2011 Research at Andrews

Andrews University

Follow this and additional works at: http://digitalcommons.andrews.edu/researchbrochure
Raised in the convergence of three cultures—Jewish, French and Muslim—Jacques Doukhan, professor of Hebrew and Old Testament Exegesis, has been a voice for Jewish-Christian dialogue for several decades. Two of his recent projects—Israel and the Church: Two Voices for the Same God (Hendrickson, 2002), and On the Way to Emmaus: Searching the Messianic Prophecies (forthcoming), stem from his longstanding research interest at the intersection of Judaism and Adventism. In On the Way to Emmaus, Doukhan examines Scriptural Messianic prophecies from an Old Testament and historical perspective. He utilizes exegesis of the text, its immediate historical context, other Scriptural writings, and ancient Rabbinic texts to determine which Messianic texts were legitimate in their time rather than given a Messianic interpretation later in history. Doukhan identifies himself as a Jewish Adventist and has an extensive scholarly background in Jewish and Biblical studies that has transferred into a lifelong involvement in Jewish Christian dialogue. He was the editor of Shabbat Shalom, a journal of Jewish Christian reflection, for 16 years and served as the leader of B’nai B’rith Shalom, a local Hebrew-Adventist congregation, for 11 years. Since 1999, he has served as the director of the Institute of Jewish-Christian Studies at Andrews University, an organization responsible for symposiums on the Holocaust, Jewish, Christian, Muslim relations, and other interfaith dialogues. “We produce a book after each symposium, and our intent is to provide information and make Jewish-Christian relational present in people’s minds,” he says. Doukhan has attended Jewish-Christian dialogues worldwide, and was involved in the first historical encounter between top Orthodox Jewish scholars and evangelical theologians at Emory University, Atlanta, Ga. This summer he was invited to Paris to join a discussion at a gathering of Jewish Christian communities.

Doukhan finds an appreciable overlap between the Jewish and Adventist faiths. “For me, Adventist thinking plays very well to Jewish sensitivities and thinking in several areas—the importance of Scripture, the Sabbath (of course), and the value of Creation, for examples.” He has written several recent articles on this topic, and is actively involved in recent faith and science dialogues on the Andrews campus. He reminds participants at these conferences of the ultimate importance of creation as an expression of the God they all believe in. “I am not a scientist, so I am not aware of many of those issues, but I do believe in the importance and value of creation. But I think there is more in the value and text of creation than this discussion of creation and evolution,” he says. His fusion of two similar religious beliefs with apologetics, he says, aims to transcend simply defending one’s position. “If, as a Jew, you choose to embrace Christianity you have to justify yourself. So your journey begins with apologetics, but I am suggesting there is more than apologetics,” he says. “We learn from each other, and hopefully we can end up discovering something that transcends both beliefs.” Apologetics sometimes carries a negative connotation, he says. We are afraid to defend our differences “because someone dropping a brick,” jokes Summerscales. “We’re focused on just getting gravitational waves and trying to get rid of everything else. Some people liken it to listening for a single person playing a violin in the middle of a city in rush hour.”

This is done through a myriad of computer programs designed to filter the 16,365 samples of data taken each second. Researchers design computer programs to sift through the readout for specific kinds of gravitational signals coming from known sources. But even gravitational signal comes from a known or visible object, and this is the group in which Summerscales works. Her team searches for “bursts,” short segments of data where there seems to be something in the detector other than noise. With four student researchers, Andrew Hoff and Garret Catron, both 2011 graduates, Michael McMearty, a sophomore physics major, and Chris Greenley, a junior physics major, Summerscales looks for other than noise. With four student researchers, Andrew Hoff and Garret Catron, both 2011 graduates, Michael McMearty, a sophomore physics major, and Chris Greenley, a junior physics major, the researchers are setting computer programs to search for these bursts. They send the developed programs to a cluster of computers at the California Institute of Technology, where the data is stored. The results come back to Andrews University for analysis. Given that there has not been any known gravitational waves observed, the team has been running fake test gravitational bursts through their programs. They test the sensitivity of their analysis programs by varying the intensity of the bursts, and determining at what point the signals can be extracted again.

Summerscales’ research has earned her a National Science Foundation grant of $650,000, which covers the cost of research computers and provides the salaries of her student assistants. She, and LIGO researchers across the country, will continue perfecting their computer programs in order to have them ready by the time the improved LIGO detectors are up and running.

When the LIGO detectors become operational in 2015, more than 500 researchers in the United States and 200 in Europe will be looking for gravitational waves in hopes of both proving that gravitational waves exist and gaining a better understanding of some of the strangest objects in the universe. “Some of the really massive things that are doing exciting things out in the universe, like black holes, are also some of the more mysterious,” says Summerscales.

The LIGO researchers hope to gain a new understanding of astronomy from the gravitational waves. “Previously, we learned about objects by the light they produced,” says Summerscales. “Now, things that don’t produce adequate amounts of light—black holes, for instance—will send out gravitational waves that we can pick up and decipher.”

Jacques Doukhan has been the editor of Shabbat Shalom, a journal of Jewish-Christian reflection, for 15 years. In 1999, he has served as the director of the Institute of Jewish-Christian Studies at Andrews University, a new project that involves more than 60 Adventist scholars worldwide.

Doukhans’s study of the Bible includes an intensive study of the Hebrew Scriptures. He is presently the general editor of the Seventh-day Adventist International Bible Commentary, a new project that involves more than 30 Adventist scholars worldwide.

Jacques Doukhan has been the editor of Shabbat Shalom, a journal of Jewish-Christian reflection, for 15 years.