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Interview with Paul Overvoorde, Professor of Biology

Paul Overvoorde

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MACALESTER COLLEGE
Macalester College Archives, DeWitt Wallace Library
Oral History Project

Interview with: **Paul Overvoorde**
Professor of Biology, 2002-present

Date: **Monday, June 16th, 2008, 9:00 a.m.**

Place: Macalester College DeWitt Wallace Library, Harmon Room
Interviewer: Kayla Burchuk, Class of 2010

Interview run time: 33:59 minutes

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Interview with Paul Overvoorde

Kayla Burchuk, Interviewer

**June 16th, 2008
Macalester College
DeWitt Wallace Library
Harmon Room**

[00:00]

KB: Okay. My name is Kayla Burchuk and I am a Macalester College student, Class of 2010, conducting interviews for the Macalester Oral History Project. Today is Monday, June 16th, 2008 and I'm interviewing Paul Overvoorde, Professor of Biology, in the Harmon Room of the DeWitt Wallace Library. So if you could please state your name, when and where you were born, and how old you were when you first came to Macalester.

PO: I didn't know there was going to be math involved with this. [laughter] So, my name is Paul Overvoorde. I was born on March 31, 1968, and I was...boy, thirty-three, I guess, when I came to Macalester.

KB: Great. And what is your educational background and what work had you been engaged in directly prior to coming to Macalester?

PO: So, my educational background is that I grew up in Grand Rapids, Michigan. I went to Calvin College, which is a similar school to Macalester in terms of being a liberal arts institution, but it's quite a bit bigger—it's about forty-five hundred students. And my dad actually taught there for almost thirty years, in the Art Department interestingly enough. And from Calvin I

went to graduate school at Washington State University in Pullman, Washington, and then after getting my PhD there I went to UC Berkeley and the U.S. Department of Agriculture Research Station in Berkeley, and did a postdoc there for about six years and then came to Macalester.

[01:38]

KB: Wow. How did you come to study biology at first and how did that end up becoming your career?

PO: I started getting interested in biology when I was a young kid and used to break a lot of bones. I spent a fair amount of time in ER rooms, and so science and understanding medicine and what was going on was something that started to intrigue me. And then I thought, oh, biology was something fun, it was something that came relatively easily, and then I went to school and had a professor that really stimulated my interest in plants and from there things just continued to move forward. And that's how I ended up pursuing a career in biology basically.

[02:24]

KB: When did you first come to Macalester and how did you become a faculty member?

PO: So I arrived at Macalester actually in the middle of winter, in January of 2002. So we—my oldest daughter, Mia, was born in August of 2001, I was hired during the search process the year previous, and then came to Macalester during that January and taught that first spring semester, and then started my way towards the tenure process in the fall of that semester.

KB: Great. And what drew you to Macalester?

PO: Well, there were lots of things. As with many jobs, I think timing, what was available, what my expertise was, what people were looking for, and so I ended up applying to a number of liberal arts colleges. I, again, having grown up in a situation where I was around a liberal arts college, my entire upbringing was something that I really enjoyed and embraced. I understood the value of it and really was committed to coming back to an institution like Macalester. In particular, the thing that ended up bringing me to Macalester was, you know, going through the interview process and being able to come to campus, talk to a number of faculty, staff, students in particular, and getting a chance to see this place in action and see that it really sort of lived up to reputation that it had elsewhere, was really what ended up bringing me here ultimately.

[04:01]

KB: Interesting. So speaking of your visit, that was part of the hiring process. What was the hiring process like overall?

PO: Grueling. [laughter] I mean just in terms of the—you go through a lot of different things, putting together documents and so forth to get the application put together, and then to actually get to a point where you're coming for an interview—as anybody that's been through it will tell you, it's just a very intensive couple of days. And again, here, one of the things that I really enjoyed was the opportunity to not only give a research seminar but also to engage and give a lecture in a class and to see what the students are like, how they responded. Those are things that were very positive experiences. And that was part of what made it relatively intense. And the

other part was the turnaround time. So I ended up getting a phone call just before Thanksgiving and it was about a week, I think, before Thanksgiving, and the request was could I come for the Monday right after Thanksgiving to come and do the interview. So that's a pretty short amount of time to actually pull things together, but it was a lot of fun.

[05:19]

KB: That's great. You obviously visited Macalester during the hiring process, but before that had you had any knowledge or experience with the school at all?

PO: Not directly. The reputation is certainly something that is out there. Ran into other people that were alums from Macalester, but I had never been physically here. My closest link, actually, was my younger brother is a very good track athlete, and he actually came and participated in the Division III track championships, I guess, that were held here at Macalester. And that was the most direct connection that I actually had with the place before coming for my visit.

[05:59]

KB: Great. And then, when you finally got on campus what was your first impression? Of the campus, the students, administration and faculty, et cetera?

PO: So it was very positive. I mean, it's a beautiful place, it's a wonderful campus. I love how it's nestled inside of a residential area; I think that's beneficial in some ways to make sure it doesn't grow too big. There's some very specific size constraints which present challenges, but overall I think that's something that keeps this place somewhat distinctive. When I arrived here,

Kagin, which I guess used to be the food service place, had just been renovated, and the new student center was just going up; in fact it wasn't complete yet when I was visiting. And so those were things that were emerging or, you know, changing physically as I was here. The students were—again, when I got a chance to visit with them, very engaged, very bright, very inquisitive, and those are all characteristics that make for a lot of fun when you're teaching. I mean, those are the kinds of students you love to interact with and the kinds of opportunities that you hope to have as an instructor.

[07:19]

KB: Great. And then, in terms of the faculty and administration, what were your impressions of them?

PO: So again, very positive. The Biology Department is relatively large; there were a lot of people to meet and get to know when I first came to campus. Jan Serie, who was the director of the CST [Center for Scholarship and Teaching] and is now retiring, was in the department still, was just making that transition. Lin Aanonsen was the chairperson and she's been chair since I've arrived at Macalester. So all of these individuals, very, very competent, very well-respected, and very engaged, not only in the students and the teaching, but also very much aligned with trying to move forward research, to bring in new approaches to not only the kind of research that they did, but also how that then transfers into the classroom. So those are very, very positive things. When I started Mike McPherson was the president and Dan Hornbach was provost, and again there seemed to be, you know, a lot of—I mean, it's very hard when you first come in to get a solid sense of what the dynamics or the politics are within the faculty—but it

seemed to me that there was a great—that one of the hallmarks here is that people have a great respect for individuals across the faculty as scholars. And that's something that is a good thing. But it also tends to lead to somewhat fragmentation, where people are doing their individual research, and so the feeling of collegiality or the sense of community is something that tends to, you know, have this counterbalance effect. So yeah, but generally very, very positive impressions, again of the faculty and of the staff. I mean, very productive.

[09:23]

KB: That's great. And how would you describe the relationships between students and then faculty and the administration?

PO: So, again, it seems to me that at the time there was some distrust between the students and the administration. I guess that's always kind of the case on college campuses. And yet there also was, I think, a real desire from the administration and certainly from the faculty to have, you know, to hear students' voices and have those inform the kinds of decisions that are going on. But there were some, it seems to me, there were some tensions—and specific examples elude me right now. But between the faculty and the students, again, it seems like one of the hallmarks of a place like Macalester is that faculty members tend to get along quite well with students. They're very accessible and so students take advantage of that. And that's one of the things that I think, again, most faculty really enjoy.

[10:30]

KB: Yeah, definitely. And then how would you describe the political and cultural climate when you first came to Mac?

PO: So is that in terms of the students or the...?

KB: I guess both, yeah.

PO: So I think, I mean, when I came here I moved from Berkeley, California and so one of the things that actually my wife and I were really quite hesitant about, quite frankly, of moving back to the Midwest. Which is one of the things we were committed to because we wanted to be closer to family, but it was one of those things that also we were really worried about what the environment would be like. And we had some of those fear allayed when we read an article in the New York Times trying to compare places across the country, and one of the comparisons was if you wanted to find a place like Berkeley in terms of diversity, for different populations, for ethnic backgrounds, those sorts of mixes, it turns out St. Paul—or the Twin Cities area, Minneapolis-St. Paul—are actually the closest link, if you're looking for some other place that's going to be most similar. So that was a good thing, and it also, I think, tells you something about the climate, at least at that time, in terms of the politics and the somewhat left-leaning regions, at least inside the urban doughnut [laughs]. So I think that that captures some of what it was like, at least when I came.

[12:02]

KB: That's great. And then just to discuss—we already discussed the Biology Department a little bit, but before you came to the department did the department have any reputation specifically within the field of biology?

PO: Yeah, I think there were a couple of things that really stuck out. One of them was, you know, sort of a real leadership role in terms of curricular innovation. So one of the big changes that was happening at the time and continues to actually be something that people are trying to incorporate into the biology curriculum is a real hands-on, experiential learning. So rather than, for instance, having labs where you look at a bunch of dead slides and you sort of know what the answer is going to end up being, to make it more investigative. Inquiry-based is sort of a catchphrase; where students are able to design their own experiments, and faculty then serve more as a role of helping students in that discovery process, which is much more of what science is actually like. And so by doing that you get a much better sense of what the discipline really is, I think. So that was something that was definitely out there. And Macalester, I think, tends to still be known for those kinds of curricular innovations, making those kinds of changes.

[13:22]

KB: Have the classes or curriculum in the department changed since you've been here?

PO: Yes and no [laughter], which is—I think it's sort of an inside joke in the department that things, especially—so, in the Biology Department, really, things can sort of be separated for better or worse in terms of the cellular and molecular side of things, and then more the ecology, whole organism part of things. And those two things come together, but one of the challenges is

to establish an introductory curriculum where each of those areas gets thoroughly introduced, and that people can't come in and just have interests in one side and not get exposed to the other pieces. Because if you did that, you'd really be missing out on a lot of what goes on in biology these days. And so, I teach on the cellular/molecular side of things, and those courses involve a cell biology and a genetics course. And so when I first arrived, there was just that: there was a cell biology and then a genetics course, and each one of those had their own lab. About four years after I was—yeah, three or four years after I was here, we started changing those around and we actually merged those two courses into a “Cell Biology & Genetics I” and “Cell Biology & Genetics II” courses. And we went along with that model with the hopes of trying to break down some of the big gaps that we started seeing in between people that were coming in very well-prepared versus much less well-prepared. And as we have gone through that for about three years it turned out that that didn't really seem to be addressing that core issue, and it sort of was diluting what could be being covered and the way that these things could be taught. So now, just this year, we're going back to having a separate cell biology and genetics course, and things are back like they were about four or five—or about six years ago when I first came. So, in this cyclical process, trying to figure out the best way to cover these areas, especially as science continues to change and the amount of information that's available continues to explode. Trying to change the way that that actually gets taught is something that all of the faculty are very, very committed to in the department and that makes it fun, but also you realize that there's no right way of doing it. That there's no one single model that's ultimately, I think, going to prevail, but something that needs to continually be changed and revisited.

KB: Wow. It sounds like you guys are so involved and kind of constantly revising the curriculum. That's really great.

PO: Yeah. It's a challenge, but it's—I mean, it takes a lot of time and energy. But I think the other thing that's happened is there's a real call nationally to make science education something that's more reflective and also more insightful, and using some of the information that's come out about how people learn and what some of the good pedagogical approaches are.

[16:32]

KB: That's really great. And speaking of courses, what courses have you taught since you've come and have they changed?

PO: Yeah, so again I've been involved in teaching these introductory cell biology and genetics courses. At the intermediate level I've taught a plant physiology class, a molecular biology and genomics course. My colleague and I, Libby Shoop in the Computer Science Department, have worked and exchanged essentially lectures in different courses. And so we're really interested in creating momentum around the area of bioinformatics, taking advantage of these large data sets and then using computers to essentially help us to understand and model what's going on. So I've also taught, one of my favorite classes to teach is "Research in Molecular Biology." So those are really small courses, capped at five students, and in those courses we essentially attack a problem that is related to my research interest and we work on that for the semester, and the format is very much like running a lab. And then the last class that I have taught for three times now is an advanced genetics class, and that's also one that I really, really enjoy teaching.

[17:52]

KB: That's great. Just to kind of switch back to kind of some institutional discussions, you recently received tenure.

PO: Yeah.

KB: Could you describe your experience with the tenure process?

PO: Yeah. I think it's actually still a good process. I mean, there's certainly places that, where there's a lot of discussion about whether tenure's a good thing to have, how transparent the whole process is. But I found the experience to be good. But I'm also very much a glass half full rather than half empty kind of guy. And so what I took away from that process was that going through the pre-tenure review and the tenure process gives you an opportunity to really reflect on where it is you've been and where it is you're heading. And so those things are very valuable; I think they inform how you approach what you're doing in the classroom as well as in the lab. And they do give you a chance to sort of mark the passing of time with some serious reflection, and that's something that I think is good. On the other hand, there are certain aspects of it that, you know, are more stressful or stress-inducing than they might need to be. There's sort of a feel, I think, to it that you're joining the good old boys' club when you get through the process. And I think that's the reason that there's a lot of worries that have come out for why that process—or a lot of discussions at least, for why that process is something that should be revisited. And I know that's something that, again, institutionally is always being looked at, in

trying to sort out the definition of scholar versus teacher, and how it is you define excellence in each of those areas. And that's definitely, you know, the characteristics that people are looking for in that process.

[19:50]

KB: Yeah, speaking of defining excellence, what's your understanding of the criteria that go into giving a professor tenure?

PO: Well, I mean, there are things that are written down in the faculty handbook and there are things that get listed that way. So those criteria get spelled out in terms of—in the teaching realm of things, I think, a lot less clearly. But it's things that are based on evaluations that come from students, which I think don't necessarily actually measure how good an instructor you are, but how popular you are. And so I think there are things that have to—that are being considered, in terms of the evaluation, for learning how it is that we might more objectively assess whether somebody is a good instructor, devoid from whether they're actually liked by, or students have enjoyed a particular course. Not that those two things you would expect to be necessarily separated, but there certainly are new ways of looking at course evaluations and the college is moving that direction to implement some different ways of getting some more information that way. And then for the research side of things, I think there's still a very heavy emphasis on publications, for being able to publish things in a scholarly peer review journal. And again, I think these are discussions that are getting revisited. The language that's actually in this handbook is something that's getting looked at this summer, and whether or not you need to be publishing in a peer-reviewed journal as necessarily what defines scholarship, or if there are

other ways that you can maintain active engagement with the discipline without these peer review publications. Or using publications in an education-related journal, or trying to increase the way that the, you know, learning about teaching and the way that learning happens in a classroom is evaluated.

KB: Great. And congratulations.

PO: Thank you.

[22:00]

KB: Speaking of research, what personal research and publishing activities have you been involved in lately, since coming to Macalester?

PO: Yeah, so I started out research-wise very much an extension of what I was working on as a postdoctoral fellow in Berkeley. And that was trying to understand how the plant hormone auxin controls plant development, basically. And so there were a specific set of genes that are important for this process to happen. So, when the hormone gets put on, these genes are activated, which lead to the production of certain proteins that controls, for instance, where a new lateral root will get formed or a new branch comes out in a tree. Those are some of the classic characteristics associated with this hormone. And so I started out on that vein, very much focused on trying to understand what the role of a few genes were, and it really didn't go very—I mean, it worked for me the first couple years to get funding, but it wasn't a project that students were intrinsically interested and fired up about. So after my third-year review I shifted gears and

fortunately have been able to work with a couple of faculty members upstairs in the Chemistry Department, Becky Hoye and Ron Brisbois. And we've been working on a project that's referred to as chemical biology, or chemical genetics, and that involved essentially taking advantage of advances in the synthetic chemistry world to try to understand very basic processes inside of a plant. So the idea is that what we've been able to do is to use some materials that have been published by other groups, wherein small chemical molecules have been identified that actually block the ability of the plant to respond to auxin. And so, similar to when you get a headache you end up taking aspirin, aspirin contains a small chemical molecule that gets in your bloodstream, goes through your body, ends up interacting with very specific proteins in your brain that are creating molecules that cause pain, this small molecule in aspirin then blocks that protein from being able to do its function. So in an analogous way, what we have done is been able to take these small chemical molecules and now apply those to plants, and we can start to regulate where and when the plant actually responds to the hormone, and by doing that the goal is to try uncover more pieces or components that are involved in that perception of that response to the hormone.

[24:39]

KB: Great. And is that the extent of your interdepartmental collaboration with your biology projects?

PO: Yeah, I mean I—

KB: Oh, also with Computer Science. That's great.

PO: Yeah, with Computer Science. Those two things have really been the big ones. And fortunately, I mean, looking towards the future, one of things that I'm very excited about is a couple of new hires in the Math Department. There's a couple of people, Chad Topaz and Andy Beveridge, who both are very interested in collaborative work and also in looking at modeling of biological systems, using mathematical models to try to account and explain what's going on in a biological system. And so there's a lot of great opportunities there, I think, as well, not only, you know, research-wise, but also for new curricular pathways or opportunities for students, which is really important as well.

[25:31]

KB: Yeah, that's really exciting. You mentioned that students get involved in your research in small seminars. Can you tell me anything else about student involvement in your projects?

PO: Yeah, they're absolutely critical. I mean this is one of the reasons I love teaching at a place like Macalester. Just since I've been here I've supervised during the summertime over twenty students, and during the school year I've had at least, each semester, one or two students working in the lab. And so, they're very—it's a fundamentally important link for me; it's something I believe very strongly in. It does slow down the pace at which things get done because, during the summer for instance, instead of me going and using my years of experience and training to go and get things done, you have to slow down, and you're teaching people all the steps along the way and so it slows down. And just by the time people most often really catch on and get a real solid grasp of what's happening, they're graduating. [laughs] Which is a great thing,

because that's one of the things I really love is to watch, you know, students that have done honors projects and/or worked in the lab go on and be enrolled in a lot of different graduate programs. And to see them going and doing great things is fantastic. So they're very heavily involved; publications since being here have all involved students. And it's something that I really like because it also helps me to see the links between the research and the teaching. So, opportunities to take what's happening in my research area and transfer that into new opportunities in labs and so forth in the classes that I teach.

[27:18]

KB: That's great. Have you been involved in any committees or outside activities of the college not involved with teaching?

PO: Pretty much no, other than our noon basketball game [laughter] which happens on Monday, Wednesday, Friday, which is a lot of fun. But yeah, in terms of, not so much—so again, the majority of my time and energies have been really geared towards the teaching as well as the research, and the research being a mechanism to engage students. So a number of grants that have been funded by places like the U.S. Department of Agriculture, the National Science Foundation, the Merck, American Association for the Advancement of Science Group. And so those have really been where my primary energies have been used. And then again on the teaching side, that's one of the ways that I've tried to spend time on campus, is being very heavily involved in a number of programs that have been offered by the Center for Scholarship and Teaching here in the library.

[28:24]

KB: That's great. What do you most enjoy about being a faculty member at Macalester?

PO: Oh, it's the best job on the planet I think, [laughs] so it's hard to pick one thing. Certainly high quality colleagues, having a very functional department, really enjoying the people that I work with is a very big plus and makes coming to work each day a lot of fun. Interacting with students that we have from around the world is another very, very significant plus. There are a lot of places, again, I think that you could find a collegial environment and be able to enjoy the work you do. But I think one of the things that makes Macalester a bit distinctive is this—not only the quality of the students, but also the kinds of students who tend to come here, wanting to fit in their education with what's happening in the world and how they might be able to impact that. And then to add on to that, students that are coming from all sorts of different countries really makes it a lot of fun and very stimulating and challenging environment to be operating in.

[29:29]

KB: That's great. If you could change a few things about Macalester, what would they be?

PO: Again, I'm sort of a glass half full kind of guy so there's not a whole lot of things that immediately jump to mind. I think one of the things that is happening, and certainly is a positive thing that I like to see changing, is the emphasis on collegiality, getting faculty members from different departments and across campus being able to interact with one another and building a sense of community. That, you know, a place like Macalester is distinctive, we're all here because we buy into the mission of the place. And yet there aren't, oftentimes, a lot of

opportunities to share those interests and bring to bear a lot of discipline-specific training and share that across, with different people. And so, that's definitely a move, I think, in the right direction and something that will benefit greatly. The other piece that is, again, ongoing changes, is the faculty governance. And that's related to this issue of collegiality, I think, where the idea being that you know, people—it's hard to have discussions about particular topics sometimes and oftentimes it's having a time and a space in order to actually do that. And that's one thing that doesn't exist on campus, is a faculty gathering space. And that was something that I think would greatly enhance a lot of these kinds of issues.

KB: Yeah, I know in my research, there was a really legendary faculty lounge for many years before, which was great. They should reinstate that.

PO: They definitely should. That's one of the great things that happens on college campus, I think, as a place for people to get together and just share a lunch even.

[31:20]

KB: Yeah, that would be wonderful. What are you looking forward to in the coming years at Macalester?

PO: I think there's a lot of really fun things going on. I think, I mean again, sort of having established, you know, a reputation and a draw from really good students, sort of the changes on campus with the new athletic facility going up, the new Institute for Global Citizenship, I think these things are going to inspire a lot of changes and impact the way that people sort of approach

coming to Macalester. I think the athletic facility, again, has that opportunity to create common space; I mean, there's a place for people to gather there. And hopefully it also will increase the number of people that make some time to get some exercise, which is always a good thing, I think. And I think the Institute for Global Citizenship has that potential to spur people to think about how their discipline, how their activities, really feeds into this common mission of the college, and I think will provide a very visible landmark. So I think those things are going to be very, very positive.

[32:38]

KB: Yeah. And before we close, do you have any standout experiences or memories thus far that you'd like to share? Or anything additional you'd like to add to the record?

PO: You know, I think for me so far the thing that, again, has given me the greatest pleasure has been watching students go on and then hearing back from them. Or, the one experience that stands out in my mind is the first honors student that I had going off to graduate school and then thumbing through a journal one day and finding that she had published this very wonderful paper, and that was really a very, very positive experience. I mean, those are the kinds of things that you know, you don't see from day to day. Oftentimes teaching is something that, I think, is planting seeds, and you don't see, necessarily, the fruits of those efforts for many, many years. And so the thing that I've really enjoyed is having been around long enough to start seeing some of those things come back, and really sort of reinforce your efforts on a day-to-day basis. That really has been a lot of fun.

KB: That's great. Well, it's been a pleasure talking with you, Paul. Thank you so much for participating in the project, this has been really great. Thank you.

PO: Thank you.

[End of Interview, 33:59]