# Introduction to Genetics

## Transcript

00:00:00:60 - 00:00:27:62
**Narrator:** Introduction to Genetics Author interview. Introduction. So my name is Natasha Ramroop Singh. I am an associate teaching professor here with the Biological Sciences Department at TRU. I've been here for about six years now, and I teach introductory genetics courses as well as introductory and advanced biochemistry courses.

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**Narrator:** In terms of my background, I am a chemist, so I'm passionate about merging the fields of chemistry and biology and kind of showing my students the importance, my biology students that is, the importance of chemistry to their craft. And I guess in terms of my role in this project, I essentially tasked myself with adopting an already existing resource that I found after doing a very deep dive on the Internet, fairly obscure resource, but I thought that it was quite good, and I wanted to kind of use pieces of it to essentially make amenable to my own course here at TRU. How did the idea for this Open Educational Resource come about? Yeah, so, you know, a lot of the students who take my Introduction to Genetics course, they take it because it's just one of the core courses required for their degree, and many of them don't necessarily go on to do advanced genetics courses after. The fact that we were asking, you know, 90 something students each year to purchase this textbook that was about, you know, over $200.

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**Narrator:** It became a little bit burdensome for many of our students. And so that was really the first impetus for me to think about, is there something free out there that we can find that's going to be, you know, easy for the students to understand and use. And then also that's going to be basically aligned with my course content. So that really was kind of the inspiration and impetus for creating this resource. What sources or inspirations shaped your work on this OER?

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**Narrator:** I would say, first of all, student feedback certainly shapes the resources that I create for my classes, and definitely keeping in mind the course objectives and the institutional learning outcomes that we have to, you know, abide by, essentially. But I would

also say a little bit of my own preference in terms of what I think is important for students to know and my own competencies as well, because as everybody knows, you know, lecturers, yes, they will teach what the course outline says, but they will certainly focus on things that they themselves are passionate about and they themselves like, as well. So I think those are the three things that would have guided the direction of the OER. How has working with the TRU Open Press supported or shaped this project? Working with the TRU Open Press, I mean, the word support is, you know, it doesn't encompass the amount of assistance that I got, I think, from the outset, you know, I received funding basically to, you know, create or rather remix and adopt this resource.

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**Narrator:** As I said, from the original source, which was by John Locke, by the way, a professor at University of Alberta. And so, you know, Danny Collins, I have to shout out, certainly, because she was the editor who was working with me on this book, and she was a huge source of you know, she gave me advice, direction. She did a lot of the background work in terms of the coding that was required in Pressbooks. She lays directly with BCCampus to help get the books in the repository there. So, I mean, the Press has really, really supported, held up, promoted the textbook.

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**Narrator:** I could not have done it without the TRU Open Press, yeah. What was it like collaborating with your research assistants or students on this project? I love when my students are able to contribute to their own learning materials. I think that the materials become more relevant, more accessible. And so I have done that with this textbook.

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**Narrator:** I have had students work on creating graphic summaries, as we call them for the end of each chapter. So, you know, there was this student who was really good with drawing, and she used to create her own summaries for her own use, which I ended up seeing, and I asked her if she would be willing to do it for the whole textbook, and she agreed, and she was paid through the Press. So, you know, this is another dimension of assisting students to study. Like, how does one prepare for an exam? You don't just read the text.

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**Narrator:** A lot of people do flashcards and summary sheets. So we already have that incorporated into the book, and because it's created by a student for students, it's very student friendly. So, you know, working with students is not just fulfilling, but it enriches the resource in a way that an instructor just can't do. What impact do you hope this OER will have on learners or educators? In terms of impact on learners, I mean, as with anyone who, you know, comes up with any resource, you want it to be something that people come back to over and over again.

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**Narrator:** You know, not just I'm using it to pass an exam, but I really want to use it to broaden my horizon, you know, assist with other courses in the future, and just kind of always, you know, come back to it because it's accessible, because it's, you know, it's easy to read. And it's just fun. You know, I want it to be fun for students. In terms of educators, um, I would just love if people use it and give me feedback because I think that's always great from the instructor's perspective as to what else might this resource need to be even more useful for students. And also, if there are any errors, anything that needs to be updated, these are things that the community of educators can really help with.

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**Narrator:** What challenges did you face during the development process and how did you overcome them? Challenges, I think the main challenge is always time. You know, like, you would say, Okay, I'm giving myself six months to do this, and it takes two years. And so for me, the challenge is time because, you know, people, at least the people that I know, that are developing open resources are doing it off the side of their desk. It's not their primary job duty or anything.

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**Narrator:** We're doing it because we're passionate about open pedagogy. So I feel like managing time was certainly a challenge. But with the right support and the right people around you, it gets done eventually. Was there a moment during this project that really stood out to you? Something you'll always remember?

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**Narrator:** In terms of something that stands out, what I will mention is the fact that I have engaged my students, and I do this every year in contributing to the book by basically coming together in groups and creating YouTube videos, whereby they come up with a novel question on kind of a difficult topic. They give the solution, and they show us how they come about that solution. And so, again, it's student created material for students, right? So in terms of something that stands out for me, that really stands out for me in the textbook. At the end of each chapter, there's a series of videos that was developed by students, and I there's about 62 videos now in total embedded in the book, and that's all new content, right, that was added over the past two years.

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**Narrator:** And we're going to continue adding as the years go by. So students use these videos when they're studying for final exams, especially because it's one thing to learn the theory behind a specific genetics topic. But when you're given a question, it's kind of another skill set as to how to interpret the information and then analyze a question and then come up with the right solution. So these videos really help students with that kind of higher level thinking. How do you see the role of open education evolving in the next few years?

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**Narrator:** Well, I mean, education definitely in general is evolving at a very rapid rate. And so is open education. Mostly because of, I think, you know, AI technology. For me, I think that AI is going to play a huge role in how open resources are created. I think that there's going to be a lot of discussion around the ethical and responsible use of AI when we're using or trying to create these kinds of platforms for students.

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**Narrator:** Something that comes to mind as well as digital equity, so not everyone has access to technology. And so there are going to be some students who, you know, might be at a disadvantage if we, you know, tend towards this kind of openness. But certainly, I can see where if we do it the right way and we incorporate community based learning, we incorporate working in groups, we incorporate communication. And for me as a scientist, scientific communication, both oral and written, I think that it's going to be, you know, the next age in education. Open is that's the way everything is going.

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**Narrator:** I just know that there are going to be there's going to be the need for checks and balances within the system to ensure quality and, you know, always remember the human element of education at the end of the day. If someone is thinking about creating an OER, what advice would you give them? Well, the first piece of advice I would give is that it's going to take much longer than you think it's going to take. Okay. So, you know, time management is very, very important.

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**Narrator:** I would also say take some time to look and see what's out there already. There's a lot of material that's out there. Some of it is not good at all, and some of it is really great. You don't want to spend time reinventing the wheel. You want to be able to go and find something.

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**Narrator:** And if you think that it's good, then you can just go ahead and, you know, remix it and adopt it accordingly. Again, that saves you time. And I think maybe as well, getting the student input is always really great because as instructors, sometimes there are things that you would take for granted. There are things that you would say, Oh, yeah, you know, my students understand this or they remember this, but, you know, sometimes it may not be the case. So always getting feedback from your consumers of the material is going to be a really good thing, you know, to ensure that what you create is going to be useful and sustainable over time.

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**Narrator:** Yeah. Thank you for the interview. Natasha.