**Conversations with Legends in Cardiac Clinical Electrophysiology**

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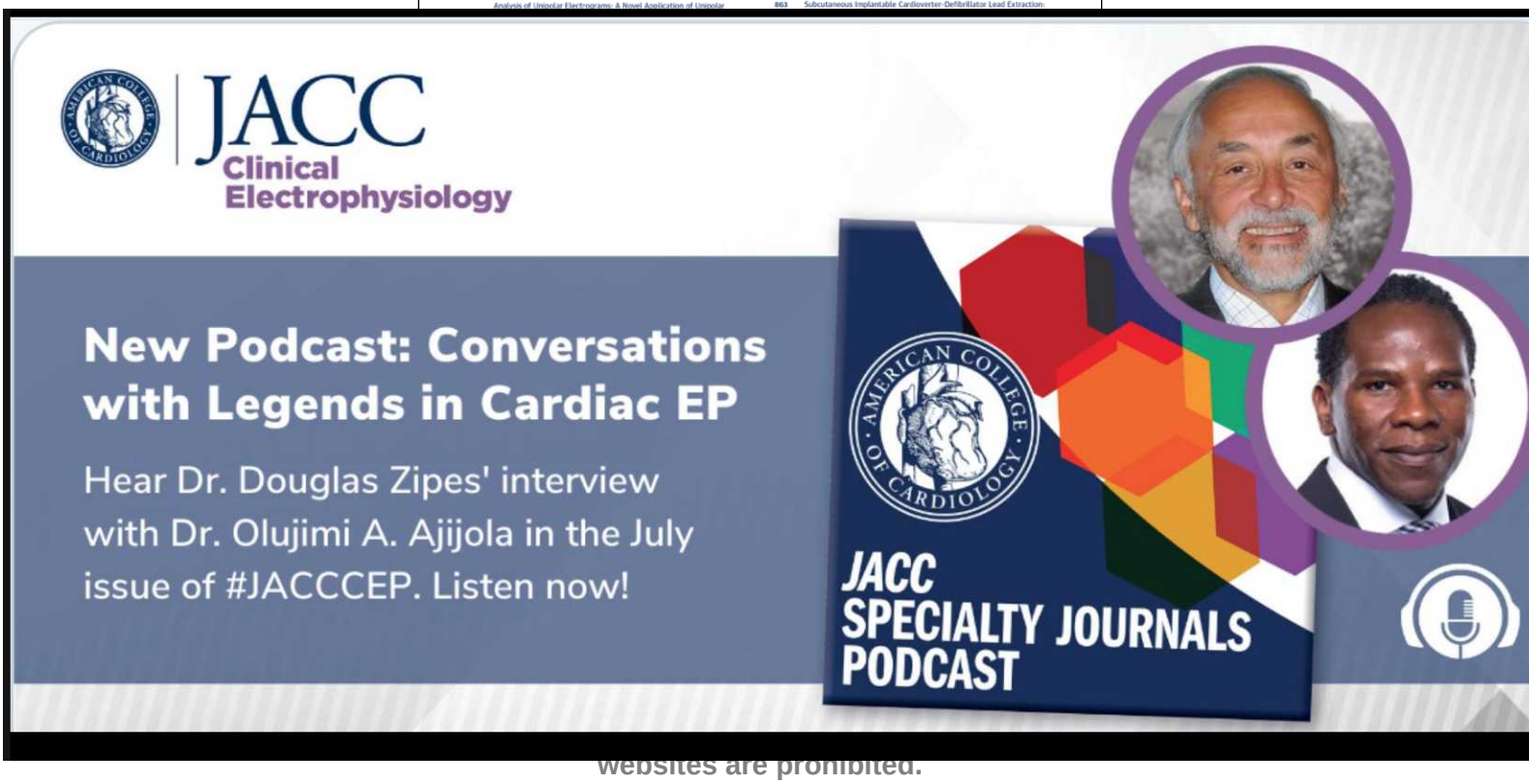
The Podcast cited in the flier below is not readily available. Doug has provided the transcript on page 2 as the major content of this pdf.



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CONVERSATIONS WITH LEGENDS IN CARDIAC ELECTROPHYSIOLOGY

# Conversations With Legends in Cardiac Electrophysiology

*JACC: Clinical Electrophysiology* Section Editor
Olujimi A. Ajijola, MD, PHD, interviews
Douglas Zipes, MD, a distinguished consulting editor for *JACC: Clinical Electrophysiology*

We inaugurate this feature of *JACC: Clinical Electrophysiology* with an exclusive interview of one of the foremost physician-scientists in cardiac electrophysiology, Dr. Douglas Zipes. He has made enormous contributions to the field, ranging from "cells to the bedside" and has played a pivotal role in shaping the field of cardiac electrophysiology as we know it today. Dr. Zipes is also a distinguished consulting editor of *JACC: Clinical Electrophysiology* and a Master of the American College of Cardiology.

**OA: Welcome, Dr. Zipes.**

DZ: Thank you, Olu. It's a pleasure to be here and to talk with you.

**OA: Thank you. I would have started by asking you to say something about yourself that our listeners would not have known or would not associate you with, but you have published your memoirs, *Damn the Naysayers*, which I found to be a fascinating read. I certainly encourage our listeners to take the time to read it. In your memoirs, I noted several difficult choices you made, regardless of the backlash, that turned out to be the right decision. Could you tell us what factors or principles, in general, guide your decision-making?**

DZ: Olu, for me as a physician, the most important factor is to put patients' interests first. They come ahead of mine … that was the principle by which I functioned as a clinician. That was instilled indelibly when I was in training at Duke with Dr. Stead as chairman of medicine. He made certain that patients' interests were first and foremost. With that, for me, also comes integrity, the most important characteristic of how I think of myself. Integrity is absolutely critical. If I can't look at myself in the mirror and be content with what I see, then I'm doing something wrong.

**OA: Along the same lines, if you were to think back on how you ended up in the field of cardiology/cardiac electrophysiology, how did you choose this field? As a second question to that, if you had not picked the field of medicine, what do you think you'd be doing today?**

DZ: To answer the second part first, I've always been intrigued with paleoanthropology, the history of man, and the discoveries of how we began with apes and developed into hominids. I remember so vividly on a safari trip to Tanzania, being in Olduvai Gorge, where the Leakey family, particularly Mary Leakey, had made so many important discoveries about who we are, and where we came from. One of the things that so struck me, and I still get chills today thinking about it, was a cast of footprints that she had discovered in 1976 near Lake Laetoli, and it was the footprints of an adult, probably a mother, and a child walking side by side….

**To hear the full interview, please log on to** https://electrophysiology.onlinejacc.org/podcasts

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They stop and look around, and then continue. This was preserved in the volcanic ash there. Seeing those footprints from 3.7 million years ago, and thinking about that mother and child walking along, just blew me away. So, paleoanthropology clearly could have been a career I might have pursued. In terms of picking cardiology and electrophysiology, one of the things that so intrigued me was that clinical manifestations could be explained by understanding basic mechanisms. So, for example, if the second heart sound moved paradoxically with inspiration, it was due to a left bundle branch block, and I could explain that. Understanding mechanisms and then applying that understanding at the bedside was what put it all together for me.

**OA: Fascinating. If you were to pose a challenge to the field of cardiac electrophysiology, for the future, what would that be and why?**

DZ: Well, as you know, very close to your own research, we have 2 major areas of challenge in cardiac electrophysiology. One area is sudden death, being able to identify the individual at risk, and do something about it. The second is atrial fibrillation and transitioning from what we thought was a benign arrhythmia to one associated with important morbidity and mortality. Those 2 areas are major challenges for cardiac electrophysiologists and have been around for a long time. One of the exciting developments that I see in the future is noninvasive electrophysiology, including a noninvasive identification of arrhythmogenic areas and noninvasive eradication of that particular site. Indeed, there are preliminary approaches being pursued to both mapping and ablating noninvasively. I see them as major developments within a relatively short time that will revolutionize cardiac electrophysiology.

**OA: Very interesting. If you could think back to your own work, and highlight your favorite published work, your favorite manuscript, what would that be? Could you tell us a bit of a personal story behind that paper?**

DZ: There are really a number of them, but one that I'm very fond of telling was identifying concealed WPW because it goes back to when I was a fellow with Gordon Moe in 1970. Gordon postulated that bypass tracks had to be able to conduct in one direction. He had demonstrated the importance of myocardial mass on conduction, showing that a large area of heart muscle could conduct to a small area but not vice versa. He hypothesized that WPW could have retrograde conduction from the large ventricular mass to the atria without anterograde propagation over the accessory pathway. He and I talked about multiple ways to explore this using vagal stimulation, assuming that the accessory pathway might be vagally innervated. To make a long story short, I was studying a patient who had an SVT without overt accessory pathway conduction. I would start and stop the SVT with atrial or ventricular pacing. In stopping the tachycardia, I paced the ventricle randomly, and eventually the tachycardia terminated. Back then, we recorded the entire EP procedure on photographic paper, so I had to wait until my technician developed the paper to be able to study it. That happened the following day, a Saturday morning. I laid down calipers and I was mapping out intervals, and I saw that during tachycardia, the A-A interval shortened at a time when I stimulated the ventricle but His was refractory. It was a lightbulb that flashed on, when I realized that was how you could tell there was an accessory pathway. Because the impulse conducted from the ventricle to the atrium when His was refractory, there had to be an alternate route bypassing the AVN-His.

**OA: And that is something that has become a commandment in electrophysiology today. Thank you for that. So, if I were to ask you, many folks are starting their journey in cardiology and cardiac electrophysiology, what advice would you have for this next generation of physicians, physician-scientists, and scientists that essentially look to emulate you and your career?**

DZ: Well, one of the most important things is to not lose sight of is family. Particularly when you are young and trying to start a career, one becomes obsessed with the science, either clinical or basic, and sometimes you forget about family. In the final analysis, family is really what's important. So I tell young people today, don't forget about your family. That's critical. Spouses, children, whatever it is. A second piece of advice is to find a good mentor, someone who is an expert, but also interested in you and helping to further your career. And then I think it is important to try to become expert in a very narrow area. None of us really can be expert in everything. And if you really want to further your career, particularly in academics, picking a small area and becoming expert in it I think is very rewarding. Now, obviously, if you want to be a broad-based clinician, that would not necessarily apply to you. So, it really depends upon the individual and what he or she wants.

**OA: Terrific, wonderful advice for our junior trainees. To begin to conclude on a lighter note, what hobbies or activities do you do for fun now? I know you alluded to this a bit earlier. If you could think over the course of your career, how did you manage to work in any time for unwinding or relaxation?**

DZ: That's absolutely mandatory, and particularly today when we hear so much about burnout. I think that one needs to realize that there is life beyond electrophysiology, beyond cardiology, and beyond medicine. It is a big world out there full of exciting things. I can say that at my age I have more time to do things, but nevertheless throughout my career, I always found time to read novels, to be interested in other things. For example, I was an avid golfer for a period of time, and I've been interested in opera for many years. I think it is essential that people explore other aspects. I'm sure a lot of young people in medicine today grew up as musicians, artists, photographers, or a variety of other things, and it's important to not let those interests go. Now in my senior years, I've become a novelist; that's a whole new challenge. It's like becoming an intern all over again and going from who's who to who's he?

**OA: And speaking of which, this is something that I've always wondered as well. It sounds to me that you read these novels and reading in areas outside of medicine over the years likely contributed to you writing novels at this stage of your career. Could you tell us a little bit about some of the approaches you took to learning how to become this sort of author versus the scientific kind?**

DZ: Olu, that's been a challenge and a half. As a scientist when you publish, you write for clarity. So most scientific manuscripts include an introduction, methods, results, and discussion. Each part elaborates on exactly what you are trying to tell the reader. In fiction, it is entirely different. I write with an eyedropper. I drop a little fact on page 10, then another fact on page 23, then a third fact on page 50 … and all of a sudden the reader says, "Oh my goodness, now I know where he's going with this," and enjoys the excitement of discovery of where the novel is headed. It is entirely different from a *Circulation* article, where the reader knows from the title exactly where you're going. That's been a challenge to undo my very precise way of thinking and writing to make it more of a challenge for the reader.

**OA: So, going from master of the "clear" to an accelerator of the "unclear"** … **so interesting, and I imagine it must have taken a different part of your brain to begin to pick these skillsets up.**

DZ: It's been a whole new education for me. Indeed, I have taken courses to learn how to write fiction. It's very different from science.

**OA: To conclude this conversation today, I wanted to bring up your wife, Joan. Over the years, I've heard you speak in many avenues and in many settings, you always go back to her and the role that she's played in your life and your career. As we conclude this conversation, I wondered if you could make some comments about the role that she's played in your career and how for developing and young trainees to think of the role of family in their careers.**

DZ: Well, it's obviously been gigantic. She is my other half, she is my muse, she is my critic, she is my everything. For what might interest people listening, when I started my first journal, *JCE*, in 1989, I went through several managing editors who were not up to the standards I wanted. I was behind with manuscripts, and I asked Joan to bail me out. She came into the office for about a week and got me back on my feet, and said, "I'm done." I said, "Oh my goodness, you did such a great job, wouldn't you be my managing editor forever," She said, "What, work with you 24/7? You couldn't pay me enough!" I knew that she had been a gourmet cook for many years for the family and was burned out, and didn't like the kitchen anymore, except maybe to store bread in the oven. So, I made her an offer she couldn't refuse. I said, "If you become my managing editor, you can close the kitchen," and she said, "You've got yourself a managing editor." She's been the managing editor of my journals ever since.

**OA: That's wonderful. Well as we conclude, Dr. Zipes, do you have any comments you wanted to make for our listeners?**

DZ: Yes, I will comment that I am so glad that the *Journal* landed where it did. I think you, Shiv, and your team will do a marvelous job. The *Journal* should be happy sitting at your desks.

**OA: Thank you, that is awfully kind of you. Thank you again for making time for this. Please convey our special thanks to Joan, and we wish you the very best. Thank you also for committing time to serve as a distinguished consulting editor for the *Journal*. Thank you so much, Dr. Zipes.**

DZ: Thank you.