vatory in Argentina, which observes high-energy cosmic rays with "Auger showers."

Crediting Meitner for being the first to observe the effect has been discussed for at least 30 years. Science writer Richard Sietmann states that "Meitner was the person who really should have taken credit for the so-called 'Auger' effect," although he also suggests that shared credit would be acceptable.[5] In another review, Olivier Duparc writes, "While L. Meitner should have shared the Nobel Prize with [Otto] Hahn, the Auger effect has rightly been attributed to Auger."[5] We think there is a strong enough claim to honor both contributors.

Such renaming has precedent. In astronomy, for example, according to a private communication last year between David DeVorkin of the Smithsonian's National Air and Space Museum and one of us (Matsakis), the Hertzsprung–Russell diagram was originally called the Russell diagram. And in October 2018, a resolution to rename the Hubble law as the Hubble–Lemaître law was approved by 78% of the International Astronomical Union's voting membership.

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Iran's actions threaten Iranian scientists

The PHYSICS TODAY news story "Iranian scientists persevere under renewed sanctions" by Toni Feder (January 2019, page 22) blames the US embargo for hardships that Iranian scientists encounter as they pursue international collaborations. Only two sentences in the four-page report mention Iran's recent actions against numerous scientists in the country who have Western connections, and no mention is made of the long prison terms or death sentences they have received "for collaborating with a hostile government."

Omid Kokabee, a physics doctoral student at the University of Texas at Austin, was sentenced to 10 years on a "collaboration" charge and spent 2011–16 in an Iranian prison; he was released only after he developed kidney cancer (see "Physicist imprisoned in Iran is granted medical furlough after surgery," PHYSICS TODAY online, 25 May 2016). Ahmadreza Djalali, a Swedish resident and a principal investigator on two European research projects in disaster medicine, was arrested in 2016 after he was invited to a scientific workshop in Tehran. In 2017 he was sentenced to death for his refusal to spy for Iran's military.[1]

Xiyue Wang, a doctoral student in history at Princeton University, was sentenced in 2017 to 10 years in prison when his studies of ancient documents in Tehran were interpreted as espionage.[2] Meimanat Hosseini-Chavoshi, an Australian citizen and fertility expert, was detained on her research trip to Iran last December on charges of trying to "infiltrate" Iranian institutions.[3]

In 2018 several Iranian environmental scientists were rounded up on suspicion that their studies of wildlife might have revealed information about Iranian military sites. One of them, Kavous Seyed-Emami, a Canadian citizen and professor at Imam Sadiq University in Tehran, died in prison after intense interrogations.[4] Four others have been accused of "sowing corruption on Earth," a charge that can carry a death sentence.

The above-mentioned cases represent the tip of the iceberg. Anyone who has dual citizenship or is a doctoral student residing or studying in another country is taking serious chances when returning to Iran for a professional or family visit. Although the US sanctions contribute to the hardships experienced by our Iranian colleagues, the actions of the Islamic Revolutionary Guard Corps are largely responsible for making the lives of the Iranian scientists miserable.

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More whiffs of the aromatic universe

Authors Alessandra Candian, Junfeng Zhen, and Xander Tielens ("The aromatic universe," PHYSICS TODAY, November 2018, page 38) give us a glimpse of the remarkable progress made by astrophysicists and astronomers in identifying carbon-based molecules found in the interstellar medium. That progress includes the identification of a subset of the diffuse interstellar band, one of the most enduring astrophysical riddles.

In addition to the emission of IR vibrational radiation and absorption across the visible spectrum into the UV, polycyclic aromatic hydrocarbon (PAH) molecules can also emit radiation from thermally populated excited electronic states. That radiation can have an important stabilizing effect on the molecules. The effect, predicted by Abraham Nitzan and Joshua Jortner in 1979, has been observed in several molecules, including fullerenes in which the radiation was seen to be enhanced two orders of magnitude or more relative to purely vibrational cooling.[1]

Also, the hydrogen-containing PAH molecule anthracene was identified as a radiator,[2] and thermally emitted photons have been measured[3] from pure carbon clusters as small as C_4^- and C_6^-. The large disparity in cooling rates for C_4^- and C_6H^- also illustrates the extreme variation caused by seemingly very small differences in molecular composition.[4] At excitation energies in which radiation competes with electron emission from those species, the photon-emission rate constants are $8 \times 10^4\ s^{-1}$ for C_4^-, for example,[5] and the energies removed (1.34 eV and 2.71 eV for the two allowed transitions) are an order of magnitude higher than vibrational quanta. Such extreme molecule-specific radiative cooling translates into strongly varying molecular survival probabilities after photoexcitation and may have significant implications for the populations of fullerenes, PAH molecules, and other molecules in interstellar space.

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The aromatic infrared bands (AIBs) discussed by Alessandra Candian, Junfeng Zhen, and Xander Tielens were discovered in interstellar and circumstellar environments in the 1970s. Since then, their origin has been a topic of interest. The hypothesis advanced by