

# THE OBSERVER



The Crammed Center of M22  
Image Credit & Copyright: NASA, ESA, Hubble

## From the Desk of the President *by Gordon Rosner*

Greetings from your President.

As always, I sure hope everyone is well and keeping healthy during these times when it appears things are getting better and 'looking up'.

First the good news. Our club's open Board Member at Large position has been filled with the unanimous agreement by the membership vote during our June General Membership Meeting. Alexandra Nachman is the club's new Leadership Team member filling this open position. Alex is an accomplished Amateur Astronomer and will certainly be a valuable team member. Alex is a

NASA Solar System Ambassador, past chairman of the South Mountain Astronomy club, a volunteer Hubble Image Processor who uses social media to share her images and teach others the process, and does online presentations for libraries in Arizona and other states. We welcome Alex to the club's Leadership Team.

The Properties Director position remains open and I encourage anyone interested to let me know via the President's link in our website. This position receives notices from private individuals and organizations of their offers to donate astronomy

## UPCOMING EVENTS:

*All meetings will be held online.*

*EVAC Meeting via Zoom - July 16th.*

*Filipe MacAuliffe - "The History and Milestones of Radio Astronomy in Chile".*

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# From the Desk of the President

by Gordon Rosner

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equipment to the club. This position evaluates the equipment which usually requires local travel, decides on its suitability, and if so, transports the equipment to the club's equipment shed. This is a great position to learn about and actually review different types of astronomy equipment. This equipment is subsequently either donated to schools or included in our club auctions to support our local astronomy community. The Properties Director is an appointed position with no term limit filled by a volunteer that does not require to be voted on by the general membership.

As mentioned last month, GRCO has been open to small private viewing events Sundays through Thursdays as scheduled via the GRCO page on our club's website. I attended one of these events and helped our observatory manager, Claude Haynes, to see for myself how these events were going. Claude did his usual excellent job of guiding our guests as he moved our observatory's 16" telescope to various targets and presented interesting and fun facts. Outside, I pointed out constellations and allowed the guests to use my 8" Dobsonian telescope to find objects on their own. The evening was an example of how well Claude manages these events and how fun they are. The club's Leadership Team will be evaluating the next step in GRCO's outreach openings.

Our club Vice President, Tom Mozden, and I had an on-site meeting with the Gilbert Recreation Coordinator at the Shakespeare room in the Gilbert Southeast Regional Library building where we were holding our in-person meetings and will continue when we resume them. The town of Gilbert welcomes us back and fully supports the club's relationship we have with them. The meeting was to evaluate the internet connections in the Shakespeare room and ability to simultaneously provide the in-person meetings on Zoom. As anticipated, questions arose and Tom and the manager are working on them.

The club's Leadership Team does not yet know exactly when we will resume in-person meetings at the library. Safety of all in attendance is our utmost concern and although we are getting close, a firm date has yet to be determined. The team is continuously evaluating the situation and a return date must be agreed upon by the team when safety protocols are determined and can be implemented.

As I mention every month, remember our newsletter's member article feature is available. We are accepting a one page or so article on any astronomy related topic from our membership. Tell us about your equipment, how you got started in astronomy, your road to astrophotography, outreach programs you have done, any observatories you have visited or any other astronomy related subject. Remember this is YOUR club. If it was interesting to you, it will be interesting to all of us. So, become a published astronomer and submit a member article to me via the 'Contact President' link on our website.

And again, as I also mention every month, everyone should remember that live member presentations are always a fun and valuable part of our monthly online Zoom meetings. These are about ten minutes or so long regarding any astronomy related subject you would like to share with the club. I encourage you to do one of these. Just let me know if you would like to do one by using the 'Contact President' link near the bottom of the main page of our EVAC website. I'll then get back with you and we can discuss. If needed, we can also do a dry run sometime before the actual meeting.

Our next online Zoom Monthly General Meeting will be on Friday, 16 July starting at the usual 7:30PM. The main presentation will be by Filipe Mac-Auliffe titled "The History and Milestones of Radio-Astronomy in Chile". Certainly, another interesting subject you do not want to miss.

As always, a reminder that there are three ways to receive a notification link via an email to register for the next online monthly General Meeting. You only need to do one of the following and only once to continue to receive the email on how to register for the upcoming meetings:

1. Send a one-time email request to [vp@evaconline.org](mailto:vp@evaconline.org).
2. Sign up for the evac-announce mailing list: <http://www.freelists.org/list/evac-announce>.
3. Sign up for the AZ-observing@groups.io mailing list: <https://groups.io/g/AZ-Observing>.

Another way to get notifications of any special online events and how to register, is to join the [EVAC Facebook](#) page and occasionally check for special event announcements. I'll 'see you' at our 18 June meeting. "Keep your feet on the ground and keep reaching for the stars."

Your President, Gordon Rosner

# EVAC Zoom Meeting Notes for 2021 June 18th, at 07:30 P.M. AZ Time

by *Wayne Thomas*

Here are the Meeting minutes including details of the presentations. (The recorded video of the meeting can be viewed at: [June Zoom Meeting](#))

President Gordon Rosner welcomed those in the "audience" to the virtual meeting shortly after 7:30 p.m. His first slide presented the meeting agenda:

- Welcome
- Introductions
- Board Member at Large Candidate Introduction and Voting
- Club News
- Some time for your club questions
- Main Presentation:
  - > Bob King, Sky & Telescope Contributor  
"Adventures in Visual Observing"

Gordon welcomed the virtual audience with his "Live Long and Prosper" slide. He then put up the slide listing the club officers.

He then introduced the candidate for the Board Member at Large position, Alexandra (Alex) Nachman. She has many desirable qualifications for this position. The remote vote was unanimously in favor.

Under club news, he reminded us that all club sponsored events with personal contact are still cancelled. However, GRCO is open for private star parties of a few participants, and that guidelines for preventing the spread of the Corona Virus are followed. A private meeting can be requested using the schedule request form on the EVAC website.

Our next regular club meeting will be virtual on Zoom at 7:30 p.m. Friday July 16. Felipe Mac-Auliffe will present a talk on the "History and Milestones of Radio Astronomy in Chile." Register for the meeting in the usual way by the link in the invitation email.

Gordon then asked if there were any club questions. (Questions were submitted using the Zoom "Q&A" function.) Gordon asked the first question himself: How does the club get so many great name presenters? Tom Mozdzen (and Tom Polakis) have many connections to these presenters.

When are we going to open up for in person meetings? We are targeting the September/October time frame.

Are any observers using Picket Post considering the current fire status? No the smoke is too bad.

Is there a replacement for the Hovatter Rd airstrip for dark sky observing? LaPaz County will not approve any use of the airstrip even though the solar farm project appears to have fallen through. However, the BLM has granted permission to use the Antennae Site.

Will we still have use of the Library for our club meetings? Yes.

Tom Mozdzen then introduced the featured speaker, Bob King, a contributor to Sky & Telescope Magazine who spoke on "Adventures in Visual Observing." Tom included in his introduction Bob's three published books.

Bob's interest in astronomy began not by observing stars but by observing clouds. But once he started looking up, the night sky was next. He acquired a 6 inch Edmunds reflector at age 13 years, and now has a number of larger telescopes as well.

M3 in Bootes contains the first variable star discovered in a globular cluster – V154 (Omega-Virginis). Bob searched through many resources for a star map to help him identify this star. The sketch produced by its discoverer finally helped him locate it.

Barnard's Star is another worthwhile object to observe. Comparing sketches of the star field containing this star in Ophiuchus over the span of a year (or a few years) will show its motion. The star is bright at magnitude 9.5, and is about twice the size of Jupiter, which would be 1/5th the size of our sun.

Betelgeuse is a variable star. Bob described some of its properties, and gave a possible explanation for its recent dimming.

Bob next described the distinction between the shadow cast by a bright extended source (such as our Sun) compared to the shadow cast by a point source (such as Venus). The point source shadow should have sharp edges. He then described his attempt to view the shadow cast by Venus.

Another observation which anyone can do is to observe the colors a star appears to have when twinkling. Bob

# EVAC Zoom Meeting Notes for 2021 June 16th, at 07:30 P.M. AZ Time

by Wayne Thomas

*Continued from page 3*

showed his images of the different colors visible from a twinkling star near the horizon.

His next challenge was to view a star before the Sun sets. Sirius was his candidate. He described the conditions which would most likely lead to a successful viewing of Sirius before the Sun sets.

Comets are always worth viewing. Bob described recent comets and what he has observed when viewing them.

Finally Bob described the recent annular solar eclipse which he was privileged to view from an aircraft flying at maximum altitude.

For questions:

How many stars give off dust? And how much dust came

## The Backyard Astronomer

by Bill Dellinges

### A Binocular Romp Thru Hercules' Eastern Starfields

I finally decided to use binoculars to explore an area that had piqued my interest for many years. I had noticed in the past, using a low power wide field binocular, that the eastern sector of Hercules was host to an unusually rich star field, even though it appeared devoid of stars to the naked eye. And star charts show you don't run into the Milky Way until you hit the extreme eastern border of Hercules. So, what's going on here?

To find out, I pressed into service the binocular with the largest real field I have, a Nikon 8x42 Monarch HD (8.3 degrees). To wade into this area, I recommend something with at least 6 degrees of field of view. Additional considerations: This is the perfect time of year to observe this region of sky, as it's placed midway between the eastern horizon and zenith – it's no fun observing stuff overhead with a binocular (unless of course they have 90 degree eyepieces – which most small binoculars don't have). You'll want a chair to sit in that allows you to lean back about 45 degrees. Also, a red flashlight and star chart reference will help guide you on your journey. For the latter, I found three that depict our area of interest quite well: Bright Star Atlas, Chart 7, The Cambridge Double Star Atlas, Chart 10, and 11, and Sky Atlas 2000, Chart 8 (Granted a bit large, but good for planning ahead and later, seeing

from Betelgeuse?

How fast is Bernard's Star moving? 10.4 arcseconds per year.

If Earth were inside a globular cluster, what would the sky look like? There would be many Venus-bright stars in the sky. One can imagine while viewing a globular cluster through a telescope that it is 3-D.

Our next meeting will be on Friday, July 16, at 7:30 p.m. via Zoom. Felipe Mac-Auliffe will present the "History and Milestones of Radio Astronomy in Chile."

Gordon adjourned the meeting slightly after 9:00 p.m. Attendance maximum was over 70.

Wayne Thomas - Secretary EVAC

Secretary EVAC

where you've been).

Hercules is positioned somewhat horizontally as you look east, so the streams of stars or "spurs" as I call them, will be running down to your lower left from Hercules' body. His midbody is characterized by a four-star quadrilateral referred to as the "Keystone." Incidentally, to northern observers, Hercules appears upside down. That's because it was created 5,000 years ago and was further north in the sky and seen right-side up. Precession has since moved it southwards and we now see him upside down (observers south of 15 degrees north latitude still see him right-side up).

A good starting point for what I call the northern spur is Delta Herculis below the Keystone. Remember, though we will be star hopping to our lower left, atlas-wise we're moving northeast. Moving in that direction we come across five stars barely visible to the naked eye – Lambda, Mu, Xi, Nu and Omicron. Just under them are eight or so fainter stars running parallel with them, the brighter ones are Flamsteed 70, 73, 79, 83, 84, 87, 89, and 100. I noticed something interesting at the end of this spur. If you include Flamsteed 99 with Nu, Omicron and Xi, you create a Mini Keystone (MK#1)! It's smaller than the true Keyston

# The Backyard Astronomer

by Bill Dellinges

*Continued from page 4*

and is cocked over a bit relative to the original. Use this as a marker that we'll return to later. Next stop Flamsteed 107 and 108, the last two stars on this spur that are still technically in Hercules. Crossing into Lyra, there is a bridge of faint stars that take you to Beta Lyrae (Sheliak, lower right star in Lyra's parallelogram). You have arrived at the end of the Great Northern Spur of Hercules! Now, onward to the Southern Spur.

Remember the Mini Keystone (MK#1) I said we would return to? Return to it now. It was about midway between Delta Herculis and Beta Lyrae and should fill about half your field. Now glide down eight degrees (one binocular field with my Nikon) to your lower right (due south on charts) and you'll sweep up Mini Keystone #2 (MK#2). This one has a similar shape as MK#1 above it but is only half its size. The stars are Flamsteed 95, 96, 98 and 102. It is here where we begin the Great Southern Spur of Hercules. By the way, on the previous step going from MK#1 to MK#2, the brightest star you passed, about 1/3 the way was 100 Herculis, a fabulous equal magnitude double star. The first time I did this star hop I was using 28x100 binoculars when it flashed by and I thought whoa, what

was that? I backed up and was very impressed to see two 5.8 magnitude stars 14" apart – very nice! (SAO 85752). While my 8x42 wasn't able to resolve them on this expedition, I later discovered my 16x70 could.

As we move east (your lower left) from MK#2, among the brighter stars you'll gobble up are Flamsteed 106, 109, 110, 112 and 113. Here, you're smack up against the eastern border of Hercules. But why stop now? It's a free range out there. Phooey on the I.A.U.'s constellation borders – press on! You're now plunging into the rich starry Milky Way band. Utilizing your binocular's wide field, just follow the stars into adjacent Vulpecula, where you might recognize the Coathanger asterism passing through your field. The stars of Sagitta are up next and the stellar joyride along Great Southern Spur of Hercules ends at Delphinus, whose six brightest stars just fill an 8.3 degree field. The background star fields then drop off dramatically as we exit the Milky Way band here.

Hercules extends his gratitude to the Fox, Arrow, and Dolphin for use of their stars to embellish his Southern Spur. No stars were harmed during this romp.

## EVAC Outreach Events

by Gordon Rosner

Again, unfortunately another very short column this month. All outreach events remain cancelled due to supporting the public health concerns. For more information, see the President's column at the beginning of this newsletter or at the top of the EVAC website.

As always, still looking very forward to our outreach program getting back and to hearing all those "OH WOW's" we so love to hear.

Gordon Rosner  
EVAC Outreach Events Coordinator

## Find Out What's Happening – Join EVAC-Announce List

If you would like to receive email announcements about EVAC meetings and activities, please join the EVAC–Announce mailing list. Click on the link below to subscribe. Enter your full email address in the box titled User Options and press OK. You will receive a confirmation email. Your privacy is respected by EVAC and we will never sell your email address, or use it for non-club relevant solicitations. This mailing list is designed for communication from EVAC, and does not enable users to respond to the message. If you wish to contact club officers, please use the list in the Contact-Us area on the Home page of our EVAC website. To subscribe to the EVAC–Announce mail group click: <http://www.freelists.org/list/evac-announce>. To unsubscribe use the same link, enter your email address and select Unsubscribe from the “Choose An Action” list. Another list to consider is [AZ-Observing@groups.io](mailto:AZ-Observing@groups.io), simply click on this link <https://groups.io/g/AZ-Observing> and follow the instructions on the page. EVAC also has a Facebook Group where members may share ideas, photos, and Astronomy related information. To join: [EVAC Facebook Group](#).

The Gilbert Rotary Centennial Observatory (GRCO) also has a Facebook Group where members may share ideas, photos, and Astronomy related information. To visit, please click on [Gilbert Rotary Centennial Observatory - GRCO](#).

**LAST QUARTER MOON ON JULY 1 AT 14:10**

**NEW MOON ON JULY 9 AT 18:16**

**FIRST QUARTER MOON ON JULY 17 AT 03:10**

**FULL MOON ON JULY 23 AT 19:37**



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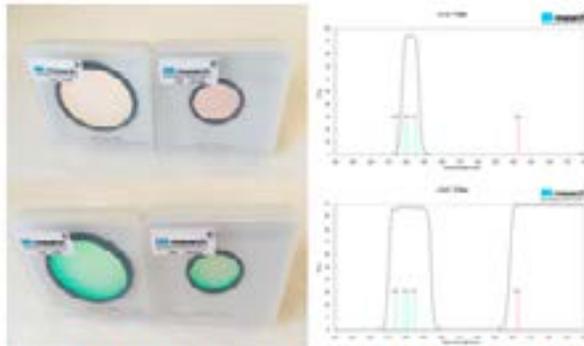
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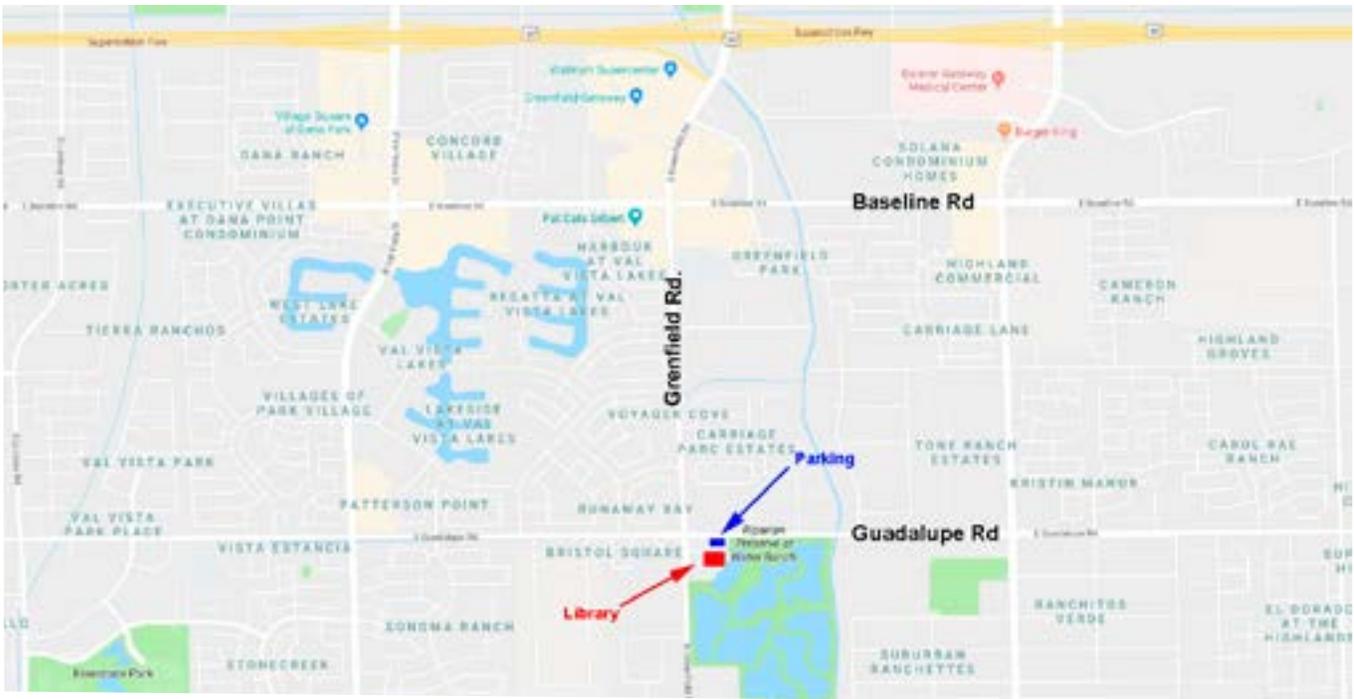
Monthly Meetings will be presented live online using Zoom. See the EVAC Website for updates. All other events are on hold until health concerns are resolved.

The monthly general meeting is your chance to find out what other club members are up to, learn about upcoming club events and listen to presentations by professional and well-known amateur astronomers.

**Our normal in-person monthly meetings have temporarily been cancelled, and are replaced with an online Zoom meeting.**

Our meetings are held on the third Friday of each month at the Southeast Regional Library in Gilbert. The library is located at 775 N. Greenfield Road; on the southeast corner of Greenfield and Guadalupe Roads. Meetings begin at 7:30 pm.

***Visitors are always welcome!***



**Southeast Regional Library  
775 N. Greenfield Road  
Gilbert, Az. 85234**



# JULY 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	<b>16</b>	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

**July 16** - EVAC Monthly Meeting Live Online via Zoom.

**The EVAC Monthly Meeting will be held live online via Zoom. All other meetings and events have been cancelled until further notice.**

# AUGUST 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	<b>20</b>	21
22	23	24	25	26	27	28
29	30	31				

**August 20** - EVAC Monthly Meeting Live Online via Zoom.

**The EVAC Monthly Meeting will be held live online via Zoom. All other meetings and events have been cancelled until further notice.**

## East Valley Astronomy Club – 2021 Membership Form.

**IMPORTANT:** All memberships expire on December 31 of each year

**New Member Dues** ( select according to the month you are joining the club)

	<b>Individual</b>	<b>Family</b>	
January, February & March	<b>\$30.00</b>	<b>\$35.00</b>	
April, May & June	<b>\$22.50</b>	<b>\$26.25</b>	
July, August & September	<b>\$15.00</b>	<b>\$17.50</b>	
October, November & December	<b>\$37.50</b>	<b>\$43.75</b>	<i>(Includes following year)</i>

**Renewal** (current members only):

**\$30.00 Individual**       **\$35.00 Family**

**Astronomical League: \$7.50 Annually (per person)**

**Name Badges:**

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Name to imprint: \_\_\_\_\_

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City  
State  
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URL  
For website

Would you be interested in our outreach program?     Yes     No

How did you discover East Valley Astronomy Club?

### Liability Release Form

In consideration of attending any publicized Star Party hosted by the East Valley Astronomy Club (hereinafter referred to as "EVAC"), the receipt and sufficiency of which is hereby acknowledged, I hereby affirm that I and any related entities, predecessors, successors, affiliates, attorneys, guarantors, insurers, transferees, assigns, parents, spouses, children, subsidiaries, accountants, officers, directors, employees, agents, shareholders, members, and trustees, past and present, hereby forever release, acquit and discharge to hold EVAC and its related entities, predecessors, successors, affiliates, attorneys, guarantors, insurers, transferees, assigns, parents, spouses, subsidiaries, accountants, officers, directors, employees, agents, shareholders, members, and trustees, past and present, from any and all causes of action, claims, losses, damages, liabilities, expenses (including attorneys' fees) and demands of any nature whatsoever, known or unknown, that in any way relate to, arise out of, or concern EVAC and/or my presence on the premises of any EVAC Star Party and related areas, whether or not those causes of action, claims, damages, liabilities, and demands are part of the specific subject matter of EVAC or any EVAC Star Party. This release is intended to and does cover all injuries and damages, and the consequences thereof, whether known or unknown at the time of the execution of this release, which have occurred or may hereafter occur or which may hereafter be discovered, and which may have been caused or may be claimed to have been caused by the said incident, and specifically includes, but is not limited to, bodily injuries, mental and emotional injury, pain and suffering, medical treatments, and loss of earnings or income.

My signature upon this form also indicates agreement and acceptance on behalf of all minor children (under 18 years of age) under my care in attendance. EVAC only recognizes those who are members or invitees and who also have a signed Liability Release Form on file as participants at an EVAC Star Party.

Signature \_\_\_\_\_

Date \_\_\_\_\_

*The Observer is the official publication of the East Valley Astronomy Club. It is published monthly and made available electronically as an Adobe PDF document the first week of the month. Please send your contributions, tips, suggestions and comments to the Editor at: [news@evaonline.org](mailto:news@evaonline.org). Contributions may be edited. The views and opinions expressed in this newsletter do not necessarily represent those of the East Valley Astronomy Club, the publisher or editor.*

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East Valley Astronomy Club  
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*Vice President: Tom Mozdzen*

*Secretary: Wayne Thomas*

*Treasurer: Brooks Scofield*

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*Property Director: Open*

*Refreshments: Open*

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*AL Representative: Brooks Scofield*

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