

For Immediate Release



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## **Nobel Prize for AUB alumnus and former student Ardem Patapoutian and President Fadlo Khuri congratulates him**

AUB President Dr. Fadlo Khuri, expressed his pride in Professor Ardem Patapoutian, who was awarded this year's Nobel Prize in physiology or medicine, through a congratulatory letter in which he expressed that the AUB community is doubly pleased as Patapoutian is not only Lebanese, but also a former student at the American University of Beirut.

Ardem Patapoutian, professor of neuroscience at Scripps Research institute in California, an American University of Beirut (AUB) alumnus and former student, has been awarded this year's Nobel Prize in physiology or medicine. The Nobel Committee in Stockholm announced today that Patapoutian and his fellow molecular biologist David Julius have been awarded for their discoveries of receptors for temperature and touch. Patapoutian is the first AUB alumnus to win a Nobel Prize.

In a year when many had expected the prize to go to at least one of the makers of a COVID-19 vaccine, the Nobel Committee's Thomas Perlmann stated in the prize announcement that Julius and Patapoutian had "unlocked one of the secrets of nature," how we sense and feel our way around in the world.

In his research, Patapoutian used "pressure-sensitive cells to discover a novel class of sensors that respond to mechanical stimuli in the skin and internal organs," the committee writes. His team switched 72 individual genes off one by one and then poked a cell with a small pipette (a micropipette) and observed how the genes within the cell reacted. They found two genes within the cell that were insensitive to being poked. Moreover, those genes seemed to be able to switch their sensitivity off.

The two genes were named Piezo1 and Piezo2. "Sensory neurons were found to express high levels of Piezo2 and further studies firmly established that Piezo1 and Piezo2 are ion channels that are directly activated" when pressure is exerted on cell membranes.

Combined with research by Julius, the discoveries have made key contributions to our understanding of such things as core body temperature, inflammatory pain, protective reflexes, respiration, blood pressure, and urination. "This knowledge," said the Nobel Committee, "is being used to develop treatments for a wide range of disease conditions, including chronic pain."

Ardem Sarkis Patapoutian was born in Beirut and speaks fondly of his trips to the Mediterranean Sea and the wooded mountains surrounding Beirut, and "the beautiful campus of the American University of Beirut." As a pre-med sophomore majoring in chemistry, he studied at AUB during the academic year 1985-86. He completed 31 credit hours and was placed on the dean's honor list.

In an autobiography for the Kavli Prize, he explained that an escalation of conflict during the Lebanese Civil War led to him being captured and held by armed militants. He moved to Los Angeles a few months later.

Before the Nobel Prize, Patapoutian shared with Julius in 2020 the Kavli Prize in Neuroscience for this same body of research. They also shared in 2019 the Rosenstiel Award for Distinguished Work in Basic Medical Research.

ENDS

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## Note to Editors

### About AUB

Founded in 1866, the American University of Beirut bases its educational philosophy, standards, and practices on the American liberal arts model of higher education. A teaching-centered research university, AUB has more than 900 full-time faculty members and a student body of about 9,500 students. AUB currently offers more than 140 programs leading to bachelor's, master's, MD, and PhD degrees. It provides medical education and training to students from throughout the region at its Medical Center that includes a full-service 365-bed hospital.

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