

## **Responsibilities of an IYPT Mentor**

The goal of the IYPT mentor is not only to help students excel in competition but to instill authentic scientific thinking, resilience, teamwork, and leadership that will serve them in future academic and professional endeavors.

Students cannot conduct this level of research in isolation. Mentors play a vital role in guiding investigations, offering scientific expertise, and fostering a growth-oriented research mindset. While mentors may choose to serve as advisors, those supporting IYPT students are encouraged to take a more active role, similar to a dissertation supervisor—providing direction on research design, data analysis, and theoretical modeling. In many ways, mentors and students function as collaborative partners in this scientific effort.

### **Minimum Responsibilities of an IYPT Mentor:**

- Assist the student in selecting a research problem that aligns with the mentor's expertise and the student's interests.
- Ensure that students have access to necessary equipment and materials, and help evaluate financial considerations associated with the experimental needs of the selected problem..
- Prioritize student safety by assessing risks, laboratory access needs, and supervision requirements associated with certain problems.
- Provide guidance when students encounter conceptual, experimental, or analytical challenges.
- Ensure ethical research practices, including proper citations, transparent data handling, and responsible use of AI in research writing or analysis.

### **Additional Ways Mentors Can Support Student Success:**

- Assist in developing a testable mathematical model and validating theoretical assumptions.
- Provide guidance on scientific methodology, experimental design, and data processing.
- Coach students in graphical data presentation and slide preparation.
- Support students in meeting competition deadlines and formatting requirements.
- Engage with US IYPT leadership to share progress, receive guidance, and collaborate on best practices.

By embracing these responsibilities, mentors help cultivate the next generation of scientific thinkers, innovators, and leaders—empowering students to approach complex physics problems with confidence, creativity, and integrity.