Jennifer Wiseman: (00:03)
We're part of this majestic creation and we can be very grateful for that. And yes, awe struck. And I hope that we realize that God knows a lot of things going on in the universe that we don't yet know about.

Joanna Meyer: (00:21)
You're listening to the Faith and Work Podcast, where we explore what it means to serve God, neighbor, and society through our daily work.

Joanna Meyer: (00:31)
Hi, and welcome to the Faith and Work Podcast. I'm Joanna Meyer, Denver Institute's, Director of Public Engagement. And I'm joined today by Brian Gray, our COO and Director of the 5280 Fellowship. Brian, how are you doing this fine day?

Brian Gray: (00:45)
Well, I'm doing well and really happy for our conversation today. I'm a recovering nerd and I had a very short term career in the applied sciences. And so I'm excited to have a guest and a conversation today that helps us to appreciate the wonder and awe of those disciplines.

Joanna Meyer: (01:01)
Yes, I'm very grateful to have Brian on the conversation with me today because I am not a scientist. And so today's conversation needs a great mind because we are talking to a great mind. We're talking to Jennifer Wiseman who's one of the nation's leading astronomers and today's episode is a sneak peek of an event that Denver Institute will be hosting in November, both in person and online for those of you that are not in the Denver Metro area. We'll be talking to Jennifer Wiseman who has a long history as an astrophysicist and astronomer, some of the nation's leading scientific organizations.

Joanna Meyer: (01:32)
And we have invited her to come to talk about the gift of scientists, how their work can be an invitation to wonder and worship. Because we know that often in circles, people that work in the scientists may feel tension about how their beliefs can seemingly seem to conflict with aspects of faith. And really we don't believe that has to be the case, but there's work to be done better appreciating the work of scientists. And so that's what Jennifer will be talking about with us today. Brian, would you introduce us to our guest?

Brian Gray: (02:04)
Yeah. Happy to, Dr. Wiseman is an astronomer who studies the process of star and planetary formation in our galaxy. She's worked with several major observatories, including radio and infrared telescopes, like the Hubble telescope. Very well known to many of us. And she's currently a senior astrophysicist at the NASA Goddard space flight center. She's interested in national science policy and public science

engagement and she directs the program of dialogues on science, ethics, and religion for the American Association of the Advancement of Science. In addition to her speaking engagements Dr. Wiseman contributes to BioLogos, friends of ours, the New York Times, the Washington Post and NPR, National Public Radio. So we're really grateful to have Jennifer with us today. Jennifer welcome.

Jennifer Wiseman: (02:51)
It's my pleasure to join you.

Brian Gray: (02:54)
Yeah, Jennifer, we're really grateful. Now just a second ago, I gave the very formal introduction of you, but for listeners who have heard terms like astrophysics or astronomy or space telescopes, but they might not be as familiar with what those terms mean, can you talk to us a little bit at the lay level? Talk to us about your discipline, talk to us about what you do in your work.

Jennifer Wiseman: (03:19)
Sure. So astronomy is really as old as humanity itself in the sense of people looking up at the stars and looking up at the sky and being amazed and sometimes afraid. And in any sense, surely intrigued by what we see in the night sky. And then the more, what we would call scientific approach of looking at the night sky would be termed the astronomy that we think of today, where you point telescopes or other instruments toward sources in space and try to understand what you're seeing, at least record it.

Jennifer Wiseman: (04:07)
Now, astrophysics is really just what it sounds like. It's applying physics, the study of the physical forces of the universe to what we're seeing in astronomy. So it's combining the observations with a scientific analysis and interpretation. You could say that looking at orbiting systems and understanding how Kepler's Law of Orbits applies to moons orbiting around planets or planets orbiting around stars as a kind of astrophysics. And so in fact, most professional astronomers today are actually what we would call astrophysicists. They are doing observations, but then they're also trying to use what we understand from physics and also other sciences, chemistry, even biology in some sense, to understanding what we are observing through our telescopes and our astronomical instrumentation. So that's a long answer, but somebody like me could be called both an astronomer or an astrophysicist. And it's all correct.

Joanna Meyer: (05:24)
What types of projects are you working on these days?

Jennifer Wiseman: (05:28)
Well, I am someone who's done quite a diversity of research in astrophysics throughout my career. My specialty is in studying the regions in our galaxy and in neighboring galaxies where new stars are actually still forming. So I think most people kind of have a vague awareness that there are stars up there, but we

don't, unless you have a job like I do, you're not thinking every day about the fact that stars are transient in a sense, they are born in the sense that they are formed out of gas and dust, but that already exist in these nebulous clouds between star and then at the end of their lives or existence, I should say they burn out. And so they're not always with us. And I study the beginning of that process where stars are still coalescing out of collapsing balls of gas and dust in these interstellar clouds that fill our galaxy.

Jennifer Wiseman: (06:40)
Most of this gas and dust is kind of turbulent and we don't see it with our bare eyes. Really, you have to have the special kind of telescopes, but if you look with the right kind of telescopes up in the night sky, yeah, you'll see some stars. But the vast majority of the volume of our galaxy is this wispy gas and dust. And most of it's just turbulent swirling around, but occasionally you'll get some pockets that are compressed together by these turbulent pressures. And if there's enough material and a small volume, it will start to collapse under its own weight, under its own gravitational pull because gravity's always trying to pull stuff together. And turbulence is trying to kind of disperse it. So these things are at odds, but if you get enough material in a small volume, the gravity will dominate.

Jennifer Wiseman: (07:31)
It will collapse. And most of this material is gas like hydrogen, little bit of other atoms. If it collapses into a small enough volume, and if there's enough of it, the pressure is enormous. And in the middle of that ball of gas and a reaction will begin called fusion. And that's where the pressure causes hydrogen atoms to combine into helium atoms and through a chain of reaction into other heavier atoms. And this process also releases photons of light and that light, eventually those photons eventually bounce out of this ball of dense gas and get out. And that's what a star is doing. So you can say a star is born. And I study this process, basically leading up to the point where the star actually turns on, where you have turbulent gas that's collapsing into a series of clumps of gas. And then they become what we call proto stars as they coalesce and draw in more gas and get heated up.

Jennifer Wiseman: (08:33)
We can see those pro stars with infrared telescopes, and we can see the gas that is forming them with radio telescopes. That's my specialty. In particular, I studied the Orion Nebula. Many of you know, where the Orion constellation is in the sky, but what you may not know is if you have different kinds of quote unquote eyes, radio telescopes, or infrared telescopes, you can see behind the visible part of Orion to a much larger dark cloud where proto stars are actively forming.

Jennifer Wiseman: (09:05)
So that's my background and it's a very active field. We also know that stars form with discs of dust around them these days. And it's in those discs that planets and planetary systems form. So we're watching that process. But over the years, I've also taken roles that are more in the sense of oversight of science observatories and missions. I'm now a senior astrophysicist at the Goddard Space Flight Center

where I do oversight of missions and other groups of scientists. So I get kind of that bird's eye view of how we're using different telescopes, what we're learning with them, how all this knowledge fits together and how to articulate it to others. And that's something I greatly enjoy.

Joanna Meyer: (09:55)
Yeah. Our listeners don't have the privilege that we have of seeing Jennifer by video feed as we record. But as you were talking about the work that you do, your eyes started sparkling. I could just see this energy as you were talking about it. It made me realize that this has not dull science to you. It energizes you and my hunch is it's probably been something that has captured your imagination since you were young, what led to your work in astronomy?

Jennifer Wiseman: (10:24)
Well, that's a great question. And there's no particular logical reason why I have become an astrophysicist because I grew up in a rural part of Arkansas, on a farm. We had cattle and we didn't know any scientists and our little nearby town was nowhere near any bigger city that would have a university at that time. But I did love the natural world. So I loved just wandering around the meadows, exploring the streams, the ponds we had nearby lakes. I love wildlife. I love all kinds of animals. And as part of that love of nature, I also was fascinated by the night sky. And at that time, at least the night sky was still fairly dark. It's pretty tragic that we have allowed sloppy use of light in our towns and neighborhoods to drown out the night sky with light pollution.

Jennifer Wiseman: (11:30)
It's not necessary. If people would just put little domes on their lights, you get all the light you need on the ground without losing the night sky above. And at that time it was still pretty dark. And I could look up and imagine what it would be like if I could travel to those stars and look around. I was curious and about the time I was growing up, NASA was sending these probes to take the first close up pictures of some of these exotic moons around other planets in our solar system. So the pioneers had gone out and then the Voyager probes were sending back these most amazing images of moons like Europa and IO and other exotic places. And I was watching the Cosmos Program on PBS with Carl Sagan and just fascinated by this amazing mysterious world out there in space.

Jennifer Wiseman: (12:28)
And I wanted to be a part of that enterprise. I didn't know how, I didn't know whether I should try to be an engineer or an astronaut or an astronomer, or what nor did I know how you would even enter any of those fields, but I just wanted to be a part of that. And of course, when I was growing up, the first Star Wars movies were coming out and all these science fiction flicks that were making everybody think about space. So it was all kind of working together. And as I went through my schooling years in the public school there in this fairly rural area, I was fortunate to have teachers who were very good and

really focused on giving us not only a good education, but confidence that we could go into any field that we wanted to.

Jennifer Wiseman: (13:17)
And that's pretty incredible. When you think about how far even geographically it was for any of us to kind of go and do something sort of beyond the usual in our small town and my parents, with great credit to them, were open to supporting me in whatever I wanted a try, even at great personal sacrifice of their own. And my church growing up was... We didn't know anything about formal science, but we had a lot of love and a lot of sense that going on and using one's mind to explore God's creation was a good thing.

Jennifer Wiseman: (13:53)
So I'm just glad had that even though I didn't really know what I was doing I had a lot of positive vibes around me so that when I started applying for colleges, that some of them that were not local to my region, it wasn't seen as something completely outrageous. It was seen as a good thing. And I have to credit my oldest brother too, who had really been the pioneer in our family and gone off and got his college education first. And he and his wife were encouraging me to apply to some of these more sophisticated schools and use my talent. So all of this together was a support network for me, for which I'm grateful.

Brian Gray: (14:39)
Jennifer, what I appreciate about your story is growing up in a rural environment. I was thinking, how can you not develop wonder about the night sky? Because I grew up in the San Francisco Bay area. One predominated by light pollution. And so I remember as a little kid in the second grade, leaving, going out into the country or up into the mountains with my star chart and seeing Orion actually for the first time.

Jennifer Wiseman: (15:07)
Yes.

Brian Gray: (15:08)
And seeing the hunter and identifying the belt and the telescope and the bow and all of this kind of wonder of this constellation. And I'm curious, my guess is for most of our listeners, they've had those types of experiences of wonder at some point on their own, just looking and feeling small or feeling curious or feeling awe struck. But that's our ability just to look with the naked eye. In your work in astrophysics, what have been some of the most awe inspiring discoveries, would you say in your opinion of the last, say, 30 years, the things that they strike you in that same way that we might describe some of that childlike wonder?

Jennifer Wiseman: (16:00)

What a great question. So how many hours do we have here?

Brian Gray: (16:08)
As long as you'd like, when we have you here in town, in the future for our event.

Jennifer Wiseman: (16:13)
I have many things I could point out, but let me pick out four. And one of them I've already talked about, so that'll be quick, which is the realization that the universe is very active and still producing new stars and star systems and planets. And that with different kinds of telescopes, it's like having different kinds of eyes. And we can see different aspects of this that we weren't able to see before. Another is, I think looking just in our own solar system, finding out that our solar system is absolutely rich with intriguing content and activity. I'm particularly fascinated by some of the moons around planets in our solar system, other than our own planet and those moons, some of them are ice covered. And under that ice, we have good reasons to think that there are water oceans.

Jennifer Wiseman: (17:14)
So moons like Europa and Ganymede really are probably rich with water. The insides of these moons have reasons to be heated up. And that's why they can melt ice from the inside and have water under an ice crust in a very cold part of the solar system. So being able to send probes to some of these planets and their moons to me is one of the most amazing things humans have ever done. And I still feel that way. And it just fascinates me to get back some of the information from not only telescope, but probes that can visit some of these planets and some of these moons. And there's some very exciting probe missions planned in the coming years to do even more research in our solar system. So that excites to me.

Jennifer Wiseman: (18:09)
I think on the grander scale, we are finding that planets are common. Now, when I was starting my graduate school work, we did not know of a single planet outside of our solar system. We knew of our sun, we knew of the planets that orbit the sun. We suspected that there might be planets orbiting other stars, but we just didn't have the tools to see them. It's very hard to find a planet because planets are small and they don't shine their own visible light, generally. They reflect light and they're lost in the glare of a huge thing called a star that they orbit.

Jennifer Wiseman: (18:53)
And so you have to sometimes use indirect techniques if you're going to see if there's a planet around another star. Well, those techniques started to become perfected or improved when I was in graduate school. And so suddenly planets or candidates for planets around other stars were beginning to be detected, often by noticing their gravitational pull on their parent star, or if they orbit in front of their

parent star we see the total Starlight from the parent star dimming a little bit periodically as the planet or planets go in front of it.

Jennifer Wiseman: (19:29)
Well, this ballooned into to a huge avalanche of discovery. So over the last couple of decades, thousands of these planets outside of our solar system, planets orbiting stars, other than our sun have been detected, we call them exo-planets because the exo means outside. They're outside of our solar system. And now we're even doing some first steps of characterizing some of these exoplanets, finding out how large they are, what their temperatures might be based on how far they are orbiting from their parent star, and the nature of their parents star. We're doing statistics on planets now. And we now know that most of these planets are what we might call super Earths or mini Neptunes. They're a little bit bigger than earth, a little bit smaller than Neptune, but there are these planets in the full range from much bigger than Jupiter to smaller than Mercury.

Jennifer Wiseman: (20:36)
So we have learned a lot. And in the future, we're hoping to have even better telescopes that will tell us more specifically, are there signs of habitability and even potential what we call biosignatures, evidence of life activities through observing the atmospheres of some of these exoplanets. So that to me is a very, very exciting development, never before in the history of humanity, in millennia, have we known that for sure, we've imagined it in all kinds of literature and science fiction and everything else, but never have we known for sure that there are planets outside our solar system. We don't yet know if there's life beyond earth in our own solar system or in these other exoplanetary systems, but we're moving in that direction to be able to answer that question maybe in the not too distant future that this whole of astrobiology has grown.

Jennifer Wiseman: (21:30)
And then finally, I would say one of the most amazing developments to me in the last few decades is that really under the understanding of the changes in the whole universe, cosmology, we call it, over the history of the universe. And we can understand this because astronomy is like a time machine. Anything we look at in the sky with a telescope, we're seeing it as it was when the light began its journey to us from that object, not as it is right now. And so when you're looking out vast distances to very distance stars, or very distant galaxies of star, you're seeing them as they were. And with more sensitive telescopes, we're seeing fainter and fainter things like galaxies in distant space. And some of them are millions of light years away. A light year is the distance that light travels in a year.

Jennifer Wiseman: (22:27)
So if you're looking at something millions of light years, this distance unit, you're looking at it as it was millions of years ago. And with very sensitive telescopes, like the Hubble space telescope, we're now seeing galaxies that are billions of light years away. These are little baby galaxies, just starting to form

toward the beginning of our universe. And so we can compare the character of these baby galaxies at the beginning of the universe to galaxies like our own and really see how generations of stars have come and gone and enriched these galaxies with heavier elements. That to me, is a magnificent gift to be able to basically put on time machine glasses and see how our universe has really changed, matured, and become hospitable to life on at least one planet over the 13.8 billion year history since our universe had its spectacular beginning. So those are the things I would say are the most spectacular in my mind.

Jeff Hayden: (23:31)
Hi, I'm Jeff Hayden founder of Denver Institute for Faith and Work and I would like to invite you to become a part of our new monthly partner community. Whether it's a monthly commitment of $25, $50 or any amount, your generosity will support Denver Institute's ongoing efforts to help men and women love God, their neighbors, and society through their daily work, including this podcast. To say thank you as a monthly partner, you will receive a welcome box. You'll have exclusive access to private, digital content, personalized vocational coaching and discounts for Denver Institute content and experiences. To become monthly partners, simply visit Denverinstitute.org/give or see the show notes in today's episode. Thank you in advance for your generosity.

Joanna Meyer: (24:12)
Okay. So I'm going to ask you to think theologically for us for a second, Jennifer, because I hear the ancient history of the universe. And it makes me little uneasy at times because I have been raised to think of humankind as the pinnacle of God's creation. And I look at scripture and I see humankind centered in the story of God's work in the world. And I don't always know how to integrate my faith with this big view of the universe that you're describing. And so I'm wondering how you would respond to a Christian like me that can feel a little bit of unease in bringing my faith and science together.

Jennifer Wiseman: (24:56)
Oh my well, you asked the right question and I feel the same way many times. So certainly I think when we hear these things and see these things that our telescopes are now enabling us to be exposed to it can, and I think should, cause us to have a sense of unease in the sense that we are certainly not physically in the center of the universe. I mean, we've learned a few centuries back that the earth is not in the center of the solar system. And now we know that our solar system is not in the center of a galaxy. And now we know there are billions of other galaxies and none of them are actually in the center. There's no center, we're all moving apart from each other.

Jennifer Wiseman: (25:49)
It's hard to wrap our minds around it. And so there are, in our observable universe, meaning that the light has had time to get to us since the beginning of the universe, we know there's at least something like 200 billion galaxies. And if each one of them has hundreds of billions of stars, you can kind of do the math and you get a lot of zeros in this number of the number of stars that might be out there. And then

if the statistics play out in other galaxies, as they seem to be playing out in the Milky Way, we know that at least in our era, most stars have planets around them. We know the first stars in the universe didn't have planets because there weren't so enough solid materials. It took generations of stars to come and go that in their fusion process, create the heavier elements that were then brought into subsequent generations of stars and enabled them to form with solid discs and planets around them. We can tell from many lines of evidence that our sun is not a first generation star.

Jennifer Wiseman: (26:56)
So how does that make us feel? Well, in some sense it can, I think rightly make us realize that we are, as scriptures say we are dust. That we are not significant because of our own place in the universe, or even in time. I mean, to me, these vast eras of time are hard to wrap my head around too. And this is no surprise. The scripture or says this, but the scriptures also teach us that the heavens declare the glory of God and the skies proclaim the work of his hands. I look at things like Psalm 19 and Psalm 8. And then even if you look toward the latter chapters of Job, you see some beautiful passages about God's handy work in the sky and in the heavens. So it's not about us. We need to learn, first of all, that the universe is there for God's glory.

Jennifer Wiseman: (27:58)
And then we also learn something about significance that's not based on our place or our time span, but rather on the gifts that God has given us. Gift of love, we are told that we are loved that God knows the number of hairs on our head. And even the Psalms, if you look at Psalm 8, the Psalm first goes into this sense of insignificance. When I look at the moon and the stars that you've created, what are mortals that you're mindful of us, what are human beings that you care for us? There's that that same feeling. And now we have that even more, because we know so much more about the universe. But then that Psalms goes on to say, and yet you've made us just a little lower than angels and you've given us dominion over the works of your hands.

Jennifer Wiseman: (28:50)
Now that wasn't meaning a hands on dominion because the Psalmus knew that we can't touch the stars. And at that time we couldn't touch the moon, of course we've been able to do that, but manipulating the universe is not something we had have that kind of dominion over. So I think of that kind of dominion as understanding God has given us the ability to look and observe. And I think science fits into that gift of dominion. And we should use our dominion to be stewards, stewards of what we can touch on our own planet earth and then stewards of this knowledge that God is enabling us to have through science and through the tools of science. For Christians that should give us a deeper, richer sense of amazement of God's creation. And in any case, we should use this knowledge to help other people be awe struck and amazed and lift their spirits.

Jennifer Wiseman: (29:48)

So I think a sense of feeling insignificant is probably a good thing, but I think it fits right in with a biblical faith of correcting that our sense of significance is that the universe is not about us, it's about God. In fact, we're even told in the New Testament that it is the word of God, meaning the logas, the Word capital W that that was made flesh in Jesus Christ, who's upholding the universe. I mean, the universe was created through Jesus Christ. I mean, it's very, very, this is not a scientific statement I just made of course, this is a theological statement, but it's something that brings it all together.

Jennifer Wiseman: (30:31)
And when we think about the body that Jesus had, when he was made manifest on earth, having cells that had atoms in those cells that were actually and we believe forged in stars, then it brings a whole new connection between us and our understanding of our bodies with the rest of the universe. We're part of this ma majestic creation. And we can be very grateful for that. And yes, awe struck. And I hope that we realize that God knows a lot of things going on in the universe that we don't yet know about.

Brian Gray: (31:06)
Jennifer I've just listened and felt the gift that your perspective is offering to those of us who are in the church, who are not working in the sciences. Gifts of curiosity and cosmic wonder and awe that your perspective on the sciences can offer to the church. Those are gifts. But I was really pleased to hear about your very quick anecdote about your church that you grew up in. Could you, not all of us who are listening work in the sciences, can you help us to think about how our faith communities today can support developing and working scientists in their work? How can we be something of a gift back to Christians faithfully working in the sciences?

Jennifer Wiseman: (31:54)
What a great question. I think we need to recognize that whether or not you are a scientist proper, science and technology affect about every aspect of our lives today, whether you're thinking about it or not. It affects agriculture, it affects the food we eat, it affects communications, it affects healthcare. I mean, obviously through this pandemic, we are recognizing the connection of of research and science with health and wellbeing. It affects education. It certainly affects things like space exploration. It affects all kinds of aspects of our lives and our wellbeing, and it affects the ministries of the church. So if a church is going to do work to help people in impoverished situations have food and clean water, we need to understand the science of agriculture and responsible food production. We need to understand the science of water. We need to understand the interactions of things.

Jennifer Wiseman: (33:07)
Of course, we have a relationship with other creatures on this planet, animals, plants, what we do affects their lives and how we treat them affects our lives and what we do affects their habitat and so forth. And so we need to understand our relationship with other creatures and what are other animals for? Are they just food? Are they lab animals? Are they companions? Are they fellow citizens? Trying to

understand these other creatures of God and how to treat them respectfully is another part of this. So science already affects everybody's lives already. And it behooves the church, I think, to make science a positive part of natural congregational conversation. And it doesn't have to be weird science. There doesn't have to be some kind of what I would say, Christian different science. We really need to welcome mainstream science into our churches because truth is truth.

Jennifer Wiseman: (34:23)
All truth is God's truth. Now for the Christians, for churches how we understand the philosophical in interpretation of that science or how we put that to work can be quite different from someone who has a different belief system, but let's welcome science. And this is also important for young people to see that the church is relevant. Science is something that is respected in our culture and scientists are often seen perhaps more than they should be though, but as people that can be trusted authority figures. And if the church kind of exudes a sense of indifferent or distance, or even suspicion toward science, it's not benefiting the ministries of the church. And it's certainly not benefiting the young people growing up, feeling like, well is my church relevant? Is my faith relevant? Or is it an archaic thing that isn't relevant to what's needed in our world today?

Jennifer Wiseman: (35:20)
So I think churches would do well to have a welcoming atmosphere towards science and scientists and people working in the fields. But even for those who are not professional scientists to have these conversations, to know where to look for reputable, scientific information. Not every source of science out there, even in the Christian world is reputable and solid. So make sure if I need heart surgery, I will go to somebody who has training in doing heart surgery from a reputable institution. So same thing, if you're looking for information on astronomy or biology, make sure you're looking to people who are actually working in that field and have a reputation of working in mainstream science. And then I think we should encourage young people that going into a science related career is an admirable thing to do, that you can serve God in the sciences, either in basic research, just trying to understand the fundamentals of how the natural world works through physics, through biology, through chemistry, and also through applied sciences, applying this knowledge to more practical service of others.

Jennifer Wiseman: (36:33)
We need both kinds of scientists and engineers. We also need teachers who are really excited about learning what's going on in the forefront in science and relating that to students. We need preachers and religious leaders who are excited about science. Science should not be either something that's just seen as irrelevant to the church, nor should it be seen for primarily as a source of contention and debate. I think primarily, first we need to come into a view of the natural world with a sense of awe and wonder, and science is telling us more and more that should lead to a sense of awe and wonder, and that should inspire us to a sense of praise. And then we can get into the discussions of kind of difficult questions and

all of that. But I think science should be made more welcomed, informed science in the church, and that would benefit the world.

Joanna Meyer: (37:30)
We are just scratching the surface of where this conversation could go, which is why I'm so excited that we'll get to see you here in Denver, in November, Jennifer. So if our listeners are intrigued, I encourage you to be checking out the Denver Institute website. We've asked Jennifer to explore this theme of wonder and worship, how the work of scientists can be a gift for the church. So I know you'll want to hear more from her. All that information will be on the Denver Institute website and Jennifer, thanks for your time today. Thanks as well for traveling to Denver to join us in November. We'll see you in a few weeks.

Jennifer Wiseman: (38:01)
My pleasure. Thank you.

Joanna Meyer: (38:06)
I hope you enjoyed today's conversation with Jennifer Wiseman. As we were wrapping up Catherine Sangrin, our podcast producer looked at Brian and I and said, did anybody else tear up there? Because in the middle of the conversation, showing Jennifer's technical expertise, we realized that she's a woman who invites us to understand a God who's both powerful and creative, but personal and loving as well.

Joanna Meyer: (38:26)
If this conversation intrigues you, I invite you to join us Thursday evening, November 18th, for an event in person here in Denver, and also online, if you're outside of Colorado, called Wonder: Sciences Gift to the Church. Jennifer will be our keynote speaker, joined by Philip Yancey, an area pastor, talking about the integration of faith and science.

Joanna Meyer: (38:45)
I also encourage you to check out a free three session online course called Bridging Faith and Science with Praveen Sethupathy, who is the Director of the Center for Vertebrate Genomics at Cornell University and a dear friend of Denver Institute. One of the most thoughtful faithful scientists I know. Both resources will be linked in our show notes. And I look forward to talking to you in two weeks.

Joanna Meyer: (39:08)
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