



# Colorado Science and Engineering Fair

## 2024 Individual Project Abstract Form

**Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.**

Title of Project: Arc Drift

Finalist's Name: Kenneth Zittel

School and City: Central High School in Pueblo

Sponsor's Name: Jamie Withnell

Category: Engineering (ENGR)

Division: Senior (9th - 12th grades)

Abstract (250 words or less):

The Arc Drift is an original project that was engineered to add more stability to the welder's hand while welding. As a welder, I noticed that I had a shaky hand when I was welding. In a previous product, I created the R.O.T. Slide that stabilized a welder's forearm and provided support. The Arc Drift is a product that stabilizes the welder's torch. The Arc Drift moves with the torch. A free hand weld could yield a poor weld bead which can affect the structural integrity of the weld. There is a product on the market, a tool through Strong Hand Tools, that attaches to a table and is advertised as an articulated arm. This tool was approximately three hundred dollars but was out of stock on numerous websites. The Arc Drift is a design that is made out of steel, has ball-bearing wheels, and will move with the welder's torch. I believe that because the Arc Drift is mobile, it is the best choice for welders in creating a decent weld.

*I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.*

Finalist's Signature:

Date:

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES of all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. A signed copy of this form must be included in your notebook.