

**Revolution Bioengineering**  
1301 Campus Delivery  
Fort Collins, CO 80523  
<http://revolutionbio.co>



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## **Colorado based Revolution Bioengineering to make flowers that change color**

Revolution Bioengineering, a new biotech company in Fort Collins, CO today announced its plans to build *Petunia Circadia*, a flower that changes color throughout the day. The petunia will be developed using synthetic biology, an emerging scientific discipline which applies engineering principles to biological systems to develop new biological functions.



*Dr. Nikolai Braun works at his bench at Revolution Bioengineering in the Scott Engineering Building at CSU*

Announcing this new project, CEO of Revolution Bioengineering Keira Havens said: “Petunia Circadia will be engineered to go from one color to another - red to blue and back again - completely on its own. No chemicals, no complicated care, just

sunlight, soil and a flower that changes color.” Co-founder and Chief Scientific Officer Dr. Nikolai Braun added to this “We want to show people that science is beautiful, and highlight the possibilities in this new field. To do this, we’re focused on open science – showing every step of the path to create a flower that changes color.”

Dr. Braun outlined the concept behind the project. “Plants have circadian rhythms: cyclical expression of genes throughout the day. This allows them to start photosynthesis when the sun comes up or release fragrance in the evening when their pollinators are active. *Petunia Circadia* will harness this internal clock to regulate flower color, resulting in a flower that changes color over approximately twelve hours.”

Ms. Havens notes that “This is a gentle transition from one color to another, not a flashing strobe light. When you leave for work, your garden might be pink, and by the time you get home, it would be purple or blue.”

Revolution Bio is currently located on the Colorado State University (CSU) campus, and both Ms. Havens and Dr. Braun are former employees of CSU. Dr. Braun is a graduate of Virginia Polytechnic Institute and received his PhD in 2007 from the University of California, Davis in Biophysics. Ms. Havens received her bachelors in Molecular Biophysics and Biochemistry from the Illinois Institute of Technology in 2004 and accepted a commission in the United States Air Force. She left active duty to pursue a degree in a synthetic biology laboratory and received her M.S. from CSU in 2014. Besides starting Revolution Bioengineering, Keira enjoys spending time with her husband and two Jack Russell Terriers, and Nikolai spends his free time climbing mountains and fermenting creative beverages.

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### **Media Contact Information:**

Keira Havens    Phone: 1-773-742-6335  
Email: [keira@revolutionbio.co](mailto:keira@revolutionbio.co)  
skype: keira.havens  
[www.facebook.com/revolutionbioengineering](http://www.facebook.com/revolutionbioengineering)