

Research Ethics Case Studies

Case 1: Two organic lab students have recently completed the analysis of different analgesics by TLC (thin-layer chromatography). After developing his TLC plate, Markus sketches the plate in his notebook, indicating the retention times and distances in the margin. He also notes the solvents used to both develop and spot the plate in addition to the type of TLC plate. Markus then throws the plate in the appropriate waste container, obtains the TA's signature, and leaves the lab early. Vivian, in an effort to get out of lab earlier, tapes the developed TLC plate directly into her notebook, obtains the TA's signature, and heads home to finish her write-up. Several days later, Vivian notices that her TLC plate no longer exhibits the data (separation) she observed in the lab the other day. Unfortunately she did not record the details. Fortunately she remembers where the different spots were. She decides to add this information and proceed with the write-up (it's due tomorrow after all and med schools do not like to see low grades in orgo!).

With your partner take a minute to summarize the situation:

Is she justified in proceeding this way?

What alternatives does she have?

Does anyone else in this scenario have responsibility for ensuring Vivian has her data?

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Case 2: Milton France, an undergraduate senior research student, is seen less and less during the day by his mentor and other members of the laboratory. It becomes apparent to Dr. Wise, his mentor, that France has been working long hours during the evenings and nights when the lab is predominantly empty. Dr. Wise does not think this is a good habit and approaches France about spending more time “during regular working hours” in the lab. He argues that interaction between France and other students and faculty are essential to his development as a scientist, not to mention the safety issues involved. France argues that the instrument he needs is continuously in use during the day, making his progress extremely slow. He can work more efficiently at night and can obtain results faster. Both Dr. Wise and Milton France hold tight to their arguments, and over the next several days the situation between them grows tense.

With your partner, take a moment to summarize the situation:

Should Milton argue to continue scheduling his lab time at night?

Is Dr. Wise being reasonable in his demands?

What avenues might be pursued to bring about resolution of this conflict?

What other reason besides “collaboration with colleagues” was given for not allowing Milton to work by himself at night? Why is this important?

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Case 3: George Stanton is an experienced laboratory technician at a major pharmaceutical company; however, he has no formal education or training. Before leaving for the evening, his supervisor handed him a sample for analysis to be run over the weekend. George ran the sample, and was surprised to see that the number was 0.17 when it should have been 0.00. George then recorded the result as 0.00 (that is what it should have been anyway), told the QA team the fabricated result, and phoned his supervisor. George told the supervisor what he did (reported the fabricated result). The value (0.17) fell into the specifications for that product.

With your partner, take a moment to summarize the situation:

What should George have done in the first place?

What can he do now to remedy the situation?

Should any disciplinary action be taken against him?

Should any responsibility with the incident lie with George's supervisor?

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Case 4: Michael is a researcher involved in some very cutting edge experimentation. He keeps meticulous notes, and is always able to prove and explain his experiments. However, no one can understand these notes without Michael's presence- he uses a system of symbols and abbreviations and shorthand that only he can understand. His colleagues often get angry with him, since they need to schedule time consuming meetings with Michael in order to ever discuss his work, as opposed to reading it on their own. Lots of people are interested in his work, and he does not always have time to discuss it with everyone who asks for a meeting. Many disgruntled scientists say that Michael has an obligation to keep records that are more accessible. Michael argues that his notes are an accurate representation of his work, and that keeping them in that way allows him to work more easily and efficiently, with less error.

With your partner, take a moment to summarize the situation:

Is he justified? Why or why not?

Besides "symbols", what other factors could inhibit people from reading a notebook?

Should notebooks be readable by anyone? Why or why not?