



## 16<sup>th</sup> Khwarizmi Youth Award

Third Laureate Innovation



**Researchers:** Mohammad Nankali, Ali Nankali

**Project Title:** Acrylic industrial molds

**Supervisor :**Dr. Amir Abdullah

**Field:** Mechanics

### **Abstract:**

Acrylic industrial molds are thermoplastic PMMA molds made by Laser beam machining (cutting, engraving, marking) method. The main goal of design and manufacturing these types of molds is an amazing reduction in mold manufacturing cost and time. These molds may be replaced with aluminum molds as their mechanical properties are similar to those of aluminum molds and have many advantages, including cost-effectiveness, durability, facile and rapid production, cheap raw materials, and corrosion resistivity. They have potential applications in broad industrial molds used in bag and shoe, composite, clothing and casting industries such as different molds of tablet, laptop and cellphone bags, suitcase, cases for musical instruments, car seat covers, molds of composite parts like medical units (e.g. dental units) and surface vessels, sand casting patterns and suchlike.