

Local & Business

VANDALS AT WORK
 A \$20,000 digital sign is damaged at Makapu'u Lighthouse Trail over the weekend >> **B2**

BIG Q >> B2
COMICS & PUZZLES >> B7-9



UCLA VIA AP / 2015

Andrea Ghez, professor of physics and astronomy at UCLA, was one of three scientists who was awarded this year's Nobel Prize in physics for advancing the understanding of black holes. Ghez was photographed on the university's campus.

Nobel winner is Keck Observatory user

Astronomer Andrea Ghez has been studying the Galactic Center from Hawaii island since 1995

Star-Advertiser staff and news services

The three winners of the Nobel Prize in Physics 2020 helped prove the existence of black holes, and one is a longtime user of the W.M. Keck Observatory atop Mauna Kea.

U.S. astronomer Andrea Ghez, of the University of California, Los Angeles, has been studying the Galactic Center — the central region of the Milky Way galaxy — at the Keck Observatory on Hawaii island since 1995, according to the observatory's website.

Ghez shared half of the Nobel Prize with Reinhard Genzel, who represents both UCLA and the Max Planck Institute in Germany, for dis-

covering a supermassive black hole at the center of the Milky Way in the 1990s.

Roger Penrose, of the University of Oxford, received the other half of the Nobel Prize for proving with mathematics in 1964 that the general theory of relativity predicted the formation of black holes.

The Nobel Assembly announced the prize Saturday at the Royal Swedish Academy of Sciences in Stockholm.

Ghez is only the fourth woman to win the Nobel in physics, following Marie Curie in 1903, Maria Goeppert Mayer in 1963 and Donna Strickland in 2018, according to The New York Times.

"I'm so thrilled," she said in an email to The Times.



INVISION / AP

Host Janna Levin left, and Ghez participated on the "Black Hole Apocalypse" panel during the PBS Television Critics Association Summer Press Tour at the Beverly Hilton in 2017 in Beverly Hills, Calif.

Ghez has been working solely on the supermassive black hole during her 20-plus years of doing research at the Keck Observatory.

"For 25 years she's had one research topic: proving

that that black hole at the center of the Milky Way exists," Hilton Lewis, the observatory's director, told the Honolulu Star-Advertiser.

Although scientists compete to use the observato-

ry's telescopes, Lewis said Ghez probably uses them more often than anyone else — about a dozen nights per year.

The observatory's twin telescopes, each with a 10-meter primary mirror, are among the most powerful telescopes in the world, Lewis said, which is "critical" for the work Ghez does.

Black holes, which exist at the center of every galaxy, fascinate people because "the idea of some monster out there sucking everything up is a pretty weird thing," Penrose said in an interview with the Associated Press. He said our galaxy and the galaxies near us "will ultimately get swallowed by one utterly huge black hole. This is the fate ... but not for an awful long time, so it's not

Please see **NOBEL**, B5

U.S. Surgeon General cited for being inside closed Oahu park

Jennifer Sinco Kelleher
 Associated Press

The U.S. surgeon general was cited for being in a closed Oahu park in August while in Hawaii helping with surge testing amid a spike in coronavirus cases, according to a criminal complaint filed in court.

A Honolulu police officer cited Jerome Adams after seeing him with two men "looking at the view taking pictures" at Kualoa Regional Park on Oahu's northeastern coast, the citation said. The park in a rural area offers a

picturesque view of Mokolii island, known as Chinaman's Hat for its cone shape.

Adams told the officer he was visiting Hawaii to work with the governor for COVID-19 and didn't know parks were closed.

At the time, Oahu parks were closed by Mayor Kirk Caldwell in an attempt to prevent crowds from gathering.

A phone number Adams gave the officer is the same number Adams listed on an email to state officials seeking an exemption for Hawaii's quarantine on arriving travelers.



JAMM AQUINO / JAQUINO@STARADVERTISER.COM / AUG. 27

The email to Adams confirming his exemption included links to rules that were in effect in each of Hawaii's counties, including the order closing Oahu parks.

"We do not have a comment at this time," said Kate Migliaccio-Grabill, a spokeswoman for the Office of the

Surgeon General said.

Later Tuesday, Honolulu attorney Lex Smith issued a statement: "During his visit to Oahu, the surgeon general was cited for accidentally violating the mayor's emergency order, due to his

Please see **SURGEON**, B5

U.S. Surgeon General Vice Adm. Jerome Adams was cited for being in a closed Hawaii park in August, according to a complaint filed in court. Mayor Kirk Caldwell demonstrates a coronavirus swab test as Adams, right, watches at Kalakaua District Park.

KOKUA LINE



CHRISTINE DONNELLY

Must apply for extended jobless benefits

Question: Are the extended benefits automatic once I run out of unemployment? It's getting close. What do I do?

Answer: No, Pandemic Emergency Unemployment Compensation is not automatic. You have to apply for this program, which adds 13 weeks of benefits for eligible claimants, and you must have a zero balance in your Unemployment Insurance account before you do so, according to the state Department of Labor and Industrial Relations.

You would apply through your online UI account and answer a series of questions to determine whether you are eligible. For instructions on how to apply, see labor.hawaii.gov/ui/.

Q: Regarding the new unemployment call center, is that really working as advertised? I have been calling and calling and I never get through. Are others having the same trouble?

A: We got a lot of complaints from people who were unable to get through last week (the call center launched Sept. 30), but we've received fewer complaints this week.

Bill Kunstman, a spokesman for the Department of Labor and Industrial Relations, said that 70 more call center staffers were added on Monday, which likely explains the improvement.

Calls are answered 7:45 a.m. to 4:30 p.m. weekdays, except state holidays.

The call center's numbers are 833-901-2272, 808-762-5751, 833-901-2275 and 808-762-5752.

Call center agents can handle a variety of questions and tasks, but they cannot perform adjudications, Kunstman said. Those cases, which include disputes over benefit denials related to job separation, must be handled by a claim examiner. Examiners are calling pending claimants directly, the DLIR says, and sometimes their calls go unanswered because they appear to be spam.

"If you have a UI claim requiring adjudication please answer 808 prefix phone calls from claims

Please see **KOKUA**, B5

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WHAT HAPPENED IN THE MARKETS TUESDAY

MARKET HIGHLIGHTS

52 Week		Index	Close	Chg	%Chg	YTD %Chg	52 Wk %Chg
High	Low						
29,568.57	18,213.65	Dow Industrials	27,772.76	-375.88	-1.34	-2.68	+6.15
11,690.82	6,481.20	Dow Transportation	11,399.14	-82.95	-.72	+4.57	+15.97
963.80	593.52	Dow Utilities	850.89	+6.32	+7.5	-3.22	-1.99
14,183.26	8,664.94	NYSE Composite	12,837.88	-111.77	-.86	-7.73	+1.96
12,074.07	6,631.42	Nasdaq Composite	11,154.60	-177.88	-1.57	+24.32	+42.57
3,588.11	2,191.86	S&P 500	3,360.97	-47.66	-1.40	+4.03	+16.17
2,109.43	1,181.96	S&P MidCap	1,936.85	-9.11	-.47	-6.12	+4.08
36,658.73	21,955.54	Wilshire 5000	34,673.56	-443.89	-1.26	+5.43	+17.52
1,715.08	966.22	Russell 2000	1,577.29	-4.67	-.30	-5.46	+7.11

STOCKS OF LOCAL INTEREST

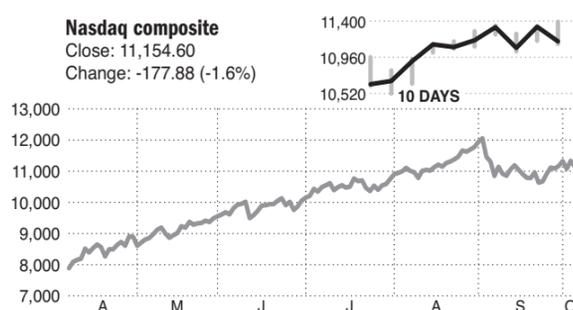
Name	Tkr	Div	Yld	YTD		Name	Tkr	Div	Yld	YTD	
				Last	Chg %Chg					Last	Chg %Chg
AlexInc	ALEX	.76	6.4	11.93	+14 -43.1	FsHawaii	FHB	1.04	6.7	15.55	+17 -46.1
BkHawaii	BOH	2.68	5.0	53.18	+31 -44.1	HawaiiEl	HE	1.32	3.8	34.76	+46 -25.8
Barnwell	BRN	...	...	.85	+05 -17.5	HawHold	HA	.48	3.7	12.93	-.40 -55.9
CenPacFn	CPF	.92	6.4	14.27	-.09 -51.8	Matson	MATX	.92	2.1	43.84	+1.62 +7.5
CinBell/HawTel	CBB	...	...	15.00	-.02 +43.3	Mauiland	MLP	...	...	11.37	+3.9 +11.1
Cyanotch h	CYAN	...	...	2.56	+10 +11.8	TerritBcp	TBNK	.92	4.4	21.05	-.06 -32.0

LOCAL MUTUAL FUNDS

Fund	Ticker	NAV	Buy	Chg
Bishop St. Hawaii Municipal Bond Fund	BHIA	\$10.85	\$11.18	-\$0.01
Bishop St. High Grade Income	BSHG	\$10.40	\$10.40	\$0.03
Hawaii Municipal Fund	SURFX	\$11.29	\$11.29	-\$0.01
Hawaiian Tax-Free Trust	HULAX	\$11.56	\$12.04	-\$0.01
Pacific Cap. Tax-Free Securities	PTXFX	\$10.60	\$10.60	-\$0.01
Pacific Cap. Sh./Intrm. Tax-Free	PTFSX	\$10.29	\$10.29	\$0.00

FOREIGN EXCHANGE

Majors	US \$ in Currency	Chg	%Chg	6 Mo. Ago	1 Yr. Ago	Currency in US \$
USD per British Pound	.7752	+0.043	+5.5%	.8130	.8108	1.2900
Canadian Dollar	1.3300	+0.027	+2.0%	1.4119	1.3324	.7519
USD per Euro	.8509	+0.017	+2.0%	.9262	.9104	1.1752
Japanese Yen	105.57	-.15	-.14%	109.05	106.87	.009473
Mexican Peso	21.6767	+2586	+11.9%	24.7985	19.5677	.046133
Swiss Franc	.9167	+0.007	+0.8%	.9782	.9950	1.0908
Asia/Pacific						
Australian Dollar	1.4051	+0.112	+8.0%	1.6420	1.4773	.7117
Chinese Yuan	6.7905	-.0003	-.004%	7.0923	7.1485	.1473
Hong Kong Dollar	7.7502	+0.001	+0.0%	7.7516	7.8419	.1290
Indonesia Rupiah	14834.59	+28.55	+1.9%	14323.57	14117.31	.000067
Philippines Peso	48.49	+.06	+1.2%	50.61	51.66	.0206
South Korean Won	1164.97	+6.48	+5.6%	1225.78	1192.73	.000858
Taiwan Dollar	28.81	+.06	+2.1%	30.22	30.89	.0347
Thailand Baht	31.21	-.10	-.32%	32.79	30.42	.03204



INTEREST RATES

	Last	Wk Ago
Prime Rate	3.25	3.25
Discount Rate	0.75	0.75
Federal Funds Rate	0.00-0.25	0.00-0.25
Treasuries		
3-month	0.10	0.09
6-month	0.11	0.105
5-year	0.32	0.26
10-year	0.76	0.67
30-year	1.56	1.42

GLOBAL MARKETS

Major Indexes	Close	Pvs Day	YTD %Chg
S&P500	3,360.97	3,408.63	+4.03
Frankfurt	12,906.02	12,828.31	-2.59
London	5,949.94	5,942.94	-21.11
Hong Kong	23,980.65	23,767.78	-14.93
Paris	4,895.46	4,871.87	-18.11
Tokyo	23,433.73	23,312.14	-0.94
Asia			
Seoul	2,365.90	2,358.00	+7.65
Singapore	2,529.26	2,517.23	-21.52
Sydney	6,164.20	6,135.10	-9.38
Taipei	12,688.50	12,548.28	+5.76
Shanghai Comp.	3,218.05	3,218.05	+5.51

COMMODITIES

Fuels	Close	Pvs	%Chg	%YTD
Crude Oil (bbl)	40.67	39.22	+3.70	-33.4
Natural Gas (mm btu)	2.52	2.62	-3.63	+15.1
Gasoline	1.24	1.19	+3.43	-26.9
Metals				
Copper (lb)	2.97	2.97	+0.02	+6.1
Gold (oz)	1,901.10	1,912.50	-0.60	+25.1
Platinum (oz)	863.90	897.20	-3.71	-11.1
Silver (oz)	23.87	24.50	-2.58	+33.9
Agriculture				
Cattle (lb)	1.09	1.09	+0.35	-12.4
Coffee (lb)	1.08	1.07	+0.42	-17.0
Corn (bu)	3.85	3.80	+1.45	-0.7
Cotton (lb)	0.66	0.65	+1.28	-5.1
Orange Juice (lb)	1.14	1.14	+0.26	+17.3
Soybeans (bu)	10.44	10.22	+2.20	+10.7
Sugar lb	0.14	0.14	+1.98	+3.4
Wheat (bu)	5.93	5.84	+1.45	+6.1

Boeing forecasts 11% drop in jets over next 10 years

By Dominic Gates
Seattle Times



ASSOCIATED PRESS

SEATTLE >>> Boeing projects the global coronavirus pandemic will result in 11% fewer new jets being delivered in the next decade compared to previous forecasts.

That's about 2,200 fewer large aircraft built by all manufacturers, or 220 fewer per year on average. Those are mostly projected to be Airbus and Boeing jets but also include smaller regional jets and some built by up-and-coming competition in China.

The projection, part of Boeing's annual 20-year forecast of total commercial jet industry demand, indicates the severity of the downturn in the aviation business, the challenges still ahead and a painfully slow path to recovery.

Boeing's forecast, released Tuesday, assumes that the pandemic's impact will hit hardest through the next three years.

Briefing journalists on the projections, Darren Hulst, vice president of commercial marketing at Boeing, said it will take that

Boeing says the pandemic will reduce demand for new planes for the next decade, long after experts expect a vaccine for COVID-19. A Boeing 737 MAX jet prepared to land at Boeing Field following a test flight in Seattle on Sept. 30.

long for passenger traffic to recover to 2019 levels.

And he said it will be five years before traffic is back to where it would have been if COVID-19 hadn't happened and the long-term trend of about 4% growth per year resumes.

For the past decade, passenger air traffic had been growing at about twice that pace and airlines were raking in cash. COVID-19 halted the boom.

Hulst said that annual pas-

senger-traffic growth through 2024 will be about a third of what it had been in the boom decade — and starting from very depressed current traffic levels.

The latest International Air Transport Association data shows passenger traffic in August down 75% worldwide compared to a year earlier. Domestic traffic was just less than half what it was in 2019, and international traffic was 12% of the level a year ago.

Difficult as the downturn is for all jetmakers, analysts believe Boeing's relative position in the market means it may feel more pain than rival Airbus.

Longtime aviation analyst Richard Aboulafia of the Teal Group in an interview pointed to Airbus's A321neo as a jet likely to lead the recovery as airlines seek to slash costs by flying international routes with smaller, long-range single-aisle jets that are much cheaper to operate than widebody airplanes like the 787 or the 777.

"It looks like that one segment will outperform all the others during the downturn," Aboulafia said, adding that with Boeing having shelved its plan to develop a new mid-market-size airplane, "it simply doesn't have a product that serves that market effectively."

Boeing's annual market analysis would normally have been released at the Farnborough Air Show in England in the summer. That show was canceled and Boeing took time to recalculate, factoring in the impact of the drastic pandemic-driven downturn.

SURGEON

Continued from B1

misunderstanding of the law. He has not asked for, nor has he received, any special treatment in connection with this citation, and will respond to it appropriately."

Court records show a remote hearing is scheduled for Oct. 21.

Violating any of the mayor's emergency orders is punishable as a misdemeanor, with fines of up to \$5,000, up to a year in jail, or both.

Caldwell won't be commenting, the mayor's office said.

Hawaii Gov. David Ige's office said he wasn't immediately aware the Surgeon General was cited while he was here. A spokesman for Hawaii Attorney General Clare Connors said she wasn't aware he had been cited.

Court records show that Dennis Anderson-Villaluz was also cited. Adams listed him as his aide in his exemption request. Reached by phone Tuesday, Anderson-Villaluz declined to comment.

A few days after the citation, Adams appeared with Caldwell at a news conference announcing a partnership between the city and federal government for surge testing.

"I'm proud of you, Hawaii. I'm proud of every single one of you who has sacrificed over the past several months," he said, standing in a white military uniform. "And to the people who are lapsing a little bit, I want you to understand that a little bit of fun right now can result in shutdowns further on down the road. It's important that we all do the right things right now, even if we don't feel we are personally at risk."

According to the complaint, Adams put a mask on. He wore a mask at news conferences with the mayor.

"Seriously people — STOP BUYING MASKS!" Adams tweeted on Feb. 29. Officials later recommended that people wear face coverings in public and around people who don't live in their household, based on a review of the latest evidence.

Associated Press writer Ricardo Alonso-Zaldivar contributed to this report from Washington, D.C.

NOBEL

Continued from B1

something to worry too much about."

They are so massive that nothing, not even light, can escape their gravitational pull. They warp and twist light in a way that seems unreal and cause time to slow and stop.

"Black holes, because they are so hard to understand is what makes them so appealing," Ghez, 55, said. "I really think of science as a big, giant puzzle."

While the three scientists showed the existence of black holes, it wasn't until last year that people could see one for themselves when another science team captured the first and only optical image of one. It looks like a flaming doughnut from hell but is in a galaxy 53 million light-years from Earth.

Penrose, a mathematical physicist who got the call from the Nobel Committee while in the shower, was surprised at his winning because his work is more theoretical than observational, and that's not usually what wins physics Nobels.

What fascinated Penrose more than the black hole was what was at the other end of it, something called the "sin-

gularity." It's something science still can't figure out.

"Singularity, that's a place where the densities and curvatures go to infinity. You expect the physics go crazy," he said from his home. "If you fall into a black hole, then you pretty well inevitably get squashed into this singularity at the end. And that's the end."

Penrose said he was working to work with a colleague 56 years ago, thinking about "what it would be like to be in this situation where all this material is collapsing around you." He realized he had "some strange feeling of elation," and that was when things started coming together in his mind.

Martin Rees, the British astronomer royal, noted that Penrose triggered a "renaissance" in the study of relativity in the 1960s, and that, together with a young Stephen Hawking, he helped firm up evidence for the Big Bang and black holes.

"Penrose and Hawking are the two individuals who have done more than anyone else since Einstein to deepen our knowledge of gravity," Rees said. "Sadly, this award was too much delayed to allow Hawking to share the credit."

Hawking died in 2018, and Nobel Prizes are awarded only to the living.

New York University astrophysicist Glennys Farrar said: "There is no doubt that if this prize were awarded when Hawking was still alive, he would share it. He did overall more significant work on this subject than almost anyone."

Genzel, 68, and Ghez won because "they showed that black holes are not just theory — they're real, they're here, and there's a monster-size black hole in the center of our galaxy, the Milky Way," said Brian Greene, a theoretical physicist and mathematician at Columbia University.

In the 1990s, Genzel and Ghez, leading separate groups of astronomers, trained their sights on the dust-covered center of our Milky Way galaxy, a region called Sagittarius A*, where something strange was going on. It was "an extremely heavy, invisible object that pulls on the jumble of stars, causing them to rush around at dizzying speeds," according to the Nobel Committee.

It was a black hole. Not just an ordinary black hole, but a supermassive one, 4 million times the mass of our sun.

The first image Ghez got was in 1995, using the Keck Telescope in Hawaii that had just gone online. A year later,

another image seemed to indicate that the stars near the center of the Milky Way were circling something. A third image led Ghez and Genzel to think they were really on to something.

A fierce competition developed between Ghez and Genzel, whose team was using an array of telescopes at the European Southern Observatory in Chile.

"Their rivalry elevated them to greater scientific heights," said Harvard astronomer Avi Loeb.

Lewis said Ghez is still observing the black hole with the Keck Observatory's telescopes.

"Earlier this year, she found some object — somewhere between a cloud of gas and a star — that's circling around this black hole," Lewis said. "It shouldn't be there. It shouldn't be possible for something like that to exist. So, she picks up all these exotic things that are also in this area."

The Nobel comes with a gold medal and 10 million kronor (more than \$1.1 million), courtesy of a bequest left 124 years ago by the prize's creator, Alfred Nobel, the inventor of dynamite.

Star-Advertiser reporter Mark Ladao and the Associated Press contributed to this story.

KOKUA

Continued from B1

examiners: unfortunately some phone service providers ID the calls as spam or telemarketers," the department said in a tweet Saturday.

Q: I know you must be tired of all the "what if" questions, but there is still so much uncertainty surrounding Hawaii's testing program to avoid quarantine. So what if we get the test as required but then our plane is delayed? This is not that uncommon with Midwest winters and we are planning to come for Christmas.

A: The state Department of Health covers this on its COVID-19 website, saying that "a traveler who takes a test within 72 hours from the scheduled final leg of departure, and has a negative test result, and whose departure is delayed by the airline, will not be subject to the state 14-day quarantine. This provision will not apply to any additional county-imposed quarantine rules separate and apart from the state's pre-test waiver."

The response is in answer to the question, "What happens if my flight is delayed by weather or mechanical issues. Will my test be accepted?"

You mentioned lingering uncertainty about Hawaii's plan to let air travelers avoid the state's 14-day quarantine if they arrive with a negative COVID-19 test taken within 72 hours of departure to Hawaii. We encourage all prospective Hawaii travelers to keep close track of updates, including at staradvertiser.com, especially about arrivals directly from the continental United States to the neighbor islands.

Gov. David Ige has said Hawaii's counties may opt out of the pre-travel testing program, and so far at least one — Hawaii County — has indicated it will do so, meaning that people who arrive on the Big Island from the mainland Oct. 15 and later would still have to quarantine, even if they arrive with a negative test.

That news dismayed readers we heard from who said they have second homes in Kona, and were preparing to fly in for the winter. They will be able to quarantine at home, but no, they can't stop for groceries on the way home from the airport.

Write to Kokua Line at Honolulu Star-Advertiser, 7 Waterfront Plaza, Suite 210, 500 Ala Moana Blvd., Honolulu 96813; call 529-4773; fax 529-4750; or email kokualine@staradvertiser.com.