to declare an infinite binary sequence ω random if all its initial segments are incompressible; that is, if there is a constant c such that for all n, the n-length prefix $\omega_{1:n}$ has $C(\omega_{1:n}) \geq n - c$. We will prove (as a consequence of Theorem 2.5.1) that such sequences do not exist. To obtain a nonempty class of random infinite binary sequences, we will weaken the restriction on their initial segment complexity. In particular, it will turn out (Theorem 2.5.4) that all random sequences (in this sense) satisfy that $C(\omega_{1:n}) \geq n - \log n - 2\log\log n$ for all n. However, Corollary 2.5.1 illustrates that the Kolmogorov complexity of initial segments of random sequences also dips unboundedly low infinitely often. Thus, the Kolmogorov complexity of random infinite sequences has unbounded *complexity oscillations*.